NEVADA TEST AND TRAINING RANGE (NTTR) LAND WITHDRAWAL

Legislative Environmental Impact Statement

October 2018 • FINAL

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PRIVACY ADVISORY

This Final Legislative Environmental Impact Statement (LEIS) is provided in accordance with the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) NEPA Regulations (40 Code of Federal Regulations [CFR] §§1500–1508), and 32 CFR §989, Environmental Impact Analysis Process (EIAP).

The EIAP provides an opportunity for public input on Air Force decision-making, allows the public to offer inputs on alternative ways for the Air Force to accomplish what it is proposing, and solicits comments on the Air Force's analysis of environmental effects. Providing personal information in the EIAP is voluntary.

Public commenting received on the Draft LEIS allowed the Air Force to make better, informed decisions on developing alternatives, identifying a preferred alternative, improving analyses, and developing the case file. Comments provided on the Draft LEIS have been addressed in this Final LEIS and made available to the public. Any personal information provided was used only to identify a desire to make a statement during the public comment portion of any public meetings or hearings or to fulfill requests for copies of the LEIS or associated documents. Private addresses were compiled to develop a mailing list for those requesting copies of the LEIS. However, only the names of the individuals making comments and specific comments are disclosed. Personal home addresses and phone numbers are not published in the LEIS.

Information regarding the Final LEIS is available on the website at www.NTTRLEIS.com. Questions can be addressed to:

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by telephone at 702-652-2750 or e-mail at
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COVER SHEET

a. *Responsible Agency*: U.S. Air Force

b. *Cooperating Agencies*: Bureau of Land Management (BLM); the U.S. Department of Energy (DOE) and the National Nuclear Security Administration (NNSA); the U.S. Fish and Wildlife Service (USFWS) – Refuge and Ecological Services divisions; the Nevada Department of Wildlife (NDOW); and the Nevada Association of Counties.

c. *Proposals and Actions*: This Final Legislative Environmental Impact Statement (LEIS) describes the potential consequences to the human environment from the proposed implementation of various alternatives for extending the withdrawal and expanding the boundaries of the Nevada Test and Training Range (NTTR) from the public domain for defense related purposes. The current withdrawal will expire on November 6, 2021, unless Congress enacts legislation to extend it.

d. *Inquiries*: Information regarding the Final LEIS is available on the website at www.NTTRLEIS.com. Questions can be also be directed to: 99th Air Base Wing Public Affairs, 4430 Grissom Ave. Suite 107, Nellis AFB, Nevada 89191 and by telephone at 702-652-2750 or e-mail at 99ABW.PAOutreach@us.af.mil.

e. *Designation*: Final Legislative Environmental Impact Statement

f. *Abstract*: This LEIS has been prepared in accordance with the National Environmental Policy Act (NEPA) to analyze the potential environmental consequences of the NTTR land withdrawal extension and proposed expansion. The Air Force proposes to withdraw and reserve public lands for military use to support the utilization and modernization of the NTTR by enhancing range capability for improved training and testing. The NTTR is the preeminent range for testing and evaluation of weapons systems, tactics development, and advanced combat training; however, the range and its infrastructure are quickly becoming outdated as rates of technological development of new weapons systems and electronic warfare systems accelerate.

The current withdrawal will expire on November 6, 2021, unless Congress enacts legislation to extend it. Congress has reserved the authority for renewing the NTTR land withdrawal for itself, through the *Defense Withdrawal Act of 1958* (43 United States Code Sections 155–158), and will make the final decision through legislation on whether to extend the current withdrawal and/or expand the boundaries of the current NTTR land withdrawal. The LEIS is the detailed environmental statement required by law that will support the legislative proposal and is programmatically evaluating alternatives which would extend the current military land withdrawal or expand the land withdrawal in order to safely execute its missions in a more realistic and operationally relevant manner.

This LEIS evaluates alternatives that would extend or expand the current NTTR land withdrawal. The Air Force developed a detailed screening process to identify the alternatives carried forward in the analysis that meet the selection standards developed for each of the operational requirements summarized above and in the LEIS. There are four alternatives included in the LEIS, as discussed in Section 2.3, page 2-20, which include:

- Alternative 1 – Extend Existing Land Withdrawal and Management of the NTTR (North and South Range) – Status Quo
- Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

- Alternative 3 – Expand Withdrawal of Public Lands for the NTTR (includes subalternatives): 3A (Range 77 – EC South Withdrawal), 3A-1 (Amended Range 77 – EC South Withdrawal), 3B (64C/D and 65D Withdrawal and Administrative Incorporation), and 3C (Alamo Withdrawal).
- Alternative 4 – Establish the Period of Withdrawal (includes subalternatives): 4A – 20-Year Withdrawal Period, 4B – 50-Year Withdrawal Period, 4C – Indefinite Withdrawal Period

This LEIS analyzes potential impacts associated with airspace, noise, air quality, land use, wilderness, socioeconomics, environmental justice, biological resources, cultural resources, earth resources, water resources, hazardous materials and waste, health and safety, and transportation. The LEIS also identifies potential mitigations and best management practices that the proponent could implement to minimize or offset potential adverse impacts.

Document Organization

VOLUME I

Privacy Advisory

Cover Sheet (with a description of the Proposed Action)

Table of Contents (Including lists of Tables and Figures)

Acronyms and Abbreviations

1 Purpose of and Need for Action

Presents the history and mission of the NTTR and the purpose and need for the proposed action.

2 Description of Alternatives

Describes the screening process and the alternatives that are analyzed in this LEIS for potential environmental impacts.

3 Affected Environment and Environmental Consequences

Presents both the existing conditions of environmental resources that may be affected by the alternatives and the potential impacts to those resources.

4 Cumulative Effects and Other Environmental Considerations

Considers the potential impacts resulting from incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions, and addresses short-term uses, long-term productivity, and irretrievable commitment of resources.

5 References

Provides the bibliography entries of cited source materials.

6 List of Preparers and Contributors

Lists the individuals who prepared this LEIS.

7 List of Repositories

Lists the names and addresses where the LEIS is made available to the public.

8 Index

Lists the page numbers where various topics are discussed.

VOLUME II

APPENDICES

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ACRONYMS AND ABBREVIATIONS

99 ABW	99th Air Base Wing
99 CES	99th Civil Engineering Squadron
ACAM	Air Conformity Applicability Model
ACS	American Community Survey
AEC	Atomic Energy Commission
AFA	acre-feet annually
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AFI	Air Force Instruction
AFY	acre-feet per year
AGE	Aerospace Ground Equipment
AGL	above ground level
AICUZ	Air Installations Compatible Use Zones
Am	Americium
AMU	Aircraft Maintenance Unit
AOCs	areas of concern
APE	area of potential effects
AR-	Aerial Refueling
AR 200-1	U.S. Army Regulation 200-1
ASU	Airspace for Special Use
ATCAA	Air Traffic Control Assigned Airspace
ATIS	Automated Terminal Information System
AUM	animal unit months
B	(Heritage Rank) Breeding
B.P.	before present
BASH	bird/wildlife-aircraft strike hazard
BCAMP	Base Comprehensive Asset Management Plan
BE	Protected under the *Bald and Golden Eagle Protection Act*
BEA	U.S. Bureau of Economic Analysis
BLM	Bureau of Land Management
BMPs	best management practices
BNOISE	Blast Noise
CAA	*Clean Air Act*
CAP	central accumulation point
CAU	Corrective Action Unit
CCD	Colony Collapse Disorder
CDNL	C-weighted day-night average sound level
CEQ	Council on Environmental Quality
CFA	Controlled Firing Area
CFR	Code of Federal Regulations
CGTO	Consolidated Group of Tribes and Organizations
CH_4	methane
CIG	CAS Integration Group
CIP	Capital Improvements Program (or Capital Improvements Plan)

CO	carbon monoxide
CO_2e	carbon dioxide equivalents
COC	community of comparison
CSN	Coyote Springs Nevada LLC
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
dBC	C-weighted decibels
DM	Departmental Manual
DNL	day-night average sound level
DNT	2,6-dinitrotolulene
DNWR	Desert National Wildlife Range
DoD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOE/LM	U.S. Department of Energy/Office of Legacy Management
DOI	U.S. Department of the Interior
DU	depleted uranium
EA	Environmental Assessment
EC South	Electronic Combat South Range
ECR	Electronic Combat Range
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EMFR	Electromagnetic Field Radiation
EO	Executive Order
EOD	explosive ordnance disposal
EPA	U.S. Environmental Protection Agency
EPCRA	*Emergency Planning and Community Right-to-Know Act*
ERP	Environmental Restoration Program
ESA	*Endangered Species Act*
FAA	Federal Aviation Administration
FARRP	Forward Air Refueling and Rearming Procedures
FEMA	Federal Emergency Management Agency
FFACO	Federal Facility Agreement and Consent Order
FICON	Federal Interagency Committee on Noise
FIDLER	field instrument for detection of low-energy radiation (gamma emissions)
FL	Flight Level
FLIP	Flight Information Publications
FLPMA	*Federal Land Policy and Management Act*
FT	Federally Listed Threatened
FY	Fiscal Year
G	(Heritage Rank) Global rank indicator
GHG	greenhouse gas
GIS	geographic information system
GM	Game Mammal
GPS	Global Positioning System
GWP	global warming potential
HAZMART	hazardous materials dispensary
HAZMAT	Hazardous Materials Management

HCP	Habitat Conservation Plan
HMA	Herd Management Area
HPGe	high-purity germanium
HQ	Headquarters
I-	Interstate
IADS	integrated air defense systems
IAPs	initial accumulation points
IBA	Important Bird Area
ICRMP	Integrated Cultural Resources Management Plan
IFR	Instrument Flight Rules
INRMP	Integrated Natural Resources Management Plan
I-O	input-output
IR	Instrument Route
ISR	Intelligence Surveillance Reconnaissance
ISWM	Integrated Solid Waste Management
IW	Irregular Warfare
JASPER	Joint Actinide Shock Physics Experimental Research
JO	Joint Order
kV	kilovolt
kVA	kilovolt-amp
L/O	Low Observables
L_{10}	loudest 10 percent noise level
LAFmax	maximum level with A-weighted frequency response and fast time constant
LATN	Low-Altitude Tactical Navigation
L_{cdn}	C-weighted day-night average sound level (symbol)
L_{dn}	day-night average sound level (symbol)
L_{dnmr}	onset-rate adjusted monthly day-night average sound level
LEED®	Leadership in Energy & Environmental Design
LEIS	Legislative Environmental Impact Statement
L_{max}	maximum sound level
LOLA	live ordnance loading area
M206	Model 206 (a type of flare)
MAJCOM	Major Command
MANPADS	man-portable air defense system
MBTA	*Migratory Bird Treaty Act*
MCL	maximum contaminant level
MCO	Major Combat Operations
mg/L	milligrams per liter
mil	thousandth of an inch
MILCON	military construction
MLWA	Military Land Withdrawal Act
mm	millimeter
MOA	Military Operations Area
MOU	Memorandum of Understanding
MP	Milepost
mph	miles per hour
mrem/yr	millirems per year
MREs	meals ready-to-eat

MRTFB	Major Range and Test Facility Base
MSA	Munitions Storage Area
MSL	mean sea level
MTR	Military Training Routes
MW	megawatts
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NAS	Naval Air Station
NASA	National Aeronautics and Space Administration
NATCF	Nellis Air Traffic Control Facility
NDEP	Nevada Division of Environmental Protection
NDOW	Nevada Department of Wildlife
NEPA	*National Environmental Policy Act*
NFA	no further action
NHPA	*National Historic Preservation Act*
NM	nautical miles
NNSA	National Nuclear Security Administration
NNSA/NFO	National Nuclear Security Administration/Nevada Field Office
NNSS	Nevada National Security Site
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRC	Nuclear Regulatory Commission
NRC/NAS	National Research Council/National Academy of Sciences
NRHP	National Register of Historic Places
NRS	Nevada Revised Statutes
NSR	New Source Review
NTTR	Nevada Test and Training Range
NV	Nevada
NWI	National Wetlands Inventory
NWPS	National Wilderness Preservation System
NWR	National Wildlife Refuge
O&M	operations and maintenance
OHV	off-highway vehicle
OSHA	Occupational Safety and Health Administration
P.L.	Public Law
PA	Protected Amphibian
PB	Protected Birds
pCi/L	picocuries per liter
PEIS	*Programmatic Environmental Impact Statement*
pH	potential of hydrogen (a measure of acidity)
PILT	Payment in Lieu of Taxes
PITU	Paiute Indian Tribe of Utah
PK_{15}(met)	Peak Noise Exceeded by 15 Percent of Firing Events
PLO	Public Land Order

PM	Protected Mammal
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
PR	Protected Reptile
PSD	Prevention of Significant Deterioration
Pu	plutonium
R-	Restricted Area
R4S	Region 4 Sensitive
RA	Restricted Airspace
RCRA	Resource Conservation and Recovery Act
RETC	Renewable Energy Transmission Corridor
RF	radio frequency
ROI	region of influence
S	Sensitive (BLM) or Sensitive Species (USFS)
S	(Heritage Rank) State rank indicator
S.R.	State Route
S1	critically imperiled
S2	distribution in Nevada is imperiled due to rarity or other demonstrable factors
SAA	Special Activity Airspace
SAIC	Science Applications International Corporation
SB	Sensitive Birds
SEL	sound exposure level
SHPO	State Historic Preservation Officer
SM	Sensitive Mammal
SNL	Sandia National Laboratories
SO_2	sulfur dioxide
SO_x	sulfur oxides
SPCC	Spill Prevention, Control, and Countermeasure
SPR	single point refueling
STORM-OV	Saving Toads thru Off-Road Racing, Ranching and Mining in Oasis Valley
SUA	Special Use Airspace
SWMU	solid waste management unit
T	Threatened
T	(Heritage Rank) Global trinomial rank
T&E	Test and Evaluation
TASS	Tactical Air Support Squadron
TD&E	Tactics Development and Evaluations
TDY	temporary-duty
TR	Threatened Reptile
Trails-OV	Trails-Oasis Valley
TRI	Toxic Release Inventory
U.S.	United States
UAS	unmanned aerial system (remotely piloted vehicle or aircraft system)
UAV	unmanned aerial vehicle
UFC	Unified Facilities Criteria
UOC	Urban Operations Complex
USACE	U.S. Army Corps of Engineers
USAFWC	U.S. Air Force Warfare Center

USC	United States Code
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	unexploded ordnance
VFR	Visual Flight Rules
VFW	Veterans of Foreign Wars
VOC	volatile organic compound
VR	Visual Route
VRI	Visual Resource Inventory
VRM	visual resource management
WSA	Wilderness Study Area

1. PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

The Air Force has met with Native American groups, continues to ask for their input and comments, and has chosen to include their perspective within this LEIS and in Appendix K.

For the Native American perspective on this section, please see Section 1.6 and Appendix K.

The Air Force proposes to withdraw and reserve public lands for military use to support the utilization and modernization of the Nevada Test and Training Range (NTTR) by enhancing range capability for improved training and testing. The NTTR is the preeminent range for testing and evaluation of weapons systems, tactics development, and advanced combat training; however, the range and its infrastructure are quickly becoming outdated as rates of technological development of new weapons systems and electronic warfare systems accelerate. Over the last two decades, enemy technology has become increasingly advanced and complex, requiring more space to replicate their potential threat configurations. The NTTR can no longer replicate this threat environment.

As a result of the evolving mission, this Legislative Environmental Impact Statement (LEIS) is programmatically evaluating alternatives which would extend or expand the current military land withdrawal in order to safely execute its missions in a more realistic and operationally relevant manner.

The NTTR is part of the United States Air Force's Major Range and Test Facility Base (MRTFB) enterprise. The Air Force test and training range enterprise consists of MRTFB ranges and primary training ranges. MRTFB ranges encompass the largest, most fully equipped ranges, designed to test and evaluate capabilities to support Department of Defense (DoD) acquisition system and combat readiness (U.S. Air Force, 2014a).

Located in southeastern Nevada, the NTTR land base consists of approximately 2.9 million acres of federal land that has been withdrawn from public use and reserved for military use, most recently by the *Military Land Withdrawal Act of 1999*, Public Law (P.L.) No. 106-65 (MLWA). The current withdrawal will expire on November 6, 2021, unless Congress enacts legislation to extend it. In accordance with Section 3016 of the MLWA, the Department of the Air Force, in coordination with DoD, has notified Congress of a continuing military need for the NTTR withdrawal. Furthermore, the Air Force will submit the Final LEIS, which will support the development of a legislative proposal for the future NTTR military land withdrawal. Congress has reserved the authority for renewing the NTTR land withdrawal for itself, through the *Defense Withdrawal Act of 1958* (43 United States Code [USC] Sections 155–158), and will make the final decision through legislation on whether to extend the withdrawal and/or expand the boundaries of the current NTTR land withdrawal. The LEIS is the detailed environmental statement required by law that will support the legislative proposal.

The *National Environmental Policy Act of 1969*, 42 USC Sections 4321-4370h (NEPA) requires agencies to include an environmental impact statement (EIS) with any proposal for legislation that may significantly affect the quality of the human environment. In

addition to the MLWA, the Air Force is following the applicable procedures set forth in Bureau of Land Management (BLM) regulations at Title 43 Code of Federal Regulations (CFR) Part 2300 that implement the U.S. Department of the Interior (DOI)'s authority to process federal land withdrawal applications. This LEIS is programmatic in nature.

Programmatic NEPA reviews address the general environmental issues and provide the basis for decisions to approve such broad or high-level decisions such as identifying geographically bounded areas within which future proposed activities can be conducted or identifying broad mitigation and conservation measures that can be applied to subsequent tiered reviews. Programmatic NEPA reviews can effectively frame the scope of subsequent site- and project-specific federal actions. The programmatic analysis in this LEIS focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature. Details regarding the actions that are currently known are outlined in Section 2.3 (Alternatives). These conceptual details were the basis of analysis for the LEIS.

Because a programmatic analysis establishes the broad view of environmental impacts and benefits of a proposed decision, agencies can then rely on that programmatic NEPA review to make decisions such as rulemaking or establishing a policy, program, or plan, as well as decisions based on subsequent, tiered NEPA review. The Air Force is the lead agency for the LEIS, while the BLM; the Department of Energy (DOE), and the National Nuclear Security Administration (NNSA); the U.S. Fish and Wildlife Service (USFWS) – National Wildlife Refuges and Ecological Services programs; the Nevada Department of Wildlife (NDOW); and the Nevada Association of Counties are cooperating agencies. NOTE: In order to distinguish between the two branches of the USFWS, the LEIS specifically refers to the Ecological Services branch if the term USFWS applies to that branch. In all other cases, the term USFWS applies to the agency as a whole or to the Refuge branch associated with the Desert National Wildlife Refuge Complex.

Recognizing other stakeholders may have concerns over potential impacts, the Air Force has initiated and will continue to dialogue with the appropriate Nevada state agencies, as well as local counties, towns, and cities that may be impacted by the withdrawal. The Air Force has also begun and will continue conducting government-to-government consultation with federally recognized tribes potentially affected by the NTTR land withdrawal.

The Consolidated Group of Tribes and Organizations (CGTO) has worked closely with the Nellis AFB Native American Program since 1996. During a regularly scheduled Tribal Update Meeting with the CGTO, participating tribes recommended that the Air Force support Native American Writers in developing tribal text for the LEIS. The Air Force agreed to fund two meetings during the months of September and October 2017.

The resulting Native American Resource Document is a summary of opinions and cultural perspectives relating to the *NTTR Land Withdrawal Preliminary Draft Legislative Impact Statement,* which was a draft of the LEIS that was made available to cooperating agencies and the tribes at the time of the 2017 meetings. The Native American

Resource Document is presented in its entirety in Appendix K (Native American Perspective), and relevant sections of the Document are presented in corresponding sections within this LEIS. The Document contains (a) general concerns regarding long-term impacts from military operations on the NTTR and perceived impacts to the proposed expansion areas; and (b) a synopsis of specific comments made by Native American Writers appointed by the CGTO to provide detailed responses to reflect the position of the CGTO. (The Native American Perspective sections that are included in this LEIS present the Native American Resource Document *verbatim*, except where cross-references to LEIS section numbers have been updated since the CGTO reviewed the Preliminary Draft LEIS. The Native American Resource Document text that is presented in the LEIS is shaded with a background color to distinguish it from Air Force text.)

1.2 BACKGROUND

The NTTR is an MRTFB asset operated by the U.S. Air Force Warfare Center's (USAFWC's) Headquarters (HQ) NTTR. The NTTR is located in southeastern Nevada and includes both the land and overlying airspace. The NTTR airspace comprises roughly 12,000 square nautical miles (NM) and is about 150 NM wide at its widest point (west to east) and 110 NM long (north to south). The NTTR comprises about 2.9 million acres of land, 5,000 square miles of airspace that is restricted from civilian air traffic overflight and another 7,000 square miles of Military Operations Area (MOA), which is shared with civilian aircraft. Figure 1-1 shows an outline of the NTTR land and airspace and its relationship to the city of Las Vegas to the south, Nellis Air Force Base (AFB), and Creech AFB. Figure 1-2 depicts the North and South Ranges of the NTTR.

A number of DoD ranges in the western United States provide large areas for military test and/or training activities. However, only one—the NTTR—has the military ranges, terrain, and other factors that provide the safety, security, and capability needed to conduct both testing and training activities with the space and capacity to host large opposing forces.

The combination of these factors also provides the security essential to the most sensitive DoD test and training activities relating to combat tactics and force development. NTTR capabilities are also critically important to DOE for national defense tasks that otherwise could not be accomplished elsewhere as safely and within a secure area. Thus, the NTTR has become a national security infrastructure asset, the management of which is charged to the Air Force but includes activities associated with all DoD entities as well as DOE and Homeland Security.

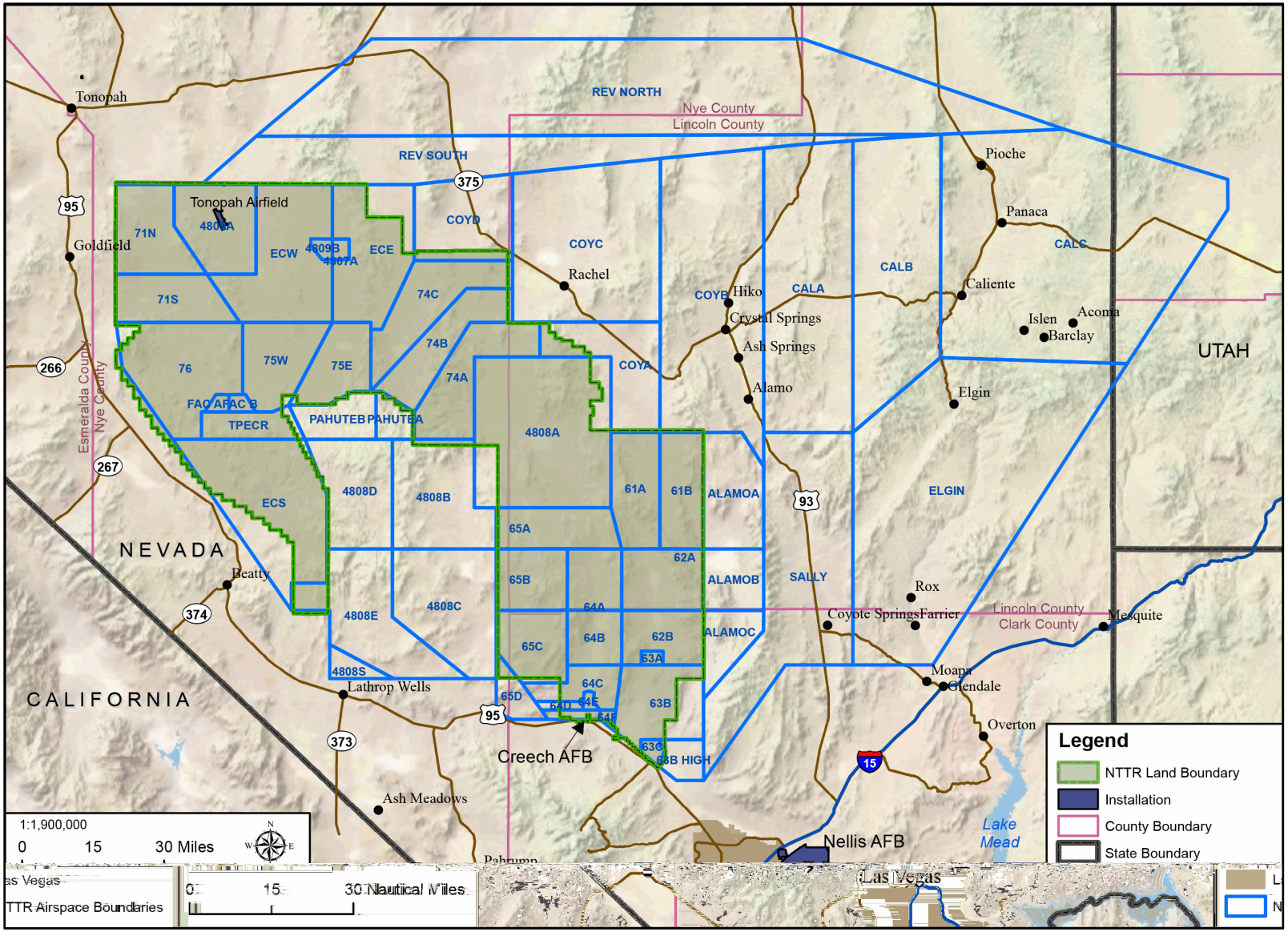

Figure 1-1. Nevada Test and Training Range Land and Airspace Boundary

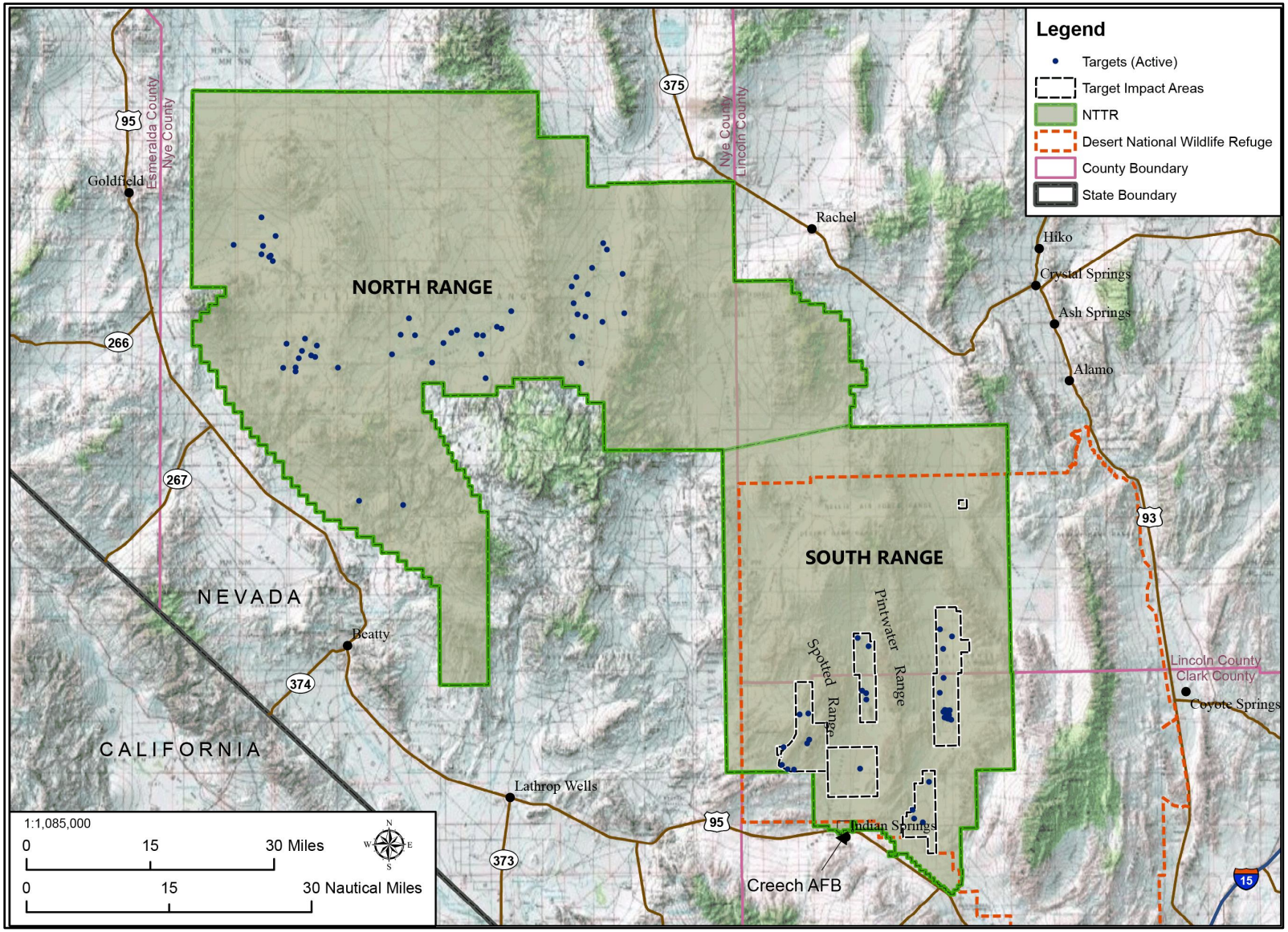

Figure 1-2. North and South Range Operations Areas of the Nevada Test and Training Range

The NTTR was originally established by Executive Order (EO) 8578 on October 29, 1940, as an aerial bombing and gunning range in central and southern Nevada, with the Tonopah Army Airfield assigned to manage the land (U.S. Air Force, 2012a). In June 1941, the Tonopah Bombing and Gunnery Range was split into the Tonopah General Range and the Las Vegas General Range.

A training camp that began operations in 1942 at Indian Springs, Nevada, to facilitate air-to-air gunnery training for aircrews during World War II was designated as Indian Springs Auxiliary Air Field on April 1, 1964. This airfield was renamed Indian Springs Air Force Auxiliary Field and provided support and maintenance for training activities (BLM, 1981). In 2005, the Auxiliary Field was redesignated as Creech AFB and is now the home base for unmanned aerial systems (UAS) (including remotely piloted aircraft), which fly missions across the globe.

A portion of the NTTR overlaps the Desert National Wildlife Range (DNWR) (Figure 1-2), which was established in 1936 for the protection and preservation of Nelson bighorn sheep (also referred to as the desert bighorn sheep).

Since its establishment in 1940, the NTTR has experienced numerous land transactions; for example, in 1952, 1958, and 1961, Public Land Orders transferred portions of the NTTR to the Atomic Energy Commission (AEC), which later became the DOE, for the development of the Nevada National Security Site (NNSS) (formerly the Nevada Test Site). Under the most recent substantial land transaction, the Secretary of the Air Force was given authority for military use by enactment of P.L. 99-606 as amended, and the *Military Land Withdrawal Act of 1986*. The *Military Land Withdrawal Act of 1999* (P.L. 106-65) authorized the current period of the NTTR land withdrawal, which began in 2001 and will expire on November 6, 2021. Since the MLWA of 1999 authorized the current period of the NTTR land withdrawal, which began in 2001 and will expire on November 6, 2021, in this LEIS, all Public Laws associated with the NTTR land withdrawal are referred to collectively as the MLWA.

The NTTR currently includes 137 tactical target complexes containing more than 2,600 simulated targets (Figure 1-3). Many of these target complexes are defended by radars, threat simulators, and threat emitters to provide a realistic setting for operational testing of weapons systems, tactics, and combat readiness. Live munitions are delivered on designated portions of the range.

Figure 1-3. Examples of Targets

Threat simulators are electronically and often visually similar to equipment expected to be encountered in actual combat. Radar units simulate early warning, ground control intercept, target acquisition, and surface-to-

air and anti-aircraft artillery defenses and guidance. NTTR ground equipment includes multiple radar and electronic jamming equipment designed to test and improve the quality of aircrew combat training. Many of the threat simulators are equipped with instruments to collect data that can be used to evaluate and score surface-to-air engagements. High fidelity threat emitters and repeaters are usually small units that are portable or fixed, and each emitter typically requires a 150-foot by 150-foot area (0.5 acre) located on gravel or fixed pads (Figure 1-4). Each emitter requires an electricity source (a 1.5 kilovolt generator). Depending on the type of threat emitter being utilized, electromagnetic radiation may be produced during operations to detect and track incoming aircraft.

The NTTR is split into the North and South Ranges to facilitate overall management of Air Force operations and test and training opportunities on each range. Figure 1-2 illustrates the North and South Ranges. Management responsibilities include personnel safety, the ranges' electromagnetic environment, range equipment operation and maintenance, environmental resource management, and efficient airspace use through effective scheduling. The major facilities are Creech AFB and airfield, Tolicha Peak, and the Tonopah Test Range and airfield. Facilities also include roads, radar sites, other communication systems, and range electronic measuring devices.

Figure 1-4. Examples of Emitters

The North Range contains mountain ranges oriented to the north and south with wide valleys, where most of the target areas are located. North Range valley bottoms vary from 4,500 to 5,500 feet mean sea level, and mountain peaks reach over 8,600 feet mean sea level.

Mountain ranges in the South Range are north/south oriented with narrow valleys that contain dry lakebeds. South Range valley bottoms vary from 3,000 to 3,600 feet mean sea level, and the mountains reach over 6,000 feet mean sea level. Sections 1.2.1 (North Range) and 1.2.2 (South Range) provide details related to the North and South Ranges, respectively.

1.2.1 North Range

The North Range is approximately 1.8 million acres of withdrawn land, containing approximately 1,263 targets within 63 tactical target complexes. These weapons-delivery areas, or impact areas, are maintained by NTTR personnel to simulate tactical targets representing airfields, surface-to-air missile sites, truck convoys, missile storage

sites, artillery batteries and other targets, along with scoring and tracking systems. The type of weapons authorized for delivery depends on the target selected. Figure 1-2 shows the NTTR target complex locations. The North Range also includes multiple and dispersed facilities that support three Electronic Combat Ranges (ECRs), including Tonopah ECR, Tolicha Peak ECR, and EC South Range (hereinafter referred to as "EC South").

Operations on the range include testing conducted by DOE/NNSA in an area that lies entirely within the NTTR and operated in part by Sandia National Laboratories (SNL). Because this area is entirely within the NTTR, the Air Force maintains ownership and authorizes SNL activities through a land permit issued by the Air Force to DOE/NNSA.

The initial land-use permit from the Air Force was issued in 1956, and became operational to test new weapon systems in 1957. The facilities were designed and equipped to gather data on aircraft-delivered inert test vehicles for the AEC (now DOE/NNSA). The current land use permit, which reduced the size of the SNL area from approximately 524 square miles to 280 square miles (335,655 acres to approximately 179,200 acres), was issued on April 26, 2002, and expires on October 5, 2019. As a major land user on the North Range, the SNL (operating under the NNSA) and its activities are fully considered as part of the NTTR land withdrawal extension. The Sandia Land Permit will be addressed as part of a separate action.

SNL operations for the Stockpile Stewardship and Management Program include flight-testing of gravity weapons (bombs) and research, development, and evaluation of stockpile nuclear weapons components and delivery systems including arming, fusing, and firing systems testing. No nuclear materials are employed in the area.

Other DOE/NNSA operations include research and development activities as follows:

- Robotics and remotely operated air/ground devices testing and development (handling, application, and recovery of hazardous [chemical] material)
- Smart transportation-related testing (preprogrammed/remote-controlled air and ground vehicles)
- Smoke obscuration operations
- Infrared tests
- Radio frequency testing
- Rocket (guided and unguided) development, testing, and deployment

Some activities are conducted through the DOE/NNSA Strategic Partnership Program for non-DOE entities, which has scheduled work that is not directly funded by DOE/NNSA appropriations.

In December 2008, NNSA released a signed Record of Decision for the *Complex Transformation Supplemental Programmatic Environmental Impact Statement* (73 *Federal Register* 77656) for their continued transformation of the nuclear weapons complex. That decision document implemented the preferred alternative for three mission areas including the SNL mission area, which indicated that SNL will conduct flight testing under a reduced footprint permit and in a "campaign mode." The "campaign mode of operations" would continue operations but reduce permanent staff and conduct tests and experiments by deploying DOE and national laboratory personnel from other locations, as needed. This "campaign mode" footprint was reduced from approximately 280 square miles to 1 square mile, in an area denoted as "Area 3." In 2013, a *Sitewide EIS for the Continued Operation of the Department of Energy/National Nuclear Security Administration Nevada National Security Site and Off-Site Locations in the State of Nevada* was developed (DOE, 2013), and the no action alternative for the area was selected in the Record of Decision for that EIS in 2014. Thus, SNL will operate at a reduced footprint (1 square mile) and in a campaign mode.

1.2.2 South Range

The South Range is approximately 1.2 million acres of withdrawn land located in the southeastern portion of the NTTR. All of the South Range lands were withdrawn for military use by the MLWA. The South Range contains five weapons-delivery areas, which are subdivided into 74 target complexes containing approximately 1,363 targets.

Currently, the Desert National Wildlife Refuge Complex is the largest national wildlife refuge in the contiguous United States, with approximately 1.6 million acres of land. About half of the Desert National Wildlife Refuge Complex (approximately 826,000 acres) overlaps the lands withdrawn for military purposes on the South Range of the NTTR. The DNWR is managed as part of the Desert National Wildlife Refuge Complex, which consists of DNWR and three geographically separated refuges in southern Nevada (Ash Meadows, Moapa Valley, and Pahranagat NWRs). Figure 1-5 illustrates the overlap of the NTTR and DNWR.

Almost 90 percent of the DNWR (about 1.4 million acres) has been proposed as wilderness by the USFWS since 1971, and about 590,000 of those acres are in the South Range. The areas proposed for wilderness on the South Range are managed as de facto wilderness by virtue of USFWS land management policy.

Generally, areas that were proposed for wilderness in the South Range correspond to elevations above 4,000 feet above mean sea level. Existing roads (mountain roads/passages) other than those used below 4,000 feet are off limits, as is troop movement, ground disturbance and the development of new locations such as emitter sites and communication sites. Previously used targets that are located in areas that were proposed as wilderness in 1971 are also off limits.

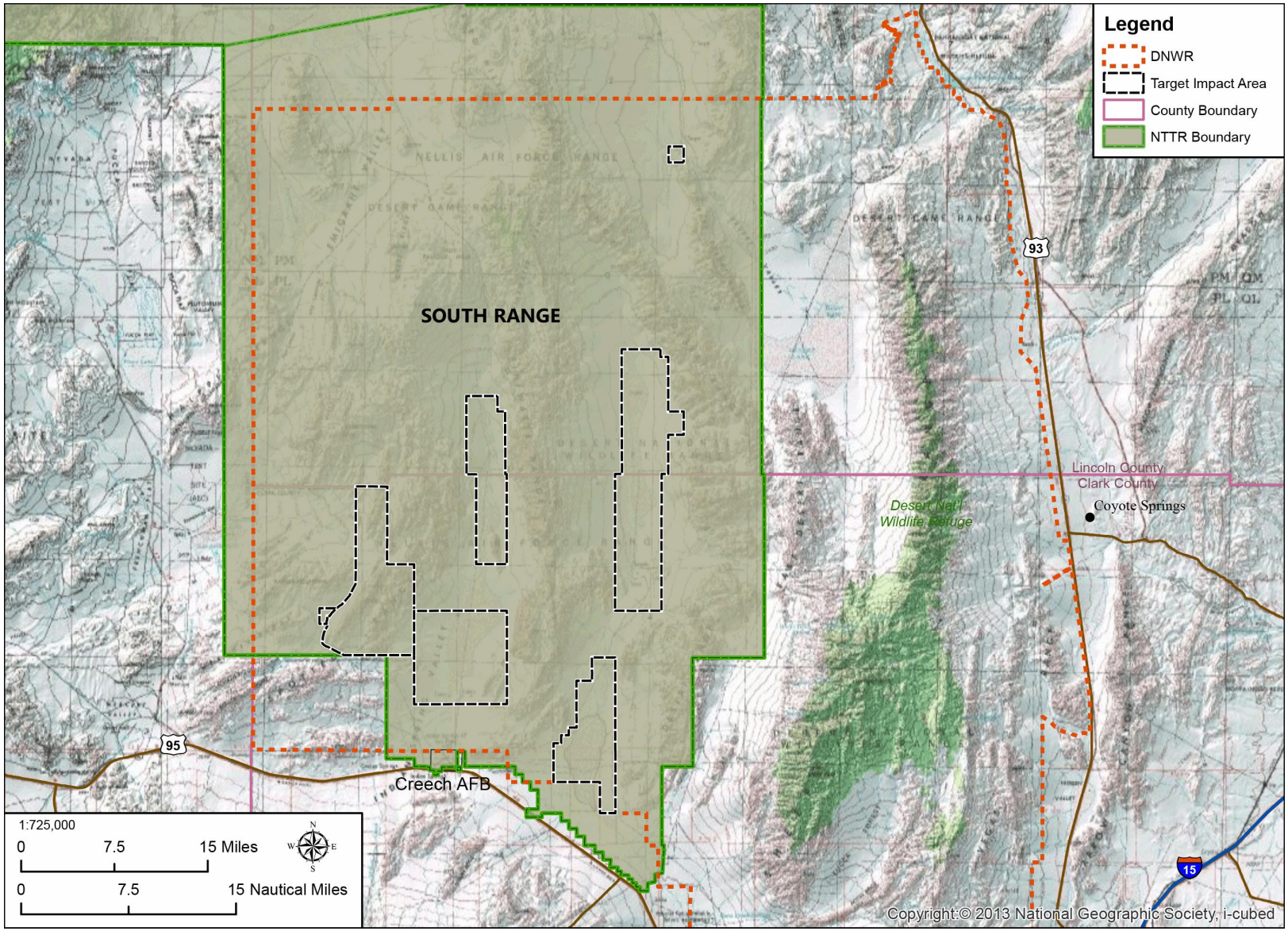

Figure 1-5. South Range Overlap with DNWR

The MLWA (1999) directs that the Secretary of the Interior is to manage the USFWS portion of the DNWR in coordination with the Secretary of the Air Force through a Memorandum of Understanding (MOU) that was renewed in 1997 and describes how the management responsibilities of each agency will be implemented. The MOU delineates how the Air Force is able to use areas in the South Range below the 4,000-foot contour line, which includes the target impact areas.

The MLWA (1999) transferred primary jurisdiction of these impact areas, also referred to as the "60-series" ranges, (identified in Figure 1-5) to the Air Force, with the Secretary of the Interior (via the USFWS) maintaining secondary jurisdiction for wildlife conservation purposes.

Targets in the South Range are restricted to the playas (dry lakebeds) within the 60-series ranges and accommodate live and inert ordnance. In accordance with the 1999 MLWA, the Air Force appropriated and funded $15 million dollars for the USFWS to mitigate the use of the impact areas associated with the 60-series ranges and to allow acquisition of similar lands, outside the South Range.

1.3 USAFWC/NTTR MISSION

The USAFWC mission is to "develop innovative leaders and full spectrum capabilities through responsive, realistic, and relevant testing, tactics development, and advanced training across all levels of war." The NTTR is the preeminent range for Test and Evaluation (T&E), tactics development, and advanced combat training of DoD personnel.

The Air Force's *Report to Congressional Committees: 2025 Air Test and Training Range Enhancement Plan* (January 2014) states that the Air Force "must focus our investment in live infrastructure at a few select ranges which will become hubs for intermediate to advanced training. The first of these ranges is the Nevada Test and Training Range (NTTR)…Providing a live test and training environment for 5th generation aircraft and advanced sensors requires costly infrastructure and, in some cases, greater area of land and volume of airspace than legacy systems."

Although the Air Force is the lead agency for the NTTR land withdrawal, there are many other tenants that use the NTTR. The range is considered an essential part of the national test infrastructure. Congress reserved it for use by the Secretary of the Air Force for the following military uses: as an armament and high-hazard testing area; for training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support; for equipment and tactics development and testing; and for other defense-related purposes consistent with the previously specified purposes. Based on availability, the NTTR is accessible to both DoD and non-DoD users who have valid requirements for its capabilities.

One significant non-DoD entity that is adjacent to the NTTR is the NNSS. Although the NNSS is adjacent to the NTTR and includes public withdrawn lands, the NNSS is not included in this withdrawal. The NNSS is a critical test site and "activities at the site

include preparations for the disposition of damaged nuclear weapons, subcritical experiments, criticality experiments, emergency response training, and waste management" (DOE, 2015). It contains about 1,360 square miles of desert mountainous terrain similar to the NTTR. It supports national security, homeland security initiatives, waste management, environment restoration, and defense and non-defense research and development for DOE/NNSA, and other government entities (DOE, 2013). The Desert Rock Airfield (Federal Aviation Administration [FAA] designated NV65) is a site used to support NNSS activities as well as State of Nevada-sponsored commercial unmanned aerial vehicle (UAV) testing and development, located within NNSS geographic boundary near Mercury, Nevada, but lies outside the NNSS's and NTTR's FAA-designated restricted airspace. While not part of the NTTR, the NNSS can be overflown by military and other aircraft with critical national security interest with prior coordination and approval (Low, 2016; NNSA, 2018). When appropriate to NNSS security or safety configurations, this use can include overflight of NNSS lands and/or use as a security or safety range buffer for NTTR activity. The NNSS proximity to the NTTR provides adjacent secure and controlled airspace and lands when required for NTTR activity that exceeds the NTTR capability (DOE, 2013).

1.3.1 Range Requirements

The NTTR is used to accommodate two major national defense necessities: T&E and large-scale training, described below.

Test and Evaluation

The NTTR is a MRTFB national asset. It is sized, operated, and maintained to provide T&E information to DoD component users in support of DoD research, development, T&E, and the acquisition process. The NTTR must provide a broad base of T&E capabilities that are sufficient to support the full spectrum of DoD T&E requirements.

T&E requirements can be separated into two categories: developmental T&E and operational T&E. *Developmental* T&E is related to the test and evaluation of equipment and whether the equipment meets the specifications outlined by government contract. *Operational* T&E determines how the equipment can be used and the environment and tactics best suited for the equipment. Although these two types of T&E are needed for different reasons, the overall strategy of military T&E must consider both types. These T&E capabilities include an electromagnetic environment that is free of interference, test infrastructure available to measure critical Time-Space-Position Information of weapons and various platforms, and the ability to measure and reproduce T&E environments.

The NTTR's airspace, land area, ability to replicate peer adversary capabilities, and capacity to provide high-quality test data are essential to operationally relevant testing. The NTTR must continue to provide robust capabilities to include a variety of configurations for advanced threat systems and combat-representative inert and live weapon delivery profiles and buffer zones for a variety of aircraft, targets, and landing zones.

Although additional airspace is not being requested as part of this withdrawal proposal, the current airspace is not used to its full potential because of constrictions in the South Range—the inability to move integrated air defense systems (IADS) and threat emitters away from impact areas limits the ability to conduct various operations in the South Range, which results in underutilization of the surrounding airspace.

Additional airspace is not necessary at this time, but more efficient use of the airspace is critical. Ready access would allow more efficient use of the airspace, specifically the airspace that overlies the South Range.

Training

The NTTR hosts the U.S. Air Force Weapons School and "Red Flag" exercises, as well as other major training events. Red Flag is a realistic major combat exercise involving large-scale U.S. air forces and allies. Aircraft and personnel deploy to Nellis AFB under the Air Expeditionary Force concept of large-scale exercises, incorporating a full spectrum of air and space operations. The NTTR's airspace and infrastructure is critical for large-scale exercises such as Red Flag. Red Flag is coordinated at Nellis AFB and conducted on ranges of the NTTR. It is one of a series of advanced training programs administered by the USAFWC. Besides training for 5th generation aircraft, the NTTR provides a venue for additional users such as other U.S. government agencies, state, and local governments, allied foreign governments, and commercial entities. Additionally, the NTTR is the Air Combat Command's range of preference for Tactics Development and Evaluations (TD&E). The NTTR's operational test capabilities ensure confidence in the results of the tactics improvements process and provide rigor for the reporting and implementation of new or improved tactics, techniques, and procedures. The majority of Air Combat Command TD&Es occur on the NTTR due to its focus on high-end combat training and operationally relevant testing.

1.3.2 Operationally Relevant Settings

In order to meet the national defense requirements of testing and training as outlined in Section 1.3.1 (Range Requirements), an operationally relevant setting is critical. DoD assets must be prepared to conduct a wide range of combat operations anywhere in the world. An operationally relevant setting is essential to warfighter readiness and the warfighter's ability to maximize employment of weapons system capabilities.

Major Combat Operations (MCO) and Irregular Warfare (IW) are two Joint Operating Concepts that describe how Joint Forces (i.e., forces from multiple military branches) will execute combat operations within a specific mission area in accordance with defense strategic guidance. These two Joint Operating Concepts, MCO and IW, which are not mutually exclusive, provide a useful framework for discussing the characteristics of an operationally representative battlefield. Both MCO and IW settings, each described in the following sections, are characterized by their adversary air defense system configuration, target type and configuration, and friendly/enemy ground force

posture. The NTTR must provide MCO and IW settings for both T&E and training tenants, including non-DoD users.

Major Combat Operations Setting

The MCO setting is characterized by a wide battlespace that includes a simulated IADS, incorporating early warning radars, strategic and tactical surface-to-air missile systems, fixed military-type targets, and friendly ground forces postured against organized enemy military ground forces. For an example, envision a World War II battle such as “D-Day.” Operations Allied Force and Desert Storm are the most recent examples of MCO. “Red Flag” exercises and the U.S. Air Force Weapons School’s Advanced Integration phase are two advanced MCO training exercises that use the NTTR multiple times each year.

Figure 1-6 shows the current capability of the NTTR to provide an MCO setting. The notional threat system configuration, representing the aerial defense systems of a modern adversary, is depicted as red rings in the North Range. These rings are operationally representative of what would be encountered in an MCO setting. (Notional threat rings portray the distance around an emitter in which radar could detect an aircraft.) The air defense system in the North Range can be tailored to potential tactical and strategic needs and may be reconfigured with a variety of different threat systems and locations. However, the air defense system depicted in the South Range shows the maximum capability that can be provided at a limited number of fixed sites. Radars and electronic air defense systems on the South Range cannot currently be reconfigured because of the overlapping areas that were proposed for wilderness and land management approaches that prohibit a majority of military test and training activities outside of designated target areas.

Irregular Warfare Setting

IW may occur across a wide area of battlespace or in small areas and is typically characterized by tactical and man-portable air defense systems (MANPADS) and targets that are indistinguishable from civilian infrastructure where friendly ground forces are postured against an enemy that blends in with the local population. Operations Iraqi Freedom and Enduring Freedom are the most recent examples of IW. Typical IW operations over the past 14 years have involved the insertion of friendly ground forces on a drop zone or landing zone followed by terrain navigation through rural or urban areas with support from fixed-wing, rotary-wing, or remotely piloted aircraft, operating in a limited threat setting. IW T&E and training missions occur on both the North Range and the South Range. Although the South Range terrain is optimal for this setting, IW training is limited in the South Range due to the previously discussed restrictions on land use outside of the target impact areas and above 4,000 feet.

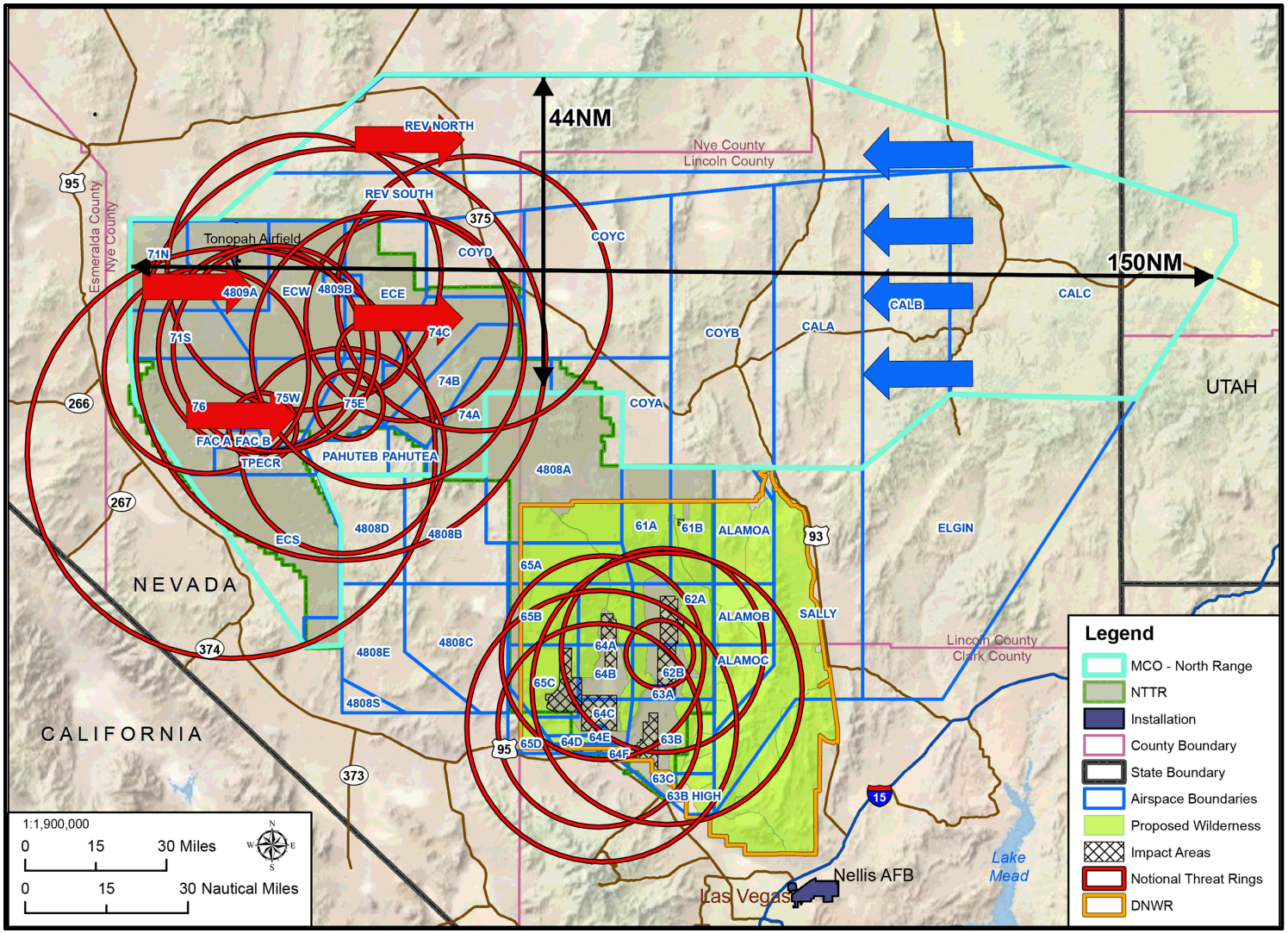

Figure 1-6. Current MCO Scenario

Note: "Proposed Wilderness" on the figure refers to the areas that were proposed for wilderness in 1971 (USFWS, 1971) for inclusion in the National Wilderness Preservation System. Red arrows represent a defensive force, while blue arrows represent an attacking force. Notional threat rings portray distance around an emitter in which radar could detect an aircraft.

1.4 PURPOSE AND NEED

For the Native American perspective on information in this section, please see Section 1.6.1 and Appendix K, paragraph 1.1.1.1.

The NTTR is a national asset with capabilities that cannot currently be replicated anywhere else in the world. The NTTR is critical for training various combat units of all branches of the U.S. Armed Services as well as U.S. allies that support or participate in certain aspects of tactical aviation and land combat missions. The NTTR land withdrawal is also critical to National Security and includes but is not limited to the activities of DoD, DOE, and Homeland Security and must be extended to ensure that a unique and enduring test and training range capability is available in the future.

The NTTR is a range in the MRTFB enterprise, which encompasses the largest, most fully equipped ranges designed to test and evaluate capabilities to support the DoD acquisition system and combat readiness. The MRTFB ranges also support operational training as capacity allows (U.S. Air Force, 2014a). The Air Force views the MRTFB ranges like the NTTR as irreplaceable national assets and the primary training ranges enterprise as an important component of combat readiness. In the January 2014 Congressional Report, the Air Force addressed six priorities that are critical to ensuring the viability of range infrastructure through 2025:

- Posturing for the new defense strategy
- Enhancing capabilities to support 5th generation aircraft and associated weapons
- Fostering compatible development
- Integrating space and cyber capabilities
- Institutionalizing Air Force special operations forces' range requirements
- Reducing range congestion and maximizing capacity through better business practices and innovative partnerships

For the past 20 years, the Air Force has been engaged in combat missions in the Middle East. The MRTFB adapted to the demands of these conflicts and evolved to deliver a test and training environment consistent with the demands of operations in both Iraq and Afghanistan. The MRTFB enterprise focused on counter-insurgency operations, desert and mountainous terrain, urban terrain complexes, and the incorporation of low-tech targets and simulated threats, which emulated the scenarios confronted in the Middle East.

Currently, defense strategy is directed toward a "pivot to the Pacific," which requires focusing on potential peer adversaries that may present more technologically advanced threats such as complex air defenses and highly sophisticated electronic countermeasures, including Global Positioning System (GPS) and radar jamming capabilities. The current MRTFB enterprise does not adequately replicate such a "peer adversary" environment at all of its ranges. To provide the realistic combat training required for aircrews, the Air Force must upgrade range infrastructure at select MRTFB

ranges to accurately reflect the complex, concentrated environments that aircrews will likely encounter during combat operations with a peer adversary. These range infrastructure upgrades include realistic integrated air defenses, target arrays compatible with advanced sensors, high-fidelity moving targets, and the ability to conduct operations in a contested and/or degraded environment.

Because constructing a test and training environment that adequately represents a technologically advanced adversary is costly, the Air Force cannot afford to invest in the needed infrastructure at all training ranges. Instead, investment must be focused on live infrastructure at a few, select ranges that will become hubs for intermediate to advanced training. The NTTR is the first of these ranges. The USAFWC is developing a strategic plan to guide investment in capabilities to allow the NTTR to more accurately replicate current threat environments (U.S. Air Force, 2014a).

Therefore, the Air Force's purpose and need for action is to sustain and enhance the military testing and training capacity, capability, and functionality of the NTTR through the land withdrawal process to meet current and future mission requirements, while continuing environmental stewardship of the lands entrusted to it. Mission requirements include, without limitation, the following:

- Increase MCO test/training capability to meet the demands of strategic guidance and alleviate competition for critical MCO electronic assets
- Enhance IW test/training capability
- Increase NTTR operational security and safety

Additionally, as a result of the overlap of the DNWR and areas that were proposed for wilderness in the South Range, there are significant restrictions on Air Force activities. These restrictions limit Air Force activities to ground areas below 4,000 feet and constrain development of new locations (such as emitter sites and communication sites) and use of historical targets that are located in areas that were proposed as wilderness in 1971.

While the Air Force has primary jurisdiction over the 60-series range impact areas, which are within the overlap between the DNWR and NTTR, they are live-fire target areas and do not offer the topography required for the development of simulated IADS.

The South Range as a whole provides the terrain necessary to provide military training that would meet DoD requirements. However, land management restrictions outside of areas with primary Air Force jurisdiction currently do not allow for any ground-disturbing military testing or training activities. As a result, current land management practices prevent the majority of the South Range of the NTTR and associated airspace from being effectively used to support military testing and training activities.

Currently, the Air Force can use only about 112,000 acres of the approximately 1.2 million acres on the South Range for test and training activities.

As a result of the evolving mission, the Air Force proposes to withdraw and reserve public lands for military use to support the utilization and modernization of the NTTR by enhancing range capability for improved training and testing. The NTTR is the

preeminent range for testing and evaluation of weapons systems, tactics development, and advanced combat training; however, the range and its infrastructure are quickly becoming outdated as rates of technological development of new weapons systems and electronic warfare systems accelerate. Over the last two decades, enemy technology has become increasingly advanced and complex, requiring more space to replicate their potential threat configurations. The NTTR can no longer replicate this threat environment.

1.4.1 Increase MCO Test/Training Capability to Meet the Demands of Strategic Guidance and Alleviate Competition for Critical MCO Electronic Assets

As described previously, the NTTR provides a setting that can mimic potential large peer adversary scenarios. The NTTR must increase MCO capabilities to meet current and future MCO test/training requirements. This capability would be required during all NTTR operations (24 hours per day, seven days per week) in accordance with the HQ NTTR scheduling process.

DoD Strategic Guidance has shifted toward preparing for more technologically advanced peer adversaries, which possess complex air defenses and sophisticated electronic countermeasures. According to the *2025 Air Test and Training Range Enhancement Plan*, the United States' current range enterprise does not adequately reflect that complex combat environment (U.S. Air Force, 2014a). For realistic training that produces combat-ready aircrews, the Air Force must upgrade range infrastructure at select ranges, including the NTTR. Upgrades include realistic integrated air defenses, target arrays that are compatible with advanced sensors, high-fidelity moving targets, and the ability to conduct operations in a contested and/or degraded environment. To meet this challenge on the NTTR, additional MCO capability is required.

Current Capacity

The NTTR provides a training environment that can realistically replicate limited peer-adversary scenarios of countries with modernized air defense systems; however, MCO activities occur predominantly on the NTTR's North Range. The ability to simulate these large scale peer-adversary scenarios on the North Range is directly related to the Air Force's ability to have ready access to, and configure the training environment of, the North Range.

Ready access consists of four essential elements: adequacy, flexibility, timeliness, and variability. *Adequacy* means the complete ability to fully utilize all of the withdrawn land and its many features to meet NTTR mission requirements. *Flexibility* entails sufficiently permissive and cooperative management under applicable regulatory standards that allows the DoD and supported agencies to meet mission requirements, while *timeliness* is described in terms of the ability to conduct mission activities in a time-sensitive manner relative to National Security timelines, including short-notice, urgent missions, following established measures for expediting any necessary coordination. Finally, *variability* identifies the ability to adjust testing and training activities over time, including realignment of sites on

Establishing ready access in the South Range would considerably increase the capabilities there for MCO test and training missions.

lands withdrawn for the NTTR and varying the uses of such lands to meet DoD and supported agencies' mission requirements.

Although the Air Force has ready access in the North Range, it does not have ready access in the South Range. The lack of ready access for military use within the DNWR area of the South Range is the primary reason that MCO operations are channeled to the North Range. Ready access limitations on the South Range prohibit IADS from being moved throughout the South Range; thus, IADS locations on the South Range are static and cannot be moved to emulate the real-world scenarios that warfighters will face during combat actions. This inability to install IADS between egressing aircraft and target impact areas at distances similar to real-world scenarios nullifies the realistic training value and impedes effective use of the airspace associated with the South Range. Therefore, the capabilities in the South Range are insufficient to meet Air Force test/training needs. As a result of the limitations in the South Range, MCO test and training missions occur almost exclusively on the North Range due to its size and ready access to allow employment of robust threat and feedback systems, targets, and insertion capabilities.

However, the configurations in the North Range do not adequately represent real-world scenarios. Figure 1-7 shows an outline of a peer IADS located in an actual relevant geopolitical area that the U.S. warfighter might engage. The figure is illustrated with a white background to ensure anonymity; Figure 1-8 depicts the same system overlaying the NTTR, illustrating the limitations of the current land boundaries, which is a very limited battlespace compared to real-world scenarios. Figure 1-8 is a theoretical overlay and is not representative of any conceptual ideas for the Air Force's withdrawal application (Figure 1-6 illustrates the current MCO capacity).

MCO operations entail aircraft entering the North Range along an approximately 45-mile front while encountering electronic assets. During MCO training exercises, the airspace and live-fire targets are used at high-intensity rates for several weeks. Compressing a large number of aircraft in the relatively small space of the North Range leads to an emphasis on deconfliction efforts rather than tactical employment. Consequently, unique assets used in MCO T&E missions are unavailable during MCO training exercises. Furthermore, MCO testing events may last for several weeks, rendering targets and adversary threat systems unavailable for MCO training activities.

Use of the NTTR is accomplished by an internal scheduling and prioritization of requests within Nellis AFB and Creech AFB user groups; numerous requests for range time result in intense competition for NTTR land and airspace. NTTR test and training schedule blocks are managed to 15-minute intervals for each airspace and range area to ensure efficiency. Often, multiple users are active in one airspace unit, and many activities restrict or preclude the ability to conduct ground-based training activities because of safety considerations. Given the high demand for NTTR range access, NTTR range managers must often defer training for requesting military units while assigning them as a back-up user to a higher priority activity. Maintenance activities are scheduled for each ground area when not in active use, as windows of time become available. These activities include clearing ranges of unexploded ordnance (UXO) or preparing the range area for the next military test or training activity.

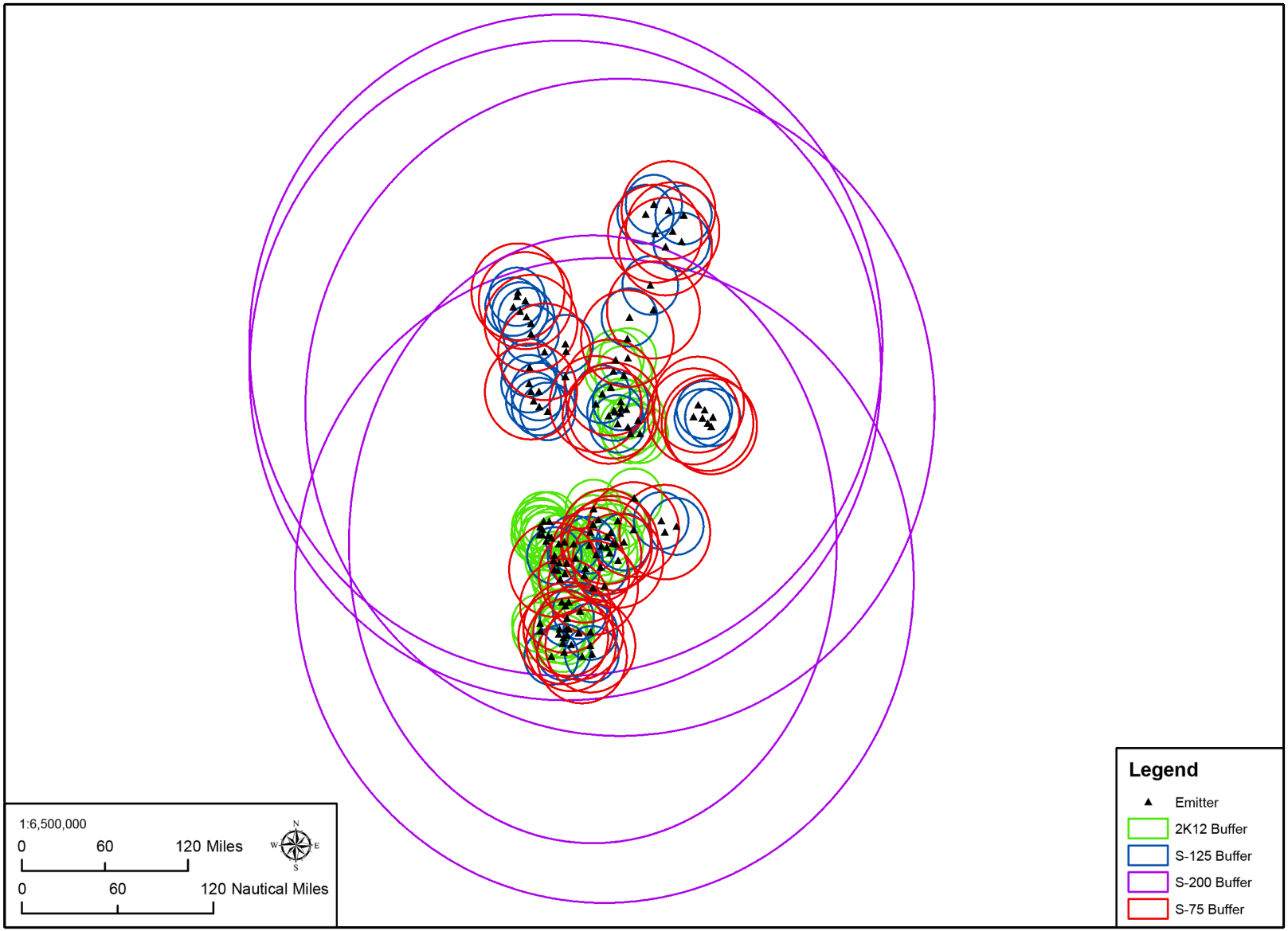

Figure 1-7. Real World Peer IAD System

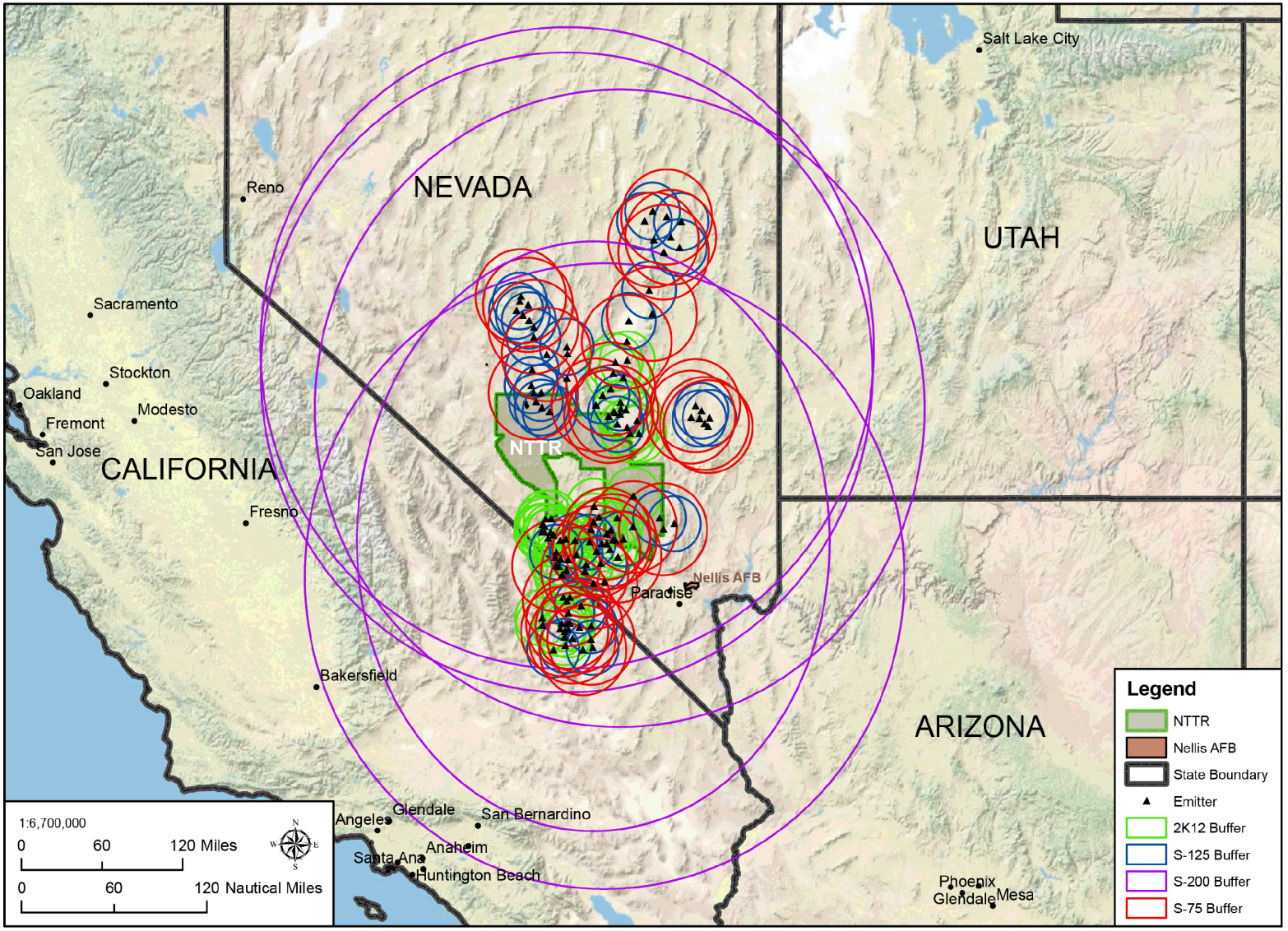

Figure 1-8. Overlay of a Real World Peer IAD System at NTTR

This is a theoretical overlay and is not representative of any conceptual ideas for the Air Force's withdrawal application.

Competition for land and airspace exceeds both permanent and transient/tenant units located at Nellis AFB and Creech AFB because a significant amount of the space is periodically used by other high-priority off-station users, such as Air Force Materiel Command and Edwards AFB assets, for test missions. Secondary-priority range users (Air Force Thunderbirds, 58th and 66th Rescue Squadrons, etc.), including tenant units and visiting off-station units, are increasingly constrained by scheduling challenges and encounter difficulties in efficiently meeting operational training objectives.

A review of the previous 10 years of UAS scheduling data shows the sustained growth of remotely piloted aircraft mission requirements has only added to the complexity and magnitude of scheduling, further intensifying mission competition. This competition has led to moving missions within the NTTR and in some situations displacing other missions.

The status quo for the NTTR is that testing and training requirements, along with maintenance and stewardship as well as regulatory activities, demand more than 100 percent of existing capacity. Virtually 24 hours per day/seven days per week, multiple testing and training missions along with other requirements compete for the same limited resources. As a result, on nearly any given day, an important National Security testing or training mission gets delayed. As technologies continue to advance, the Air Force can no longer discount the need for additional land to support its operations.

Expansion areas are being proposed for increased public safety and military operational security as the need and capabilities for test and training missions have increased.

Future Requirements

The technological advances incorporated in 5th generation aircraft (i.e., the F-35 Joint Strike Fighter) and associated weapons represent an unprecedented leap in combat capability. These advances allow crews to identify and engage multiple targets from greater distances with improved accuracy. The technology of precision-guided munitions has generally shifted the focus of training from weapon employment to target identification, increasing the complexity of the targets required to accomplish realistic training. The greater employment distances of these weapon systems add another limiting factor to the ability of range managers to conduct realistic training as individual sorties require larger portions of the range and airspace to train safely and effectively.

Range limitations of the NTTR will become more frequent and apparent as future mission requirements are scheduled. Since ready access for military use in the South Range is not available, there is limited ability to use the NTTR airspace to its maximum capacity. Simply put, pilots currently can approach the existing target impact areas only at limited angles from limited points in the airspace, which is one way that airspace is not being used to its maximum capacity.

The current lack of ready access in the South Range forces the military to conduct major combat operations training and testing on only the North Range, causing backlogs and delays in testing and training missions.

Approach angles are currently limited in large part because the emitters cannot be placed at realistic distances from the targets, which creates threat rings that are too close to the targets. The land available for threat emitter placement is extremely limited due to access restrictions and the current size of the NTTR withdrawal. The limitations on approaches could be greatly reduced if the Air Force were allowed access to other areas on the South Range to place threat emitters farther from existing target impact areas. While no new target impact areas are being considered as part of this proposed withdrawal extension or expansion, the ability to place threat emitters farther away from impact areas would allow pilots to approach the targets from a wider variety of points throughout the existing airspace, making the use of the airspace much more effective. Figure 1-9 illustrates how the current opportunities for target placement are limited and how the current placement of threat emitters (Figure 1-10) results in inadequate training for pilots.

Alleviate Competition for Critical MCO Electronic Assets

The NTTR has many unique MCO electronic assets; however, increased scheduling conflicts for range assets co-located in areas used for MCO activities creates competition between military communities and reduces the throughput rate of MCO T&E as well as MCO training. Increased capabilities that could reduce scheduling conflicts will improve the efficiency of current and future MCO activities.

In addition, Intelligence Surveillance Reconnaissance (ISR) has become a high-priority focus for the Air Force. Creech AFB is located on the NTTR, and their mission revolves around ISR training and T&E. Therefore, the NTTR has experienced increasing unmanned aerial system/remotely piloted vehicle/drone (i.e., UAS) training activities over the last 10 years at an unprecedented rate. Due to the lower speeds of UASs, it is difficult to schedule range areas within the interior without creating scheduling conflicts with MCO training and MCO T&E. UASs fly at much slower speeds than conventional air platforms, which creates a hazard for fast moving jet aircraft that are involved in MCO training and MCO T&E activities. As a result, there is a need for range areas that could accommodate the UAS training while limiting the impact to the MCO setting.

1.4.2 Enhance Irregular Warfare Test/Training Capability

Although the USAFWC recognizes the importance of providing large-scale peer adversary training exercises, it acknowledges that most of the current fight is of an IW nature. The Air Force test and training ranges have historically been used for the development of aircrew and airborne systems. However, IW operations have had an expanding role, highlighting the critical need to integrate special operations forces (e.g., Navy SEALs and Army Rangers) as well as battlefield Airmen. These forces, to include ground units, operate much differently than traditional air forces, but require the same access to realistic training space. The NTTR provides a unique natural topography similar to regions of the world where U.S. warfighters are currently engaged. In addition, the NTTR has infrastructure that is already available for IW training. The combination of infrastructure as well as natural topography makes the NTTR the ideal location for this training.

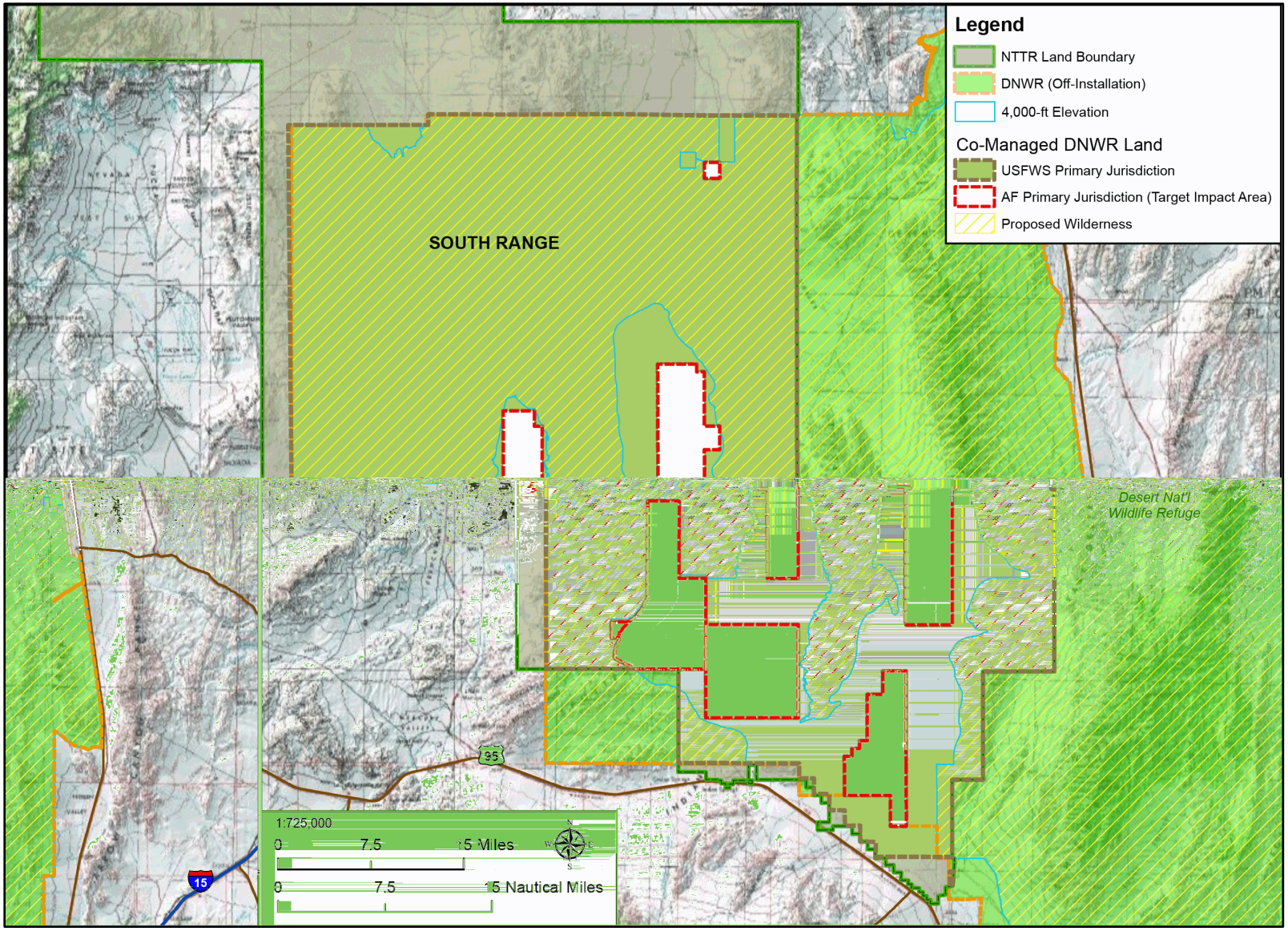

Figure 1-9. Current Primary Jurisdiction Designation of the DNWR

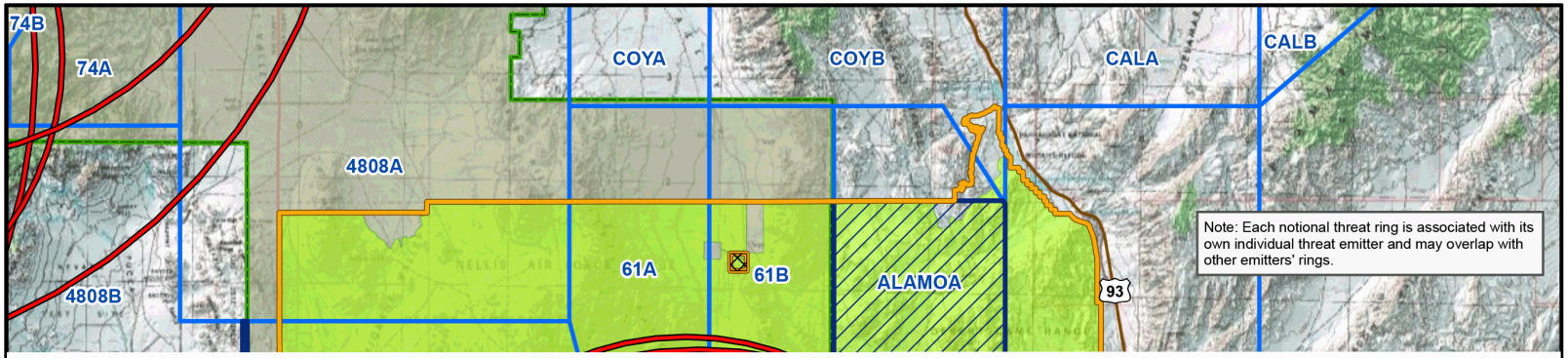

Figure 1-10. Current Threat Capability – South

Typical IW training includes ground training with the use of both air and vehicle operations support. Ground training includes a number of activities, but is generally the movement of dismounted soldiers (on foot) through interstitial areas. Troop movements are typically stealthy as units transit from one objective to another undetected. Special Forces teams usually operate in groups of up to 12 troops.

To increase the realism of the training events, some training ammunition (blank small arms), hand flares, smoke grenades, or other training munitions (such as paint balls) are expended during certain operations. In almost all cases, ground training on foot involves movement under covert, clandestine conditions without leaving any evidence of troop presence. Troop movement also generally occurs in single file movement of a small group, so that large troop movements over a large land mass do not occur. Land navigation training may occur during daytime or nighttime and usually involves the use of a compass, maps, and GPS. Troop movement on foot may also be used for training in search and rescue, personnel recovery, and reconnaissance. Personnel movement usually occurs on established roads, along mountainous terrain, and on rare occasions through riparian environments. These types of activities would occur with teams that are typically no more than 12 troops, and movements would occur in such limited frequency over the same area that the physical impact on the ground would be negligible.

Typical troop movement activity includes the following:

- Road march (done on existing roads for extended lengths of travel)
- 6- to 12-man team insertion/extractions from varying methods (parachute, airplane insertion, and helicopter); insertions are clandestine activities and regardless of how an insertion is accomplished, personnel would most often walk out of the insertion area
- Clandestine movement by foot to training objective sites (most often culminating at an Urban Operations Complex (UOC)
- Foot movement to a UOC through the interstitial and on existing roads

Air and Vehicle IW Operations Support

Airborne operations include the use of rotary- or fixed-wing aircraft for the insertion, extraction, movement, or supplying of ground troops. This could include the delivery of special forces via an aircraft delivery to an insertion point or paradrops; paradrops are the delivery of equipment or supplies on pallets rigged with multiple automatically deploying parachutes. Insertion points, which are areas for inserting paratroops or paradropping equipment or palletized supplies, are established for user groups that conduct training and testing that integrate ground and air operations. Insertion points in this case are typically unimproved surfaces (i.e., ground areas without pavement or other improvements) and accommodate touchdown and takeoff of fixed- and rotary-wing military aircraft.

Ground support vehicles are occasionally integrated into the training to deliver and retrieve the participating troops or provide support and logistics. Ground vehicle

movement is normally restricted to the existing road and trail network, but some training integrates the use of all-terrain vehicles or "dune buggies."

The NTTR plays a vital role in training combat units. Most of these ground forces perform a significant function in tactical aviation and land combat missions. As a result of this significant role, the USAFWC concluded that it requires the following capabilities at the NTTR:

- Development of unique insertion and extraction points
- Overland navigation (areas with and without mountainous terrain)
- UAS coordinated efforts with overland navigation

Insertion/Extraction (Drop Zone/Landing Zone) and Overland Navigation

One of the most challenging aspects of an IW operation is insertion and extraction of teams in a hostile threat environment. Keno Airfield in the North Range is highly utilized by Air Mobility Command, Special Operations Forces, and Marine Amphibious Forces to maintain combat mission-ready status. Keno is currently the only location on the NTTR that Mobility Air Forces, special operations forces, and coalition partners can test and train insertion and extraction capabilities. As described previously, the current DNWR-related ready access restrictions in the South Range limit IW training to the impact areas under Air Force primary jurisdiction within the South Range. However, insertion and extraction activities cannot be conducted safely in areas that may contain UXO, so those impact areas cannot be used for insertion/extraction activities. In addition to the lack of insertion and extraction locations in the South Range, the ability to conduct overland navigation is severely minimized as a result of the current USFWS management approach to land use. Consequently, the NTTR's current capability to replicate a full battle spectrum for IW training is severely constrained and essentially limited to the North Range.

Combined UAS and IW Training

The Air Force has identified ISR as a key component in IW strategies and has incorporated a robust training program to implement those strategies. Creech AFB is at the center of UAS training and is located on the NTTR. This provides a seamless opportunity to test and train crews and systems that are currently required for any IW operation. Ground personnel must be able to integrate ISR strategy into operations. Because of Creech AFB's proximity to the South Range, the South Range is the ideal location to test and train these assets. However, as mentioned previously, IW training in the South Range is limited due to access restrictions.

1.4.3 Increase NTTR Operational Security and Safety

Over the last 20 years, the population in Clark County (Las Vegas Metropolitan area) has grown significantly. Much of this growth has occurred in the northern half of the county, which abuts the NTTR. Consequently, NTTR managers have encountered public encroachment onto the range. In most instances, civilians have not realized that they are on the range as a result of losing their bearings, and sometimes civilians have

disregarded perimeter signage. Therefore, the USAFWC believes that a larger buffer area surrounding the NTTR in the southern portion of the range would aid in reducing these situations. Increasing the buffer and adjoining it to major infrastructure such as roads or fencing, would help the public more readily recognize the true boundaries of the range and limit the potential for public intrusions, thereby increasing public safety.

1.5 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

1.5.1 Requirements

Congress enacted NEPA to establish a national policy for the protection of the environment. It requires federal agencies to assess the environmental consequences of a proposed action and alternatives systematically as part of the decision-making process. The intent of NEPA is to protect, restore, or enhance the environment through well-informed decisions by federal decision makers. In the case of this LEIS, Congress will be the final decision maker. The Council on Environmental Quality (CEQ) was established under NEPA, 42 USC 4342 et seq., to implement and oversee federal policy in this process. In 1978, the CEQ issued regulations implementing the NEPA process under 40 CFR 1500–1508. The Air Force Environmental Impact Analysis Process (EIAP) for meeting CEQ requirements is accomplished via procedures set forth in CEQ regulations and 32 CFR 989. This LEIS has been prepared in accordance with NEPA and 32 CFR 989. These regulations outline the responsibilities of federal agencies and provide specific procedures for preparing EISs to comply with NEPA.

NEPA imposes a continuing duty to supplement (40 CFR 1502.9(c)) existing NEPA documents when substantial changes are made that are relevant to environmental concerns or in response to the identification of significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. In furtherance of NEPA's Section 101 goals to "protect, restore, and enhance the environment" (40 CFR 1500.1(c)), the Air Force may implement an adaptive management approach to managing the NTTR that is bounded by the analyses contained in the Final LEIS or follow-on site-specific analysis developed subsequent to the withdrawal legislation. Adaptive management allows for improving an understanding of complex, interrelated systems through a process built around a continuous cycle of experimentation, evaluation, learning, and improvement over time. The ability to experiment and test hypotheses in a time frame that allows meaningful data to be gathered and evaluated is an important element of that process. In the analysis of anticipated impacts in the LEIS, the Air Force has done its best to accurately predict potential impacts and anticipate future conditions. The area around the NTTR is a dynamic system that is continually evolving; it is likely that there will be unanticipated changes or new information may become available that may be different than expected. The Air Force is responsible for monitoring the predictions (e.g., impact, mitigations) made in its completed NEPA documentation (40 CFR 1505.3, 1505.2(c)).

This LEIS identifies and describes the affected environment and assesses the potential environmental impacts resulting from extending the current NTTR land withdrawal and the Air Force's proposed alternatives to expand the NTTR land boundary. Knowledge and information gained through the land withdrawal process provides benefit to the cooperating agencies involved in this LEIS by supplying enhanced baseline data and providing data that can be used in future management decisions and goals. Requests for access by government agencies or Native American tribal groups would follow the specific procedures established in the Integrated Natural Resources Management Plan (INRMP), Integrated Cultural Resources Management Plan (ICRMP), or an appropriate agreement, such as a Memorandum of Agreement/Understanding between the Air Force and the government agency or Native American group. In order to create a more defined approach for range access, the Air Force has suggested a mitigation approach in Section 2.9.2 (Proposed Resource-Specific Mitigations and Management Actions to Reduce the Potential for Environmental Impact) under Land Use. This mitigation would create an Access Management Plan. Details regarding the Access Management Plan are located in Section 2.9.2.

This NEPA analysis identifies environmental permits, potential specific mitigation measures, and management actions to prevent or minimize environmental impacts, if needed. This LEIS is unique in that a Record of Decision will not be signed. Congress, through legislative action, will make the final decision regarding the NTTR land withdrawal extension and proposed expansion. Therefore, mitigation measures will be incorporated through actions associated with the legislative language that Congress ratifies. It is anticipated that a mitigation plan will be developed in accordance with 32 CFR 989.22(d), but this will depend on the final legislative language developed during the Congressional process. If a mitigation plan is developed, it will address potential specific mitigations and management actions that the proponents of various actions could implement.

Some adaptations may require additional NEPA analysis, such as those that would result in a substantial change to the action. Since the LEIS is programmatic in nature, any future construction or operational actions will require site-specific NEPA-required analysis. This will include, but is not limited to, specific biological and cultural site surveys.

1.5.2 Public and Agency Review

NEPA and the Air Force's implementing regulations require the lead agency (in this case, the Air Force) to seek public participation throughout the EIAP. Accordingly, the Air Force's Notice of Intent (NOI) to prepare this LEIS was published in the *Federal Register* on August 25, 2016.

The Air Force elected to first involve the community through the "scoping" process, which included a series of public meetings and opportunities for comment on the development of the LEIS. Scoping helps identify potential issues and alternatives early in the environmental planning process.

Public comments were also solicited on the Draft LEIS. In providing for the opportunity to comment on the Draft LEIS, the Air Force requested that comments be substantive in nature. Generally, substantive comments are regarded as those specific comments that challenge the analysis, methodologies, or information in the Draft LEIS as being factually inaccurate or analytically inadequate; that identify impacts not analyzed or develop and evaluate reasonable alternatives or feasible mitigations not considered by the Air Force; or that offer specific information that may have a bearing on the decision, such as differences in interpretations of significance, scientific, or technical conclusions, or cause changes or revisions in the proposed action. Nonsubstantive comments, which do not require an Air Force response, are generally considered those comments that are nonspecific, express a conclusion or opinion about the proposed action, agree or disagree with the proposals, vote for or against the proposal itself or some aspect of it, state a position for or against a particular alternative, or otherwise state a personal preference or opinion.

1.5.2.1 Summary of the Public Scoping Process

Although a scoping process is not required for an LEIS, the Air Force elected to involve the community through a series of public scoping meetings. Notification of the meetings was published in local newspapers in 2016—the *Bullseye* on September 23 and October 7, the *Pahrump Valley Times* on September 28 and October 5, the *Lincoln County Record* on September 23 and October 7, the *Tonopah Times-Bonanza* on September 22 and October 6, and the *Las Vegas Review-Journal* on September 27 and October 6. Additionally, Nellis AFB Public Affairs distributed a press release to local media and radio stations on August 25, 2016.

The Air Force's public scoping meetings were subsequently held in Nevada in 2016: in Beatty on October 12, in Tonopah on October 13, in Caliente on October 18, in Alamo on October 19, and in North Las Vegas on October 20. The total number of attendees at each public scoping meeting hosted by the Air Force was 37, 21, 12, 25, and 155, respectively.

Appendix A, Public Involvement, provides a summary of the concerns raised during the public scoping period in Section A.2 (Public Scoping Summary). All comments received during the scoping period were considered by the Air Force, and substantive comments were incorporated into the Draft LEIS.

1.5.2.2 Summary of the Draft LEIS Review Process

The Draft LEIS public comment period began when the Notice of Availability of the Draft LEIS was published in the *Federal Register* on December 8, 2017 (see Appendix A, Section A.3, Notice of Availability). Notification of the meetings was published in local newspapers in 2017 and 2018: the *Lincoln County Record* on December 29, 2017, and January 12, 2018; the *Desert Lightning* News on December 22, 2017, and January 12, 2018; the *Las Vegas Review-Journal* on January 7 and 14, 2018; the *Pahrump Valley Times* on January 10 and 17, 2018; and the *Tonopah Times-Bonanza* on January 4 and 18, 2018. The total number of attendees at each public hearing meeting hosted by the

Air Force was 10, 37, 223, 41, and 12, respectively. Additionally, Nellis AFB Public Affairs distributed press releases and public service announcements to local media and radio stations on December 8, 2017, and January 3, 10, and 17, 2018.

Although only a 45-day comment period is required for Draft EISs, the Air Force elected to have a 90-day public comment period, ending on March 8, 2018. The Air Force's public hearings were held in Nevada in 2018: in Caliente on January 17, in Alamo on January 18, in North Las Vegas on January 23, in Beatty on January 24, and in Tonopah on January 25. The hearings provided agency representatives as well as interested and affected citizens an opportunity to present oral and written comments on the content of the Draft LEIS. A hearing officer (military judge) presided over the public hearings. During the public comment portion of each hearing, a court reporter transcribed oral comments verbatim.

1.5.2.3 Summary of Concerns Raised During the Public Draft LEIS Public Comment Period

During the Draft LEIS public comment period, verbal and written public comments were submitted to the Air Force via the website, e-mail, standard mail, and at the public hearing (written and oral). Members of the public, tribes, organizations, and government agencies submitted a total of 32,820 comment letters and oral comments during the comment period. The majority of public comments received were directed at the structure of the Air Force's proposal, biological and cultural resources impacts, and impacts on land use and areas that were proposed for wilderness. The most common concerns relevant to the development of the LEIS are discussed below. Section A.4 (Draft LEIS Comments and Air Force Response to Comments) in Appendix A (Public Involvement) provides the comments received on the Draft LEIS and presents the Air Force response to comments.

Airspace

Comments received on airspace dealt with utilization of the airspace, including reducing flyovers near certain communities, limiting nighttime operations, and using existing airspace more efficiently.

Noise

Noise topics commonly mentioned in comments primarily consisted of complaints about current aircraft noise and concerns about the proposed increase in air operations. The other topics commonly brought up dealt with the noise levels and sonic booms discussed in the Draft LEIS, claiming the numbers were optimistic and false. Commenters also expressed concern about how increased noise would impact humans and wildlife differently. Others claimed there would be impacts to various resources within the Pahranagat NWR and property values for homeowners in Alamo. Some questioned whether the DoD ever conducted studies on the effects of increased noise and that an independent agency should conduct the noise monitoring and data collection to provide an objective source.

The Moapa Band submitted multiple comments about the noise analysis in the Draft LEIS. They recognized the Air Force's extensive noise modeling and analysis efforts but disagreed with how baseline levels were determined and analyzed. The Band also believed that the methodology was deficient because it did not consider how noise impacts different cultures differently or the psychological impacts to Band members, civilians, and military veterans. They suggested that noise impacts should be analyzed in a culturally appropriate context that also addresses psychological harm.

Air Quality

Air quality comments included general suggestions on how the Proposed Action would impact air pollution and that the Air Force should consider how emissions can increase climate change impacts and cause disproportionate effects locally and globally.

Land Use

Most comments received about land use referenced closures and access restrictions to public lands; natural, cultural, and historical resources; outdoor recreational areas (Alamo Road); usage of the DNWR by people with special needs, educational entities, and management agencies; and various activities, including resource management, mining claims in Alternative 3A/3A-1 areas, grazing lands near Beatty, and future grazing use, hunting, off-road activity (including off-highway vehicle [OHV] operations), camping, and development. Maintenance and resource management actions specifically mentioned were those needed for water resources, including springs and water developments and water quality monitoring in Beatty, wildlife management including wild sheep, and cultural and archaeological studies. Commenters expressed concerns about the health and safety of the public if access for water quality monitoring was restricted. Other commenters stated that the LEIS did not fully analyze impacts of expanded military use of the DNWR. One commenter requested additional clarification on the meaning of "historical activities."

Some commenters asked how the Air Force planned to develop a process for access agreements with specific entities and if there were estimated timelines to complete the process. Related comments were received that asked whether advance notice would be provided before roads within the Alternative 3C proposed expansion area would be closed and how many times a year this would occur. Private landowners were concerned about how the Air Force planned to access the portions of the withdrawal area that borders private lands.

The use of and access to various trails was expressed as a concern by multiple commenters. Trails-Oasis Valley (Trails-OV), Beatty Veterans of Foreign Wars (VFW), Best in the Desert, and outdoor enthusiasts were specifically mentioned with respect to Alternatives 3A and 3A-1, along with parts of the Jeep Trail through the Bullfrog Historic/Geological Mining District. One commenter stated the presentation provided at the hearing did not discuss trails around the Alamo. (Note: Those trails would not be impacted, but the trails around Beatty were included in the presentation.)

Bighorn sheep hunts were brought up by several commenters concerned about access restrictions impacting multiple NDOW hunting units and claimed that the best-known hunting spots would no longer be available under Alternative 3A or 3A-1. Some commenters offered solutions to alleviate hunting concerns, including arranging and scheduling training activities in other portions of the NTTR during hunting season or on the weekends, utilizing EC South differently to increase hunting in units 252 and 253, and establishing a new hunt unit that would not compromise the mission. One commenter expressed opposition to hunting in general and another questioned the methods used in establishing hunting quotas.

BLM encouraged the Air Force to continue coordination efforts with them, Nevada Energy, and Valley Electric Association to develop a proposal to minimize any energy infrastructure impacts because the Governor's Office of Energy believed that the Draft LEIS did not address all of the impacts.

Wilderness Areas

The primary concern expressed in comments addressing Wilderness Areas included the impacts to and fragmentation of wilderness, suggesting the Proposed Action would irreparably destroy between 850,000 and 1.2 million acres of wilderness quality landscapes. In addition, many commenters believed that areas proposed for wilderness should be designated as Wilderness, and they were disappointed that the LEIS did not address designating any wilderness. Other commenters claimed that wildlife habitat would be destroyed and the areas proposed for wilderness within the NTTR land boundaries would be converted to an industrial-type development, similar to conditions found in the North Range.

One comment stated that the Air Force did not disclose the character of the areas proposed for wilderness or analyze the importance of each wilderness unit to all wildlife. Multiple commenters disagreed with the Air Force's discussion on the amount of land area outside the NTTR that possesses wilderness qualities, suggesting that these Wilderness Areas and Wilderness Study Areas (WSAs) cannot act as substitutes or replacements and are not interchangeable. One comment suggested that the Air Force should consider the designation of all areas proposed for wilderness by the USFWS in 1971.

Multiple comments referenced the five wilderness qualities and the Air Force's analysis methodology. One commenter stated that not all wilderness qualities are required to be present in a Wilderness Area. Several commenters felt the Air Force's conclusions were falsely stating that areas proposed for wilderness should not be designated as wilderness. They also interpreted the analysis in the Draft LEIS as the Air Force making a determination on the suitability or viability of wilderness based on the reduction or detraction of specific wilderness qualities from Air Force activities. Wilderness Areas designated by Congress in Tucson, Albuquerque, and Salt Lake City were used as examples where outside sights and sounds may detract from wilderness qualities, but they do not make them ineligible to be designated wilderness.

Socioeconomics and Environmental Justice

Comments submitted on socioeconomics were primarily concerned about the financial losses resulting from negative impacts to hunting and outdoor recreational activities under the expansion alternatives. Sources of concern include the Coyote Springs development; losses of tourism income due to elimination of established bicycle, hiking, and off-pavement vehicle trails for recreation, especially in small communities like Beatty for Alternative 3A, and the Alamo areas for Alternative 3C; and that other local economies in Nevada may experience negative impacts to economic growth.

Some commenters stated that the LEIS did not clearly determine whether the proposed expansions would reduce or increase Payment in Lieu of Taxes (PILT) payments to Nye County in the future compared to the status quo. Others felt the Draft LEIS failed to address, identify, and describe the full suite of land withdrawal impacts to Nye County economy, infrastructure, and public finance. The comment recommended that the Final LEIS identify, quantify, and evaluate the direct impacts to PILT from continuation of land withdrawal and quantify the indirect and cumulative economic impacts to Nye County that would result in the termination or absence of the NTTR land withdrawal under the No Action Alternative.

One comment indicated that terminating the land withdrawal would increase local revenue streams and mentioned the Special Nevada Report, which determined that Nye County's gross regional product would increase by up to 9 percent and the budget revenue would increase by an additional $2.2 million.

Another commenter expressed deep concerns about the lack of reliable emergency medical services, along with road maintenance and solid waste management services due to the obstacles to travel through and over the withdrawn land. This commenter requested the full support of NTTR managers and the DoD in securing a sustainable solution to provide medical services in a large swath of the state that includes the proposed NTTR withdrawal, Naval Air Station (NAS) Fallon, and other public lands that have been withdrawn from public access for DoD missions.

There was one comment that specifically dealt with an environmental justice concern, indicating that the analysis only considered noise impacts and that the only population of concern was Indian Springs Elementary School, but the middle and high school was omitted.

Biological Resources

Biological resources received the second highest number of comments during public hearings. Topics addressed for biological resources are summarized below.

There were many general concerns on how the Proposed Action would impact and fragment wildlife species and habitat, specifically those found within areas proposed for wilderness. Commenters urged the Air Force to fully consider specific impacts from a 30 percent increase in munitions usage to wildlife and habitat in the DNWR, including management activities. These commenters claimed that thousands of acres of habitat would be lost to roads and other activities and requested to see more reports or

documentation on this. Other commenters indicated that microwave radiation effects on flora and fauna were not addressed in the Draft LEIS.

Bighorn sheep were specifically mentioned, including claims that the analyses in the Draft LEIS and associated reports were insufficient and did not coincide with research findings, though specific studies were not named by the commenters. Multiple types of impacts to bighorn sheep were noted, and general habitat concerns were expressed for Alternative 3A/3A-1, including a lack of adequate separation between domestic sheep grazing allotments to prevent disease transmission. They also claimed that NTTR personnel did not collect any baseline data on bighorn sheep and monitoring efforts had not begun soon enough prior to the withdrawal.

There were several concerns about the proposed perimeter fencing and its impact on wildlife movements and connectivity. It was mentioned that antelope fencing would not be compatible with bighorn sheep. A few commenters noted that desert tortoises would be disturbed by the fences. Some questioned the need for fencing in remote areas or along the border of the DNWR. Others indicated that large areas of fencing would require significant maintenance with additional impacts. They also stated that the proposed type of fencing would not effectively deter the public from entering the NTTR and suggested signage or other boundary line markers would be an equally effective but more wildlife-friendly alternative.

Commenters urged the Air Force to enhance and prioritize wildlife conservation efforts to mitigate for adverse impacts and to reduce other threats to these species. They suggested that the Air Force and USFWS should coordinate better and develop a management plan that outlines specific requirements to accomplish each other's objectives. They did not support the idea of giving an agency primary jurisdiction with no objectives to protect DNWR resources and questioned how compliance with various laws would be accomplished, suggesting regulatory agencies should be responsible for this as opposed to self-reporting.

Several submitted comments dealt with the wildlife and vegetation studies commissioned for the LEIS in 2017. A few commenters questioned how much of this information was actually incorporated into the Draft LEIS analysis. Many commenters felt that the wildlife surveys were not comprehensive in scope and insufficient for a presence/absence type of analysis; therefore, a determination stating that significant impacts to sensitive wildlife resources could be avoided or mitigated is premature. The commenters also believe that, based on an apparent absence of adequate data, the Air Force should commit to conducting comprehensive wildlife inventories and then develop appropriate mitigations. They did not understand how revising the INRMP would resolve this issue and questioned the Air Force's commitment to comply with a new INRMP.

One commenter requested information on the status of the INRMP and asked what baseline data had been collected for both the existing NTTR areas and proposed expansion areas. They further asked if data were missing, when data would be collected and integrated into both the INRMP and the LEIS. Other commenters suggested that the INRMP update should determine if implementing the Proposed Action resulted in benefits or harm to wildlife but then claimed that NTTR managers

would not have the necessary resources to effectively manage the natural resources within its current and expanded boundaries.

Wildlife species specifically mentioned in comments included bighorn sheep, pronghorn, desert tortoise, Amargosa pupfish, sage grouse, eagles, migratory birds, pollinators, and *Endangered Species Act* (ESA)-listed species. Multiple comments suggested water sources that support wildlife should be addressed in this analysis, including Thirsty Canyon complex and Spotted #5 wildlife water development in the Alternative 3B proposed expansion area. It was stated that all springs and water developments should be protected and avoided where the wildlife will return on a regular basis. Other commenters questioned, if Alternatives 3A or 3B are chosen, would primary jurisdiction of horse/burro herd management areas (HMAs) remain with BLM and how will increased MCO operations on North and South Ranges affect herds, habitat, and their management.

Mojave desert tortoise was mentioned in comments, indicating that the analysis in the Draft LEIS is inadequate, and commenters disagreed with the proposed methodology for tortoise management and relocation. They also expressed concern that an increase in ground-disturbing activities and vehicle use of desert surfaces will likely increase desert tortoise mortalities. Some claimed that managing the majority of the DNWR as a wilderness area helps conserve wildlife, sensitive species, and intact roadless landscapes, which is probably one reason that desert tortoises are doing so well in the South Range.

Comments on the Amargosa toad were submitted, specifically questioning impacts to source waters that support the Amargosa toad and indicating that mitigation or avoidance measures were not included in the Draft LEIS. There was also a request to incorporate updated survey data on the Amargosa toad into the Final LEIS.

Some comments dealt with how impacts on biological resources would be intensified when combined with impacts from climate change and suggested that this type of analysis be included in the LEIS. Commenters stated that the Air Force should consider how climate change will impact the flora, fauna, and microorganisms within the proposed expansion areas, including the current problem of valley fever, which is suspected or endemic in southern Nevada. They also questioned whether adaptive practices would be implemented to protect the environment and inhabitants of the land.

Multiple comments were made by NDOW or referred to NDOW's involvement in the LEIS process. NDOW reiterated their largest concern as the additional loss of access and adverse impacts to wildlife resources resulting from continued military expansion into the DNWR. They stated their significant investments of time and resources to improve wildlife resources on the DNWR would be further complicated and their effectiveness would be reduced. NDOW submitted other comments on wildlife monitoring, the INRMP, and agency coordination. One commenter assumed there was a lack of coordination between the Air Force and NDOW while the Draft LEIS was being developed, suggesting wildlife specialists could have provided scientific data.

A few comments indicated that impacts in the analysis were limited to direct impacts such as mortality or immediate behavioral responses, and longer-term impacts that could lead to long-term population declines were not discussed. Some comments indicated that potential mitigation measures were not discussed. Additional comments stated that the Draft LEIS did not provide specific estimates of populations, acres of suitable nesting habitat, or the number of animals and sensitive species potentially impacted within the proposed withdrawal areas. They further suggested that these or similar metrics need to be provided to evaluate the ecological costs of the Proposed Action.

Vegetation concerns were also expressed by a few commenters. Some questions were submitted on NTTR's weed control program and asked if NTTR was prepared to extend it to the proposed expansion areas. Joshua tree conservation was specifically mentioned by one commenter. It was also suggested that the LEIS should address how type conversion can also occur in the absence of weeds. The commenter used munition deployment that destroys vegetation cover, rock outcroppings, or soil structure as an example and described potential implications of type conversion on wildlife, habitat fragmentation, edge effects, and loss of prey populations.

Cultural Resources

The majority of comments received on cultural resources were centered on two topic areas. One of the main concerns dealt with impacts to indigenous/native groups and the Air Force restricting access to their Native Homelands, which holds spiritual significance and affects sacred landscapes. The other main concern was for impacts from explosions to cultural artifacts, petroglyphs, and other cultural sites, specifically Sheep Mountain. The commenters state that little is known about the full extent and locations of cultural, archeological, and paleontological sites and that the Air Force should consider funding efforts to identify traditional cultural properties.

The remaining commenters wanted to ensure that the Air Force consulted with the State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation, and tribal officers under the *National Historic Preservation Act* (NHPA) and that they were coordinating with the Consolidated Groups of Tribes and Organizations and other tribal councils. One comment noted that an ethnographic study was conducted in areas for Alternatives 3A and 3B and that the USFWS determined that archaeological surveys are unnecessary in the area for Alternative 3C. It was requested by this and other commenters that the Air Force should survey the entire proposed withdrawal area to identify and protect cultural resources and ensure access to Native American groups, in accordance with the NHPA. Some even offered to facilitate the confidential identification of many cultural sites. Commenters expressed that thorough identification in compliance with Section 3.1 of Air Force Instruction (AFI) 32-7065, *Cultural Resources Management*, must occur before the withdrawal and associated training activities are authorized.

Earth Resources

A few comments were submitted that related to earth resources. General concern was expressed regarding the negative impacts on mining and future development from reducing public lands, specifically along the North-South corridor near U.S. Route 95 and Beatty. One commenter indicated how cross-county vehicular travel would compact soils and increase the risk for erosion and associated effects to wildlife and vegetation.

Water Resources

The majority of comments on water resources discuss how the Proposed Action would impact water resources in general, along with watersheds, the headwaters of the Amargosa River, and groundwater. Several others stated that many springs, water developments, along with management, maintenance, and access to water developments within the range were not mentioned in the Draft LEIS. Other topics mentioned in the comments included concerns about groundwater pumping associated with the NTTR impacting the Ash Meadows sub-basin aquifer, the potential for communities to lose water rights, mitigations to address access restrictions to hydrographic basins, and potential impacts to water resources from depleted uranium resulting from increased munitions use in the South Range.

Hazardous Materials and Solid Waste

Many commenters expressed concerns regarding current and future contamination clean up and urged the Air Force to conduct annual clean-ups of areas such as Alamo Trail dry lake bed instead of leaving it up to future generations. Other commenters asked who would be responsible for and oversee any clean-up activities. They also indicated that the extent of contamination within the NTTR is unknown, and the Draft LEIS did not identify current contamination levels or impacts associated with the Proposed Action, including those from unexploded ordnance. One comment about hazardous materials referenced Alternative 4 indicating that if the NTTR reverts back to public land, all contamination sites must be delivered clean, including industrial, ordnance, and nuclear waste types of contamination.

Health and Safety

The majority of comments received on health and safety regarded how the Air Force will handle wildfire prevention and management, claiming that the Draft LEIS did not address this issue and expressed concerns for increased risk of wildfires. Additional comments were submitted asking which agency (NTTR, BLM, or USFWS) would be responsible for fighting wildfires in the proposed expansion areas. Other comments expressed concerns about impacts from electronic weaponry and warfare, specifically on Range 77. Others mentioned that safety issues would require public access restrictions on the expanded acreage, specifically along Alamo-Corn Creek Road.

Transportation

One comment was received about transportation, which mentioned how Alamo Road is the only connection between U.S. Route 95 and Highway 93 that provides an alternative to Highway 115 when shut down during emergency situations.

Cumulative Impacts

Nye County requested the Air Force to include NAS Fallon in the upcoming amendments to the MLWA in the cumulative impacts analysis. Other comments received about cumulative impacts were related to other federal actions that impact Nye County water resources and suggested that the Air Force consider all recent and proposed military withdrawals in the Desert Southwest.

General

"General" comments refer to issues not directly related to the adequacy of the Draft LEIS, potential impacts from the Proposed Action, or specific resource areas. Within this general category of comments, the Air Force's approach and commitment to develop mitigation measures in the Draft LEIS was a common topic for multiple commenters. Many expressed concern that the proposed mitigation language in the Draft LEIS was not strong enough and claimed that the analysis did not adequately identify impacts, and therefore specific avoidance, minimization, and mitigation measures could not be developed to offset the impacts.

Other general comments concerned revisions or clarifications needed in the Draft LEIS itself including updating maps, correcting inaccurate text, and clarifying information presented in the document. Only one general comment brought up an issue that was considered to be outside the scope of this Proposed Action. There were three requests for additional information including one for access to a document, one to be added to a mailing list for future NEPA proposals, and one for contact information for NTTR authorities regarding boundary issues. Two commenters expressed their support for other organization's comments, including the Fraternity of the Desert Bighorn and the Moapa Band. One comment questioned the Air Force's compliance with Order No. 3356 issued by the Secretary of the Interior.

The NEPA Process

The Air Force's compliance with the NEPA process was the topic of many comments. Most claimed that the Air Force did not work with stakeholders, including cooperating agencies, state agencies, and the Governor's Office of Energy. Commenters felt that better coordination with NDOW was needed and that there was an apparent lack of full transparency or good faith efforts with stakeholders and the public to consider better alternatives and improve the analyses in the Draft LEIS. Another common topic was that the Air Force did not adequately address or incorporate public scoping comments into the Draft LEIS, including those from the State.

The role and level of coordination with cooperating agencies was mentioned in multiple comments. Nevada county and state agencies requested closer coordination with cooperating agencies. Claims were made that coordination and consultation with cooperating agencies were minimal and feedback was not taken into consideration or included in the Draft LEIS. The State Land Use Planning Advisory Council (Nevada Revised Statutes [NRS] 321.740) requested to be included in future briefings as the LEIS process moves forward.

The remaining comments consisted of questions about the NEPA process as it applies to this Proposed Action, including the use of categorical exclusions, the need to process the land withdrawal through BLM and not through the state, a request to extend the comment period, and an expressed concern that submitted comments are not useful.

Preferred Alternative

The Preferred Alternative received the most comments of all other resource areas and LEIS topics during public hearings. Topics addressed regarding the Preferred Alternative are summarized below.

Common themes mentioned in comments included requests to not bomb the refuge and bighorn sheep, as well as recommendations for the Air Force to trade off lands proposed for withdrawal with lands that are currently withdrawn to be released back to BLM or USFWS. Other commenters, including NDOW, requested additional clarification on ready access as described for Alternative 2 and the associated implications as a potential free-for-all approach to military operations. There were also questions on why the NNSS area could not be used for threat emitters and other operations. Multiple commenters did not understand the Air Force's need to expand to additional areas of the DNWR and suggested that the Air Force use the existing NTTR boundaries, Tonopah, other bases, or other property. Berry Goldwater/Cabeza Prieta NWR, Twentynine Palms/Johnson Valley OHV, White Sands Missile Range, and China Lake were listed as examples to follow. Others questioned why simulators, virtual reality, or other training scenarios could not be used or developed by the Air Force to accomplish the same needs.

Multiple commenters questioned the need and rationale used to identify the various expansion areas under Alternative 3, including how safety footprints were established and used as a basis for identifying expansion areas. One commenter suggested the boundaries should be reduced instead of expanded. Some commenters requested more detailed information such as the amount of infrastructure required for the proposed airstrip and threat emitter sites.

Some comments appeared to be a misunderstanding of the information presented in the Draft LEIS, including the purpose and need statement, alternatives development, maps and descriptions of the DNWR and NTTR boundaries and expansion areas, the overlay of real-world peer IAD systems, aircraft flight paths, the conceptual design of the two proposed runways, the numbers of acres associated with each alternative, an assumed pre-decision made by the Air Force for a specific alternative or combination of

alternatives, or the general programmatic nature of the LEIS. A few commenters disagreed with the Air Force's approach in developing adequate alternatives or solutions in the Draft LEIS, including the treatment of the No Action Alternative and what should be considered baseline conditions for the analyses. Other commenters urged the Air Force to develop a supplemental LEIS that defines a clearer purpose and need and explore new alternatives that shift IW training locations and tempo.

There were several questions submitted about previous, current, and future oversight of military operations and management responsibilities of DNWR lands and species. Additional claims were made about overall impacts from military operations resulting in irreversible destruction of the terrain and incompatibility with wilderness, wilderness management, and recreation. One commenter proposed a moratorium on military usage within the refuge to document the effects from ceasing these actions within the area. Another commenter stated they began researching other Air Force and DoD test and training ranges with regard to mission statements and capabilities.

1.6 NATIVE AMERICAN PERSPECTIVE: PURPOSE OF AND NEED FOR ACTION

The Native American Perspective sections throughout this LEIS are presented verbatim, as provided by the Consolidated Group of Tribes and Organizations (CGTO) in the Native American Resource Document described in Section 1.1 and presented in its entirety in Appendix K.

Shaded text is CGTO text, not Air Force text. No changes have been made to the text provided by the CGTO except for updating cross-references to sections within the LEIS.

Position Statement: The Consolidated Group of Tribes and Organizations (CGTO), representing Southern Paiute, Western Shoshone, and Owens Valley Paiute/Shoshone and the Fort Mojave Indian Tribe, believe we are the original caretakers of the land and natural resources located within the boundaries of the Nellis Air Force Base (NAFB) and Nevada Test and Training Range (NTTR). We are opposed to activities which harm the environment or its natural resources or limit our access to traditional use areas. Any action which is detrimental or potentially impacts these areas, should be thoroughly evaluated by the Native American Coordinator with assistance from officially appointed tribal representatives of the CGTO in the spirit of true government-to-government relations.

Since the beginning of time, the region encompassing the NTTR and the proposed land expansion areas near Beatty, Creech AFB and the Desert National Wildlife Refuge remain central to the lives of Native American Tribes. These lands are known to contain traditional and ceremonial use areas, along with traditional gathering and collection locations for Native American people. The region contains abundant ecological resources and special power places that are crucial in the continuity of Native American culture, religion and society.

The CGTO has a long-standing relationship with the Nellis Air Force Base (NAFB) that began in 1996 with the establishment of the NAFB Native American Interaction Program (NAIP). The NAIP interacts with 17 tribes representing Southern Paiute, Western

Shoshone, Owens Valley Paiute/Shoshone and the Fort Mojave Indian Tribe. Each of these groups has distinct cultural and historic ties to the NTTR that are reflected in traditional stories and songs. (Steward 1938, Myhrer 1993; 2002; Fowler 2010, 2012; Spoon, et.al, 2011, 2012, 2014; Stoffle, 1982, 1989, 2001, 2012, 2016, 2017).

In 2008, Southern Paiute/Chemehuevi tribes (most of whom are members of the CGTO) formed the Nuwuvi Working Group (NWG) to reaffirm their ancestral ties to Desert National Wildlife Refuge Complex Spring Mountains National Recreation Area managed by the US Fish and Wildlife Service and Forest Service, respectively. The NWG works closely with both federal agencies as a mechanism for providing tribal insight relating to the interpretation, management and preservation of culturally significant resources within their respective boundaries.

Several federal regulations support tribal involvement through the CGTO and NWG including but not limited to: American Indian Religious Freedom Act (P.L. 95-341); Native American Graves Protection and Repatriation Act (P.L. 101-601); National Historic Preservation Act (P.L. 89-665 as amended); and Executive Order 13007, Access to Sacred Sites. Concurrent legislation includes the addition of Department of Defense Instruction 4710.02, DOD Interactions with Federally Recognized Tribes; 2012 Sacred Sites Memorandum of Understanding with DOD, DOI, USDA, DOE, and ACHP; and lastly, Air Force Instruction 90-2002 Air Force Interactions with Federally Recognized Tribes.

Collectively, these regulations are the basis for tribal interactions and supporting tribal involvement through the Consolidated Group of Tribes (CGTO) in developing tribal text relating to the NTTR Land Withdrawal – Legislative Environmental Impact Statement (LEIS). Throughout the development of this document, DOD provided the CGTO with opportunities to create text that summarizes tribal perspectives responding to the affected environment, resource descriptions, cumulative effects to proposed activities, proposed alternatives and potential mitigation strategies under consideration.

Information produced by the CGTO for inclusion in the LEIS is presented to distinguish Native American perspectives related to resources and alternatives being evaluated and presented in this LEIS.

To accomplish the writing task, the CGTO appointed a subcommittee comprised of tribal representatives from the Western Shoshone, Southern Paiute, Owens Valley Paiute/Shoshone and Fort Mojave Indian Tribe. The Native American Writers evaluated information from previous documents that were blended with the collective thoughts of tribal representatives who formulated corresponding text for inclusion into the LEIS. Tribal text was developed on an accelerated schedule that relied upon available resources and information provided in the draft LEIS to the extent practicable. Those sections that were unavailable during the review process will be subsequently addressed in a similar manner upon receipt.

Information provided by the CGTO uses the terms Native American, American Indian or Indian people or tribal interchangeably to reflect varying tribal perspectives. In addition to the text within the body of the LEIS, Native American perspectives related to

resources and proposed alternatives that are evaluated in this LEIS and presented in *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017*.

1.6.1 Native American Perspective: Purpose and Need

The Consolidated Group of Tribes and Organizations (CGTO) knows Native American people are charged by the Creator to interact with the environment and its resources in culturally appropriate ways to maintain ecological balance regardless of the intentions stated in the Purpose and Need for Action. Native Americans further believe these lands are personified and contain resources with life-sustaining characteristics that require cultural intervention to promote proper respect and nurturing to insure harmony and balance.

While tribal interaction has existed over the past 21 years, the CGTO does not support harmful land disturbing activities currently conducted or planned within the NTTR, including areas described in the proposed land expansion areas. These lands are part of the traditional Holy Lands of the Southern Paiutes, Western Shoshone, Owens Valley Paiute/Shoshone, and Mojave people. Harmful land-disturbing activities threaten the health and welfare of Indian people and will limit our access to culturally important locations and resources because of conflicting schedules, along with potential cultural contamination or resource destruction.

Native Americans are culturally obligated to manage the land and its resources for future generations. This means we evaluate and guide our actions and the level of our involvement in terms of what will be available or affect future generations that can sustain our culture. The CGTO takes this obligation very seriously and has provided information throughout the LEIS to fulfill our purpose and need to care for these lands.

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2. DESCRIPTION OF ALTERNATIVES

This chapter discusses the selection standards used to identify candidate alternatives. It describes a range of reasonable alternatives that, if combined, would fully meet the purpose and need for withdrawing and reserving land for the NTTR. Individual alternatives when taken separately may meet an Air Force need but not necessarily meet the full purpose and need for all of the operational requirements described in Section 1.4 (Purpose and Need). The Air Force is evaluating alternatives that would extend the current NTTR land withdrawal as well as withdrawal of additional lands for the NTTR mission. This chapter also describes the No Action Alternative. The reasonable alternatives and No Action Alternative form the basis for the analyses of potential environmental impacts.

2.1 ALTERNATIVE DEVELOPMENT AND SCREENING PROCESS

For the Native American perspective on information in this section, please see Section 2.10.1 and Appendix K, paragraph 2.1.1.

NEPA and its companion regulations require federal agencies to develop and identify reasonable alternatives to a proposed action. Reasonable alternatives include those "that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (CEQ, 1981). In determining the scope of alternatives to be considered, the Air Force places emphasis on what is "reasonable" rather than on whether the proponent or applicant prefers or is itself capable of carrying out a particular alternative.

An alternative that is outside the legal jurisdiction of the lead agency must still be considered in an EIS if it is reasonable. A potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered (40 CFR 1506.2(d)). Alternatives that are outside the scope of what Congress has approved or funded must still be considered if they are reasonable, because the LEIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies (40 CFR 1500.1(a)) (CEQ, 1981).

Description of the selection standards identified as well as the alternatives not carried forward for detailed study are addressed in Section 2.2 (Application of Selection Standards). Detailed descriptions of the action alternatives and no-action alternative are described in Sections 2.3 (Alternatives) and 2.4 (No Action Alternative), respectively. Section 2.5 summarizes applicable federal, state, and local permits and the potential for change in the permits due to implementing the Proposed Action and other action alternatives. Section 2.7 (General Environmental Constraints) provides a framework for General Environmental Constraints while Section 2.8 (Environmental Comparison of Alternatives) provides a comparison of the anticipated environmental effects of the action alternatives and the no-action alternative. Section 2.9 (Mitigation) presents potential mitigation measures.

2.2 APPLICATION OF SELECTION STANDARDS

To meet NEPA's requirement to evaluate a full range of alternatives, the Air Force developed a process to identify potential alternatives. The first step in that process was to establish whether any military installation other than the NTTR should be evaluated. In Section 1.4 (Purpose and Need), the Air Force established the purpose and need for the NTTR land withdrawal, which was supported by the *Report to Congressional Committees: 2025 Air Test and Training Range Enhancement Plan* (January 2014), which states "…a few select ranges which will become hubs for intermediate to advanced training. The first of these ranges is the Nevada Test and Training Range (NTTR)." The 2014 Congressional Report makes it clear that the current test and training activities will continue and will increase to support the six priorities that are critical to ensuring the viability of major range infrastructure through 2025. It is estimated that the range infrastructure described in the 2014 Congressional Report has an estimated value of roughly $4 billion. Therefore, it would be extremely expensive to try to recreate the NTTR's existing infrastructure at another range, which is one of the major reasons the Air Force would like to retain use of withdrawn land in the NTTR. In addition, it is estimated that the cost to clean up contaminated sites on the NTTR would range from $1 to 4 billion. Consequently, if the DoD was required to recreate the infrastructure at another range as well as clean up current contamination, the cost would range from $5 to 8 billion. Because the 2014 Congressional Report details more infrastructure investment and specifically cites the NTTR as well as the significant cost for cleanup, it was concluded that the need for the withdrawal was specific to the NTTR (U.S. Air Force, 2014a).

The cost to relocate and build new infrastructure as well as clean up current contamination would range from $5 to 8 billion. Additionally, the variety of capabilities, terrain, range infrastructure, and airspace is unique to the NTTR's current location.

Besides the range infrastructure, the NTTR is unique from an airspace perspective. Large areas of airspace where commercial and private air traffic operating under both visual flight rules (VFR) and instrument flight rules (IFR) is restricted from overflight remain a key element of the NTTR. Figure 2-1 illustrates a five-hour snapshot in time of all U.S. commercial air traffic to give a sense of the airspace above the NTTR relative to the air traffic above the rest of the country.

The geographic proximity of the NTTR to China Lake and the Utah Test and Training Range is another important attribute of the range, making it an important part of a larger training resource. In the past, all three complexes have been used together to provide a larger capability for specialized test or training activities. For example, one annual tactics development exercise that supports new approaches to operations requires access to most military airspace from China Lake in the southwest to the Utah Test and Training Range in the northeast. The NTTR geographically links the three ranges and, with its electronic warfare capability, provides a crucial tactics mission environment.

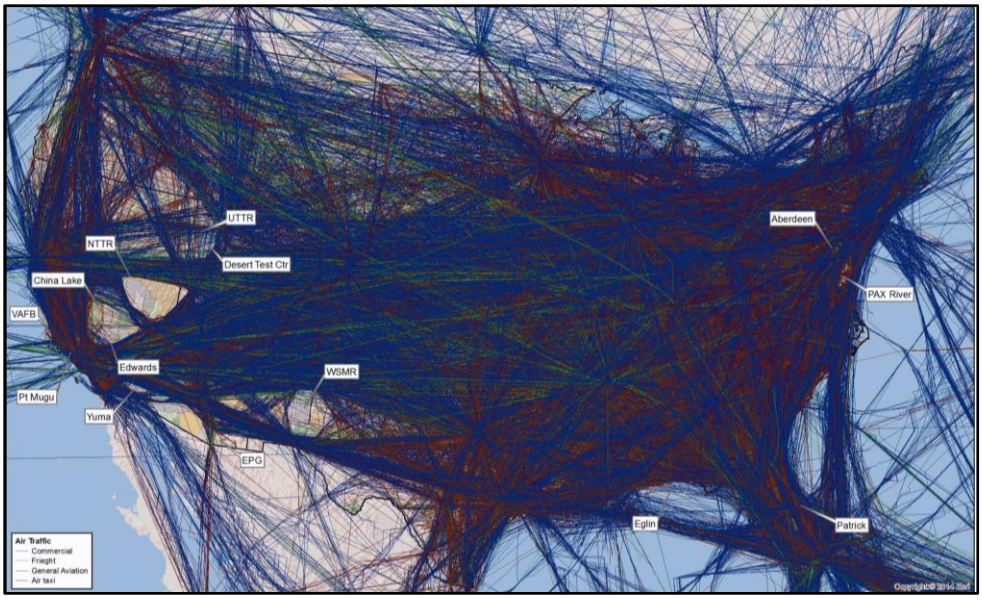

Figure 2-1. Snapshot of U.S. Commercial Air Traffic

The Air Force considered expansion of the NTTR in various directions to meet the purpose and need. However there are external encroachment issues that limited the Air Force's ability to expand to an extent that would make any useful difference. For example, external encroachment issues include, but are not limited to, major state and interstate highways and interrelated population centers and roadway infrastructure (Figure 2-2). Furthermore, existing wilderness areas limit the Air Force's ability to expand. Wilderness areas to the north include the Toiyabe National Forest, with Table Mountain, Arc Dome, and Alta Toquima Wilderness areas. To the northeast are the Humboldt-Toiyabe National Forest (with Quinn Canyon and Grant Range Wilderness areas), the Worthington Mountain Wilderness, and Weepah Springs Wilderness. The Big Rocks, Mount Irish, and South Pahroc, Delamar Mountains, Meadow Valley Range, Mormon Mountains, Muddy Mountain, and Arrow Canyon Wilderness areas are to the east, and the Mount Charleston Wilderness area is to the southwest, while the Mount Stirling WSA is to the southwest.

As a result of the aforementioned infrastructure investment and cleanup costs, airspace attributes, and encroachment issues, it was determined that it is not feasible to meet the purpose and fulfill the needs of the NTTR land withdrawal at any other location. Furthermore, while the Air Force determined that current and future operational requirements (outlined in Section 1.4, Purpose and Need) require some additional land, the Air Force sought to limit the potential land expansion to areas already under federal control. Any expansion to lands that are not under federal control would be a result of operational security concerns and would be limited to reduce land use impacts.

The second step in the screening process was an Air Force evaluation of its operational requirements and a subsequent comparison of their requirements with two long-term criteria: capacity and range sustainment. The Air Force defined *capacity* as having the land and airspace needed to fulfill warfighter mission requirements, to include restricted areas specifically designated for hazardous activities, such as Special Use Airspace (SUA).

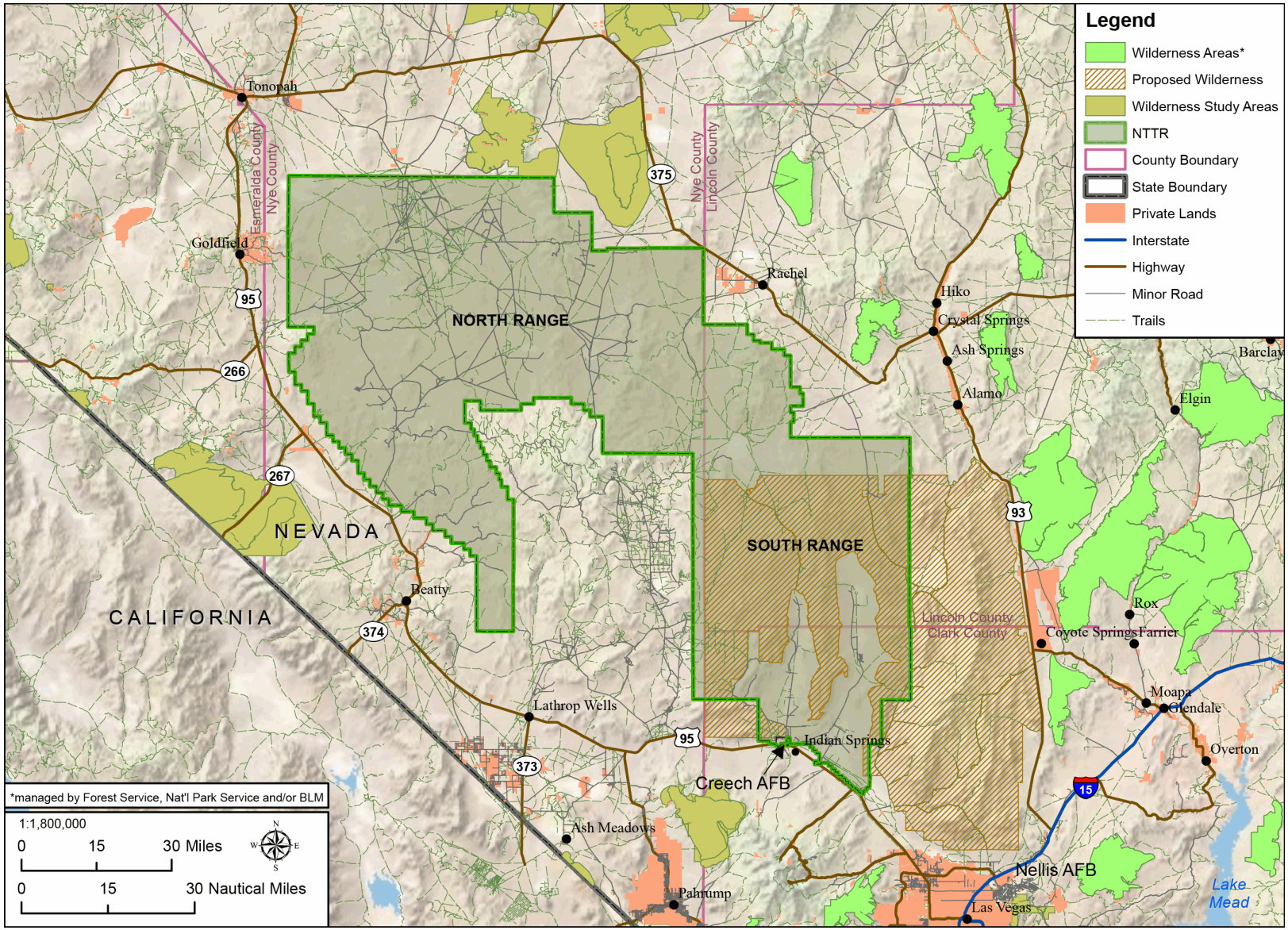

Figure 2-2. Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas

Range sustainment was defined as the ability to conduct current test and training operations in addition to future predicted range operations. This includes addressing current and future encroachment issues as well as future requirements.

The third step in the screening process further addressed each of the Air Force's three distinct operational requirements anticipated in the future. Sections 2.2.1 (Increase MCO Test/Training Capability) through 2.2.3.1 (Alternatives Evaluated but Not Carried Forward) summarize the selection standards developed for each of the operational requirements and present the alternatives evaluated but not carried forward.

2.2.1 Increase MCO Test/Training Capability to Meet the Demands of Strategic Guidance and Alleviate Competition for Critical MCO Electronic Assets

For the Native American perspective on information in this section, please see Section 2.10.2 and Appendix K, paragraph 2.2.1.1.

As a result of the overutilization of the North Range and the land management limitations in the South Range discussed in Section 1.4.1 (Increase MCO Test/Training Capability), when the Air Force increases MCO training on the NTTR, then MCO T&E capabilities are reduced, and if the Air Force increases testing missions, it reduces the ability to conduct MCO training exercises. To address the limitations imposed by this inverse relationship, the USAFWC developed a two-axis front concept that would create a longer Forward Edge of Battle Area. In laymen's terms, a Forward Edge of Battle Area is a front line in a military battle. This configuration would allow separate MCO activities to occur on the NTTR simultaneously, which is not possible in the current configuration (Figure 2-4), and would provide a more operationally relevant MCO test/training setting for large force exercises or tests. Training or testing that cannot be performed on the North Range would be able to occur elsewhere on the NTTR under a two-axis front configuration. A second location for MCO training would mitigate competition between MCO activities on the North Range and would add to the NTTR's relevance by creating a battlespace that allows a two-axis fight when the whole range is dedicated to MCO test or training.

Figure 2-5 illustrates the concept of using a two-axis front to add MCO capability specifically in the South Range, which would increase the capacity of the NTTR by reducing the intense competition for the NTTR North Range. This concept reduces scheduling conflicts and allows MCO T&E customers and training customers two options to gather test data or conduct training missions on the NTTR. Figure 2-5 also shows how notional threat emitters could be placed farther from the targets as a result of ready access in the South Range and expanded withdrawn lands. This emitter configuration replicates a more realistic training environment.

Initially, the Air Force evaluated displacing non-DoD missions such as NNSA's stewardship mission, but it was determined that such missions were less than 1 percent of the test and training requirements and would not significantly reduce the demand, especially on the North Range. Since displacing other DoD missions had a negligible impact, the Air Force identified locations on and adjacent to the NTTR that could accommodate a two-axis front concept and since live-fire exercises are a major component of MCO, the USAFWC applied primary selection standards based on safety concerns involving population centers and roadway infrastructure surrounding the NTTR (Figure 2-2). Relocating population centers or roadway infrastructure could not occur

within the withdrawal extension timeframes. Additionally, major state and interstate highways would not be impacted by any weapons safety footprint that could cause their closure. To ensure safety, the Air Force's weapons safety footprints would not extend outside of existing withdrawn lands. Refer to Figure 2-3 for a diagram of a weapons safety footprint.

The Air Force is not proposing to create any new target impact areas or "dudded" areas on the NTTR as part of this action.

Furthermore, the USAFWC established that they would not create new "dudded" areas (areas where live ordnance is used and unexploded munitions may remain) as part of the full battle spectrum associated with the MCO training exercises. Although not required, the USAFWC added this component to the selection standards associated with this operational requirement, which is specific to the NTTR land withdrawal effort. This would not preclude the creation of dudded impact areas in the future if DoD requirements changed. Any such action would require further evaluation of potential environmental impacts as part of a separate NEPA process.

The Air Force included specific selection standards for the placement of conceptual threat emitters. Threat emitters must be located in topography that will permit advanced detection to the east and north, which is required to implement the two-axis concept. To reduce overall impacts, the Air Force would locate threat emitters along existing roads or unpaved two-tracks, and threat emitter sites must have closed access for up to 1 mile if they are located outside of NTTR-controlled boundaries. Addtionally, Air Force range planners will consider water resoures used for natural resources management in their siting criteria for threat emitters and will not locate threat emitters within 1 mile of these water resources. Finally, classified mission areas within the NTTR or NNSS must not be impacted by the siting of threat emitters.

Review of the selection standards indicated that population centers, roadway infrastructure, and Wilderness/WSAs surrounding the NTTR coupled with the criterion to limit the creation of "dudded" areas constrained locations that could accommodate MCO. As a result of this preliminary screening, it was determined that MCO exercises could only be expanded in NTTR's South Range. Therefore, the USAFWC concluded that electronic assets and existing dudded areas in the South Range could be utilized to emulate the integrated battle environment associated with MCO training and MCO T&E available in the North Range.

After preliminary screening established that MCO exercises could be expanded on the South Range, the USAFWC developed additional selection standards specific for implementation of MCO exercises on the South Range. Two additional selection standards were added—operational feasibility and operational realism (defined as follows):

- Operational feasibility: The ability to conduct the mission activities within an area that can accommodate weapon safety footprints.
- Operational realism: The ability to conduct current and future mission activities in a manner consistent with real-world operations.

See Figure 2-6 for a representation of the current limited weapons employment capabilities at the NTTR and Figure 2-7 for a conceptual illustration of weapons employment required for an operationally realistic training scenario.

Weapons Safety Footprints:

Whenever live-fire exercises are conducted, safety buffers are created due to potential safety hazards from misfires and shrapnel or debris from explosions.

Figure 2-3 illustrates the safe axis, or direction, by which aircraft can drop air-to-ground weapons on a target. The red container area on the left side of the figure depicts a safe buffer, from weapon release to impact, and provides a safe zone should there be any weapons malfunctions that affect the munitions flight path or ability to guide on target.

However, there is not just one potential safety axis; there can be multiple axes that cumulatively create a composite safety weapons footprint area surrounding the target, as depicted on the right side of the figure.

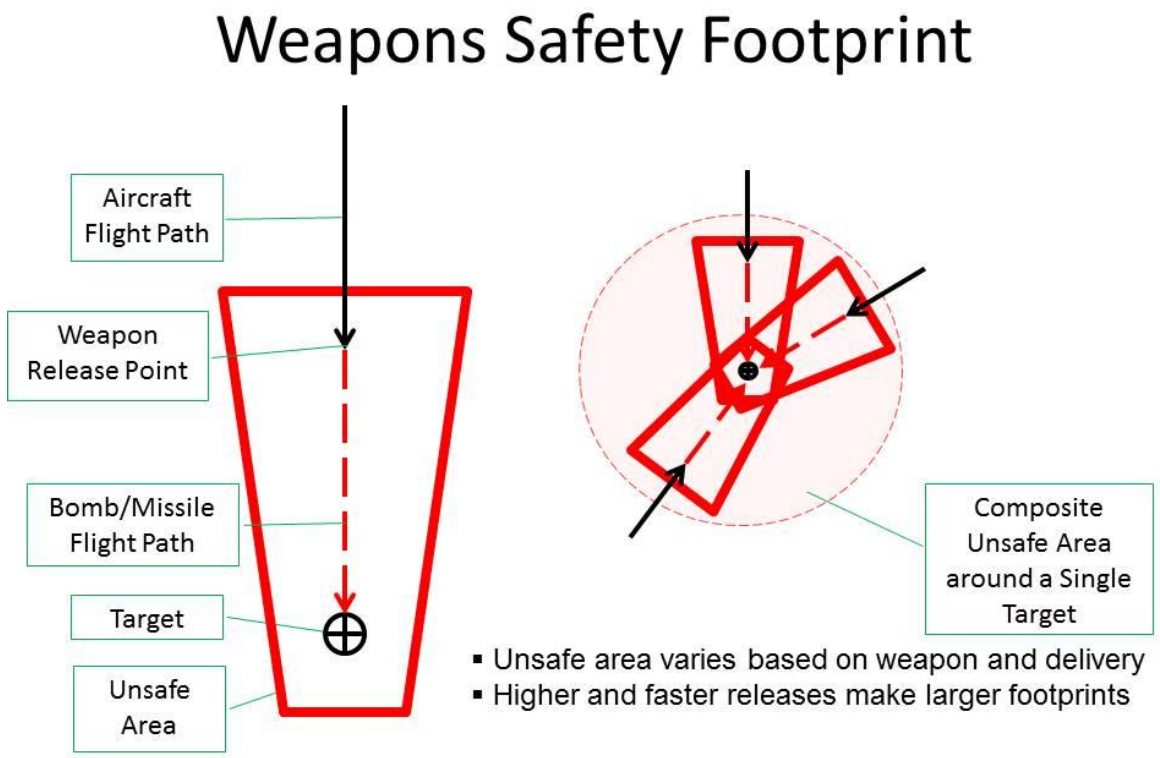

Figure 2-3. Diagram of a Weapons Safety Footprint

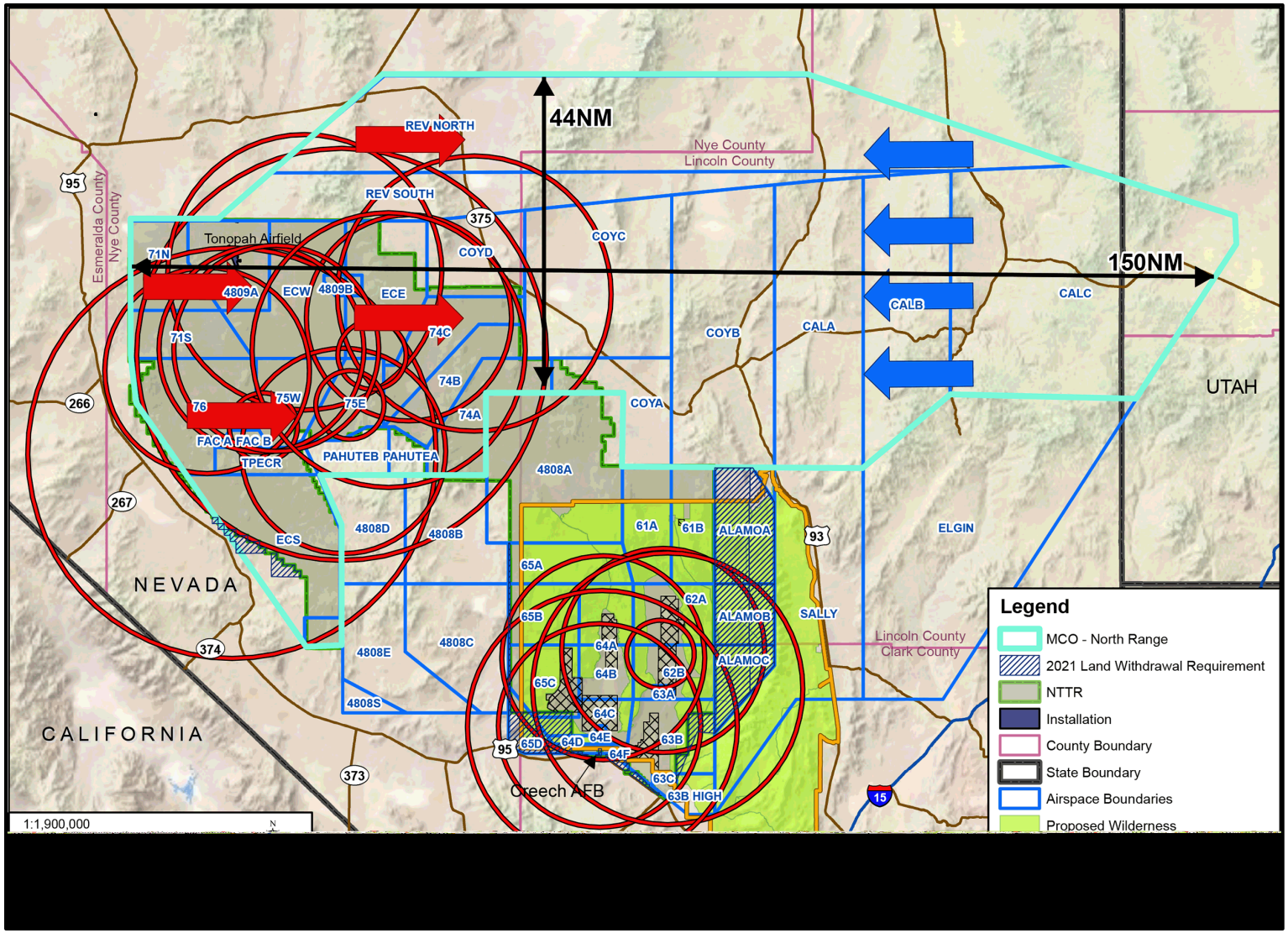

Figure 2-4. Current MCO Scenario

Note: "Proposed Wilderness" on the figure refers to the areas that were proposed for wilderness in 1971 (USFWS, 1971) for inclusion in the National Wilderness Preservation system. Red arrows represent a defensive force, while blue arrows represent an attacking force. Notional threat rings portray distance around an emitter in which radar could detect an aircraft.

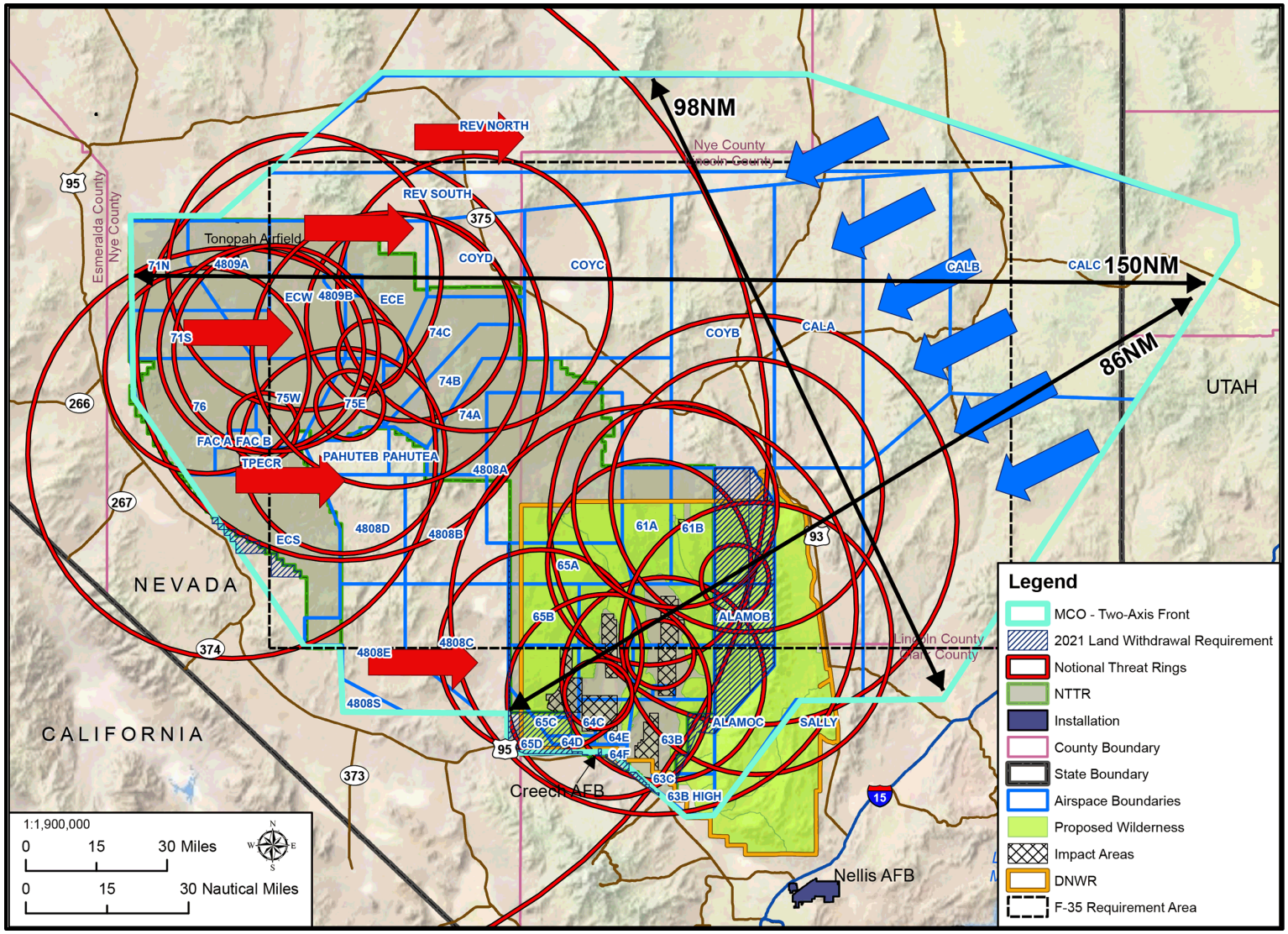

Figure 2-5. MCO Two-Axis Front Concept

Note: "Proposed Wilderness" on the figure refers to the areas that were proposed for wilderness in 1971 (USFWS, 1971) for inclusion in the National Wilderness Preservation system. Red arrows represent a defensive force, while blue arrows represent an attacking force. Notional threat rings portray distance around an emitter in which radar could detect an aircraft.

Operational Realism:

Figure 2-6 represents the current limited weapons employment capabilities at the NTTR. Because of limited land area in the South Range, pilots must approach the target from a restricted direction and altitude above the ground. The yellow cone in the figure represents the limited flight approach that pilots must use to ensure that the weapons safety footprint (depicted by the dotted red circle) remains within the NTTR boundaries. These limitations do not provide for operational realism.

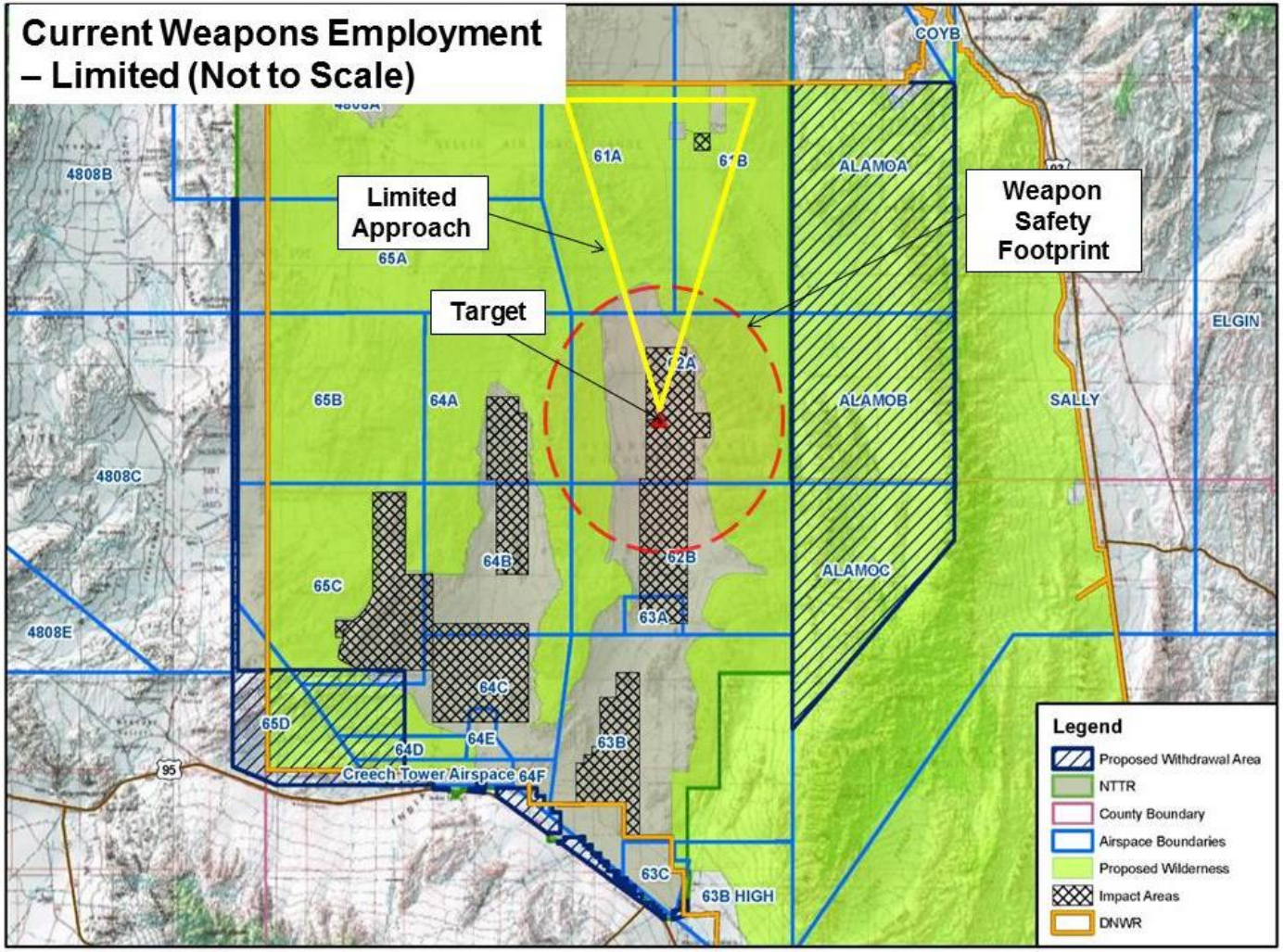

Figure 2-6. Current Limited Weapons Employment Capabilities at the NTTR

Operational Realism:

Figure 2-7 illustrates the required weapons employment for an operationally realistic training scenario. The yellow circle represents a 360-degree approach to the target at a combat-representative altitude as compared to the current limited weapons employment. This higher altitude and faster approach speeds increase the weapons safety footprint, represented by the dotted red circle.

The dotted red circle illustrates the weapons safety footprint and depicts the area that is required to be cleared to ensure human safety when dropping a weapon in a realistic training scenario. It should be noted that there will be no new target impact areas created as a result of the withdrawal process.

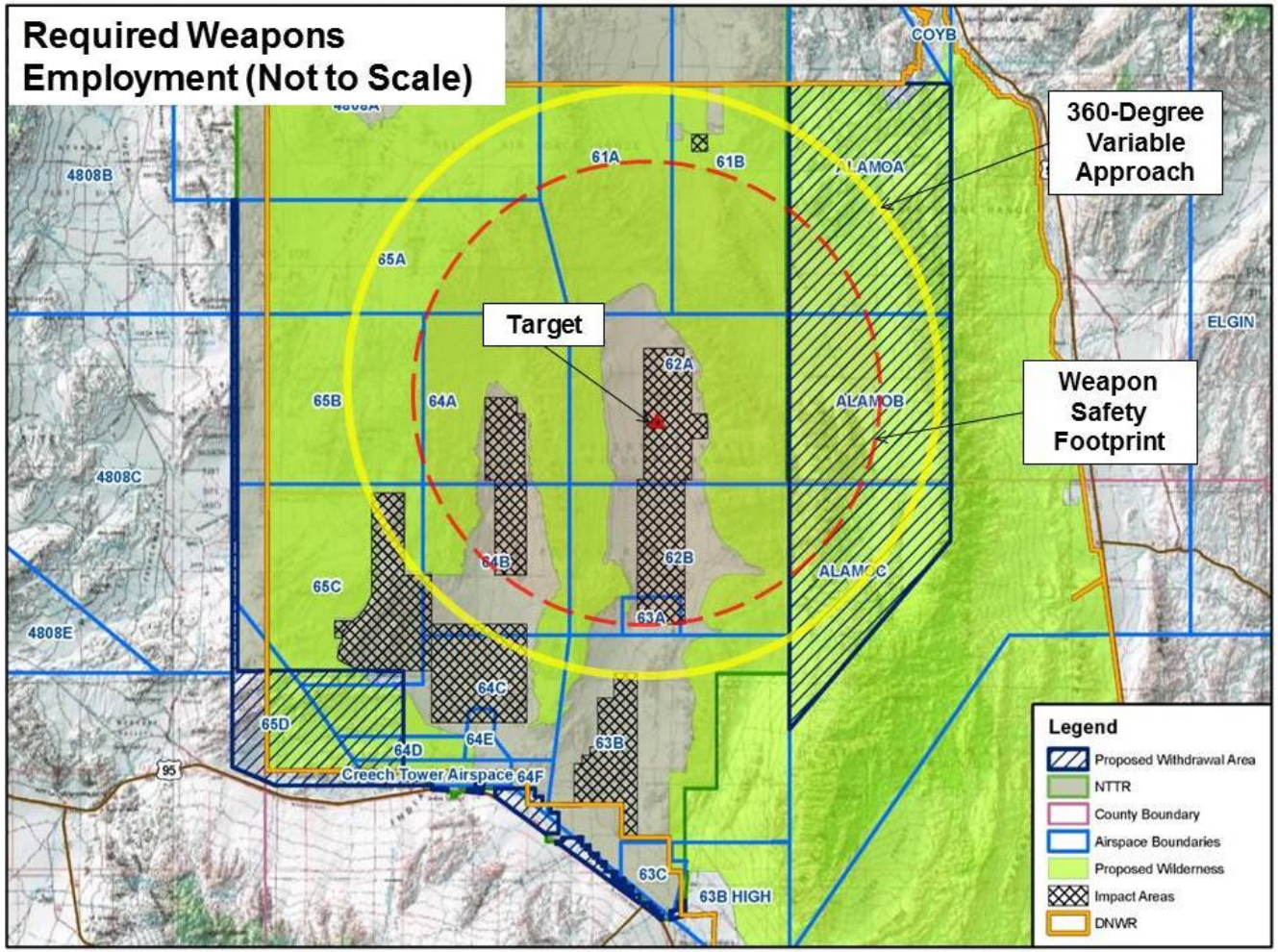

Figure 2-7. Conceptual Weapons Employment for Operationally Realistic Training

In addition to the Air Force's selection standards, the Air Force held discussions with its cooperating agency partners and identified the following planning considerations.

DOE/NNSA explained that the following infrastructure on the NNSS could not be moved because of their National Security significance: Device Assembly Facility; Nonproliferation Test and Evaluation Complex; Big Explosives Experimental Facility; Radioactive Waste Management (Area 5); and Joint Actinide Shock Physics Experimental Research (JASPER). Figure 2-8 illustrates the locations that were identified as infrastructure which could not be moved.

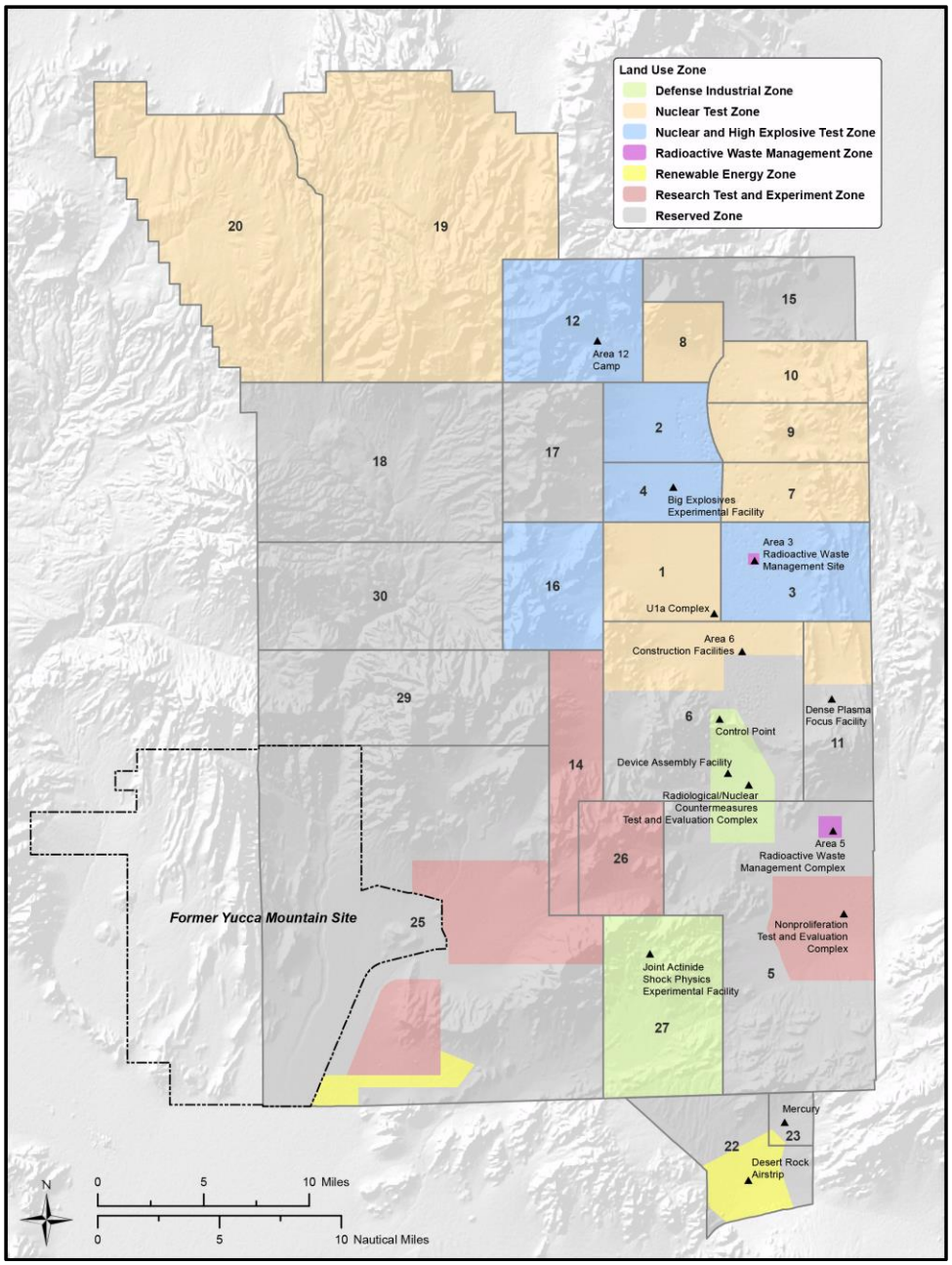

Figure 2-8. DOE Infrastructure that Cannot be Moved due to National Security Significance

The NDOW and BLM indicated any conceptual withdrawal planning efforts must consider, at a minimum: bighorn sheep and the impacts to guzzlers; mule deer; pronghorn; burrowing owls; bats; chuckwallas; banded Gila monsters; wild horse and/or burro HMA; and invasive species.

Two divisions of the USFWS (Refuge and Ecological Services) were contacted about any conceptual withdrawal planning efforts. They indicated that in addition to cultural resource concerns associated with Native Americans, at a minimum, the following must be considered: desert tortoise; migratory birds; Las Vegas buckwheat; Las Vegas bearpoppy; bighorn sheep; golden eagle; burrowing owls; spring snails; spring resources and potential impacts; Alamo Road; and Hidden Forest Road. In addition, the USFWS added after initial discussions that public access to the northern part of the DNWR along Alamo Road and connecting spur roads, including Hidden Forest Road, should be considered as well.

During discussions with cooperating agencies, one of the major considerations raised by all agencies was their respective ability to access the currently withdrawn NTTR lands and any proposed military withdrawal expansion areas in order to conduct natural and cultural resource management activities.

The Air Force would continue to coordinate with agencies that share responsibility for land and wildlife management, such as the USFWS and NDOW, to manage biological resources on DNWR lands that overlap with the NTTR and expansion areas, and would comply with federal regulations and plans.

Currently, AFI 13-212, *Range Planning and Operations*, encourages shared use of range land with non-DoD users when it will not compromise public safety, detract from mission accomplishment, or impair range operations. For safety and security purposes, access by others (non-DoD users) must be strictly controlled. For example, public access is prohibited in areas known or suspected to contain UXO or other munitions. Hazard areas present operational hazards from ongoing testing and training activities, as well as residual hazards following the use of munitions. The Air Force must not allow public access to unsafe areas, to ensure the protection of members of the public during mission operations and their continued safety at other times. Potentially unsafe areas would need to be clear of UXO or other munitions before access could be allowed. The sensitivity of certain areas requires additional controls or restrictions related to access by non-DoD users.

The NTTR does have a process for enabling access by others to select areas of the NTTR, which do not include impact areas. Requests for access may be submitted to the NTTR Range Operations Branch, who can assess if such access could be granted. Requests for access by the general public must be made at least 90 days prior to an expected event to receive consideration while requests from government agencies or Native American tribal groups would follow the specific procedures established in the INRMP, ICRMP, or an appropriate agreement, such as a Memorandum of Agreement/Understanding between the Air Force and the government agency or tribal groups. The Air Force will review the requests and assist non-DoD users through the process of gaining access to a given area. If a request is approved, the Air Force assigns a Project Officer, who manages the request throughout the entire process. All

visitors granted access must participate in a range safety briefing prior to entering the range.

The Air Force is committed to assisting the cooperating agencies and other non-DoD users in meeting their access needs and will refine this procedure as necessary to ensure non-DoD activities can be conducted compatibly with DoD test and training missions to the extent practicable. Using this procedure, the Air Force will coordinate with the appropriate agencies to allow physical access for management and hunting in specified areas under mutually agreed upon conditions. Additionally, the Air Force will support management of resources on lands withdrawn for military use by ensuring that monitoring and other data is exchanged between the applicable cooperating agencies. The coordination procedure for data exchange and access would be outlined in the INRMP and ICRMP. Access to natural and cultural resources in a safe manner on a non-interference basis can be compatibly addressed through these plans, subject to scheduling requirements for test and training activities. As an example of access by others currently allowed, the INRMP addresses the hunting program, which provides for limited access to select areas subject to specific conditions compatible with operational activities and hunter safety.

Regarding access by the public to the areas of the DNWR included in the proposed withdrawal expansion, the Air Force has heard from several public and recreational groups of their desire to visit specific areas for birding and other recreational uses in the spring and fall migration timeframes. Since the data gathered by these recreational groups are used to support management decisions by cooperating agencies, the Air Force could seek to modify the INRMP to address shared use for these types of activities.

Furthermore, the Air Force met with Native American groups in the early stages of the Draft LEIS development and obtained their input and comments regarding the withdrawal proposals. One of their suggestions was to include a Native American perspective that would complement each of the affected resources discussed in the Draft LEIS. This perspective was provided by a Native American writers group that was created by the Consolidated Group of Tribes, which comprises 17 tribes. One specific concern raised during tribal engagement was the impacts of overflights on Native American cultural sites such as rock shelters and petroglyphs. As a result, the Air Force has specifically addressed this concern in Chapter 3. Additionally, the Air Force has included an appendix within the LEIS that presents the Native American perspective as it relates to the proposed withdrawal (see Appendix K).

The Air Force has met with Native American groups, continues to ask for their input and comments, and has chosen to include their perspective within this LEIS in sections entitled "Native American Perspective," which are also presented together in one place in Appendix K.

Using the secondary selection standards and cooperating agency's planning considerations, the Air Force contemplated moving target areas and electronic assets within NTTR's South Range to the west but operational feasibility was impacted by the NNSS infrastructure constraints.

Moving target areas or electronic assets to northern areas of the South Range would have impacted current sensitive missions along with private property and grazing allotments. The Air Force evaluated moving assets to the south; however, the selection standards of population density and relocation of roadway infrastructure as well as ensuring the weapons safety footprints are contained within withdrawn lands under current restricted airspace eliminated such a potential alternative. Thus, the potential for eastward expansion on the South Range became the most apparent approach for increasing MCO exercises.

Since the Air Force had decided not to create new "dudded" areas for MCO training activities, target sites and their associated weapon safety footprints were evaluated in the Air Force's current live-fire target impact areas on the South Range. Using target sites within the current live-fire target impact areas as a center and the weapons safety footprints as a threshold for area, the Air Force anticipates that conceptual threat emitters must be located at distances of 10, 15, and 20 miles from the target sites. The threat emitters will be oriented to detect aircraft approaching from the east for both tactical and strategic purposes. A tactical radius identifies aircraft approaching at distances of 20 miles or less on average while a strategic radius typically identifies aircraft approaching at distances of 20 to 80 miles. In addition to the tactical and strategic radius distances, the threat emitters must be oriented so that they can monitor an area of at least 50 to 75 percent of the easterly "field of view" that aircraft would utilize in a two-axis concept.

The Air Force reviewed the planning considerations of BLM, USFWS (Ecological Services and DNWR), and NDOW and discussed potential conceptual site threat emitter locations in areas with the least impact. However, all three cooperating agencies indicated that the conceptual ideas described by the Air Force were contrary to the current governing legislation (the *Wilderness Act* and *National Wildlife Refuge System Improvement Act of 1997*) associated with the areas of overlap between the NTTR and the USFWS areas in the DNWR. During discussions with the cooperating agencies, the Air Force explained that a potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered (40 CFR 1506.2(d)).

Section 2.3 (Alternatives) presents the alternatives and subalternatives that the Air Force developed to address this operational requirement.

2.2.1.1 MCO Alternatives Evaluated but Not Carried Forward

The Air Force evaluated three alternatives that were not carried forward.

First, the Air Force evaluated withdrawing land north of the current North Range boundary; however, roadway infrastructure as well as wilderness areas would have been impacted by weapons safety footprints. These impacts would have required closing both locations on a regular basis as a result of the high utilization rate of test and training missions on the NTTR. This did not meet two of the general selection criteria outlined in Section 2.2.1 (Increase MCO Test/Training Capability).

Second, the Air Force evaluated an alternative entitled the Alamos Real Estate Alternative, but did not carry the alternative forward. This potential alternative would have included developing a real estate agreement or memorandum of agreement with BLM and USFWS. An agreement would have been developed with USFWS whereby the areas under Alamos A, B, and C would include the expansion of weapons safety footprints but would not have created new impact areas in Ranges 60A, 60B, or 60C.

In addition, the Air Force would have developed an agreement so that IADS could be placed on BLM land to the east of the Alamo areas; specifically, IADS would be located between egressing aircraft and target areas to create a more operationally realistic MCO test and training environment. This possible alternative would have been implemented to facilitate co-use between the Air Force and both BLM and USFWS.

This alternative was deemed infeasible since the NTTR expected the newly placed emitters to be used daily and moved to new locations on a regular basis. This would have required the area to be placed under a hazardous restriction on a 24-hour basis, seven days per week. In addition, it was anticipated that there could be ancillary impacts to wilderness areas as well as WSAs. Figure 2-9 provides a conceptual illustration of threat emitters on BLM lands, which will not be carried forward for analysis.

The third alternative considered but not carried forward would have combined some NTTR activities with NAS Fallon operations, as suggested by a few public participants during the scoping process. The status quo for the NTTR, described in Section 1.4.1 (Increase MCO Test/Training Capability), is that testing and training requirements, along with maintenance, stewardship, and regulatory activities, demand more than 100 percent of existing capacity. Virtually around the clock, seven days per week, multiple testing and training missions, along with other requirements, compete for the same limited resources. As a result, on nearly any given day, an important National Security testing or training mission gets delayed. Given the high demand for NTTR range access, the idea that NTTR activities could be reallocated to NAS Fallon to relieve scheduling conflicts was explored with the Navy. The Air Force contacted the Navy regarding the possibility of utilizing NAS Fallon airspace and ground targets to offset training activities from the NTTR. However, NAS Fallon is undergoing its own land withdrawal extension and expansion process, and the Navy indicated that NAS Fallon is experiencing the same operational issues as the NTTR, which has necessitated the Navy's withdrawal expansion request for NAS Fallon. Therefore, while the Air Force considered relocating NTTR training operations to NAS Fallon, due to the scheduling issues at NAS Fallon and its inability to support NTTR operations, this alternative was not carried forward.

The idea of combining NAS Fallon and the NTTR missions was considered but not carried forward for analysis. NAS Fallon is undergoing its own land withdrawal effort, and NAS Fallon and the NTTR are already both at full capacity.

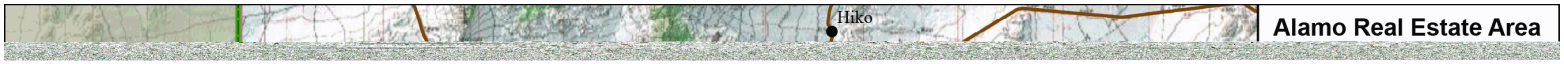

Figure 2-9. Candidate Alamo Real Estate Alternative with Conceptual Potential Emitter Area on BLM Land (Not Carried Forward)

2.2.2 Enhance IW Test/Training Capability

In order to meet IW requirements outlined in Section 1.4.2 (Enhance Irregular Warfare Test/Training Capability), the USAFWC determined that the constraints on movement within the South Range must be addressed; the ability to move unconstrained within the South Range is necessary to effectively meet the purpose and need for the established and future military mission in the NTTR. To further enhance IW capabilities, a Landing Zone would be developed. Using this staging location, DoD IW units would conduct insertion and extraction exercises as well as overland navigation through mountainous terrain to a UOC.

The USAFWC review of their enhanced IW requirements was centered on incorporation of a full battle spectrum and topographical restrictions, specifically mountainside terrain. Thus, the following selection standards were established:

- Must have flat surface terrain for unimproved runways used as insertion points.
- Insertion points (i.e., runways) must be within 17 miles (15 NM) of a location that either currently has an urban operations exercise area or can support the construction of an urban operations exercise area.
- Insertion points must allow exercises that would traverse a mountainous area with an elevation of at least 2,000 feet.
- Ensure that UAS activities do not impact MCO flight activities.
- Due to National Security, current classified mission areas within the NTTR or NNSS will not be impacted by new alternative siting.

Conceptually, the Air Force used an established UOC located on Range 62 as a focal point, and a radius of 17 miles (15 NM) was established around the UOC. The 15-mile radius was identified as a minimum distance for overland navigation from a potential insertion point to the UOC. Since an insertion point would consist of two runways, areas with flat topography were identified. After the identification of potential insertion points, the Air Force evaluated the same planning considerations identified in Section 2.2.1 (Increase MCO Test/Training Capability). Using the cooperating agency planning considerations, the Air Force tried to identify conceptual locations that would meet the selections standards previously identified. Figure 2-10 illustrates a composite of the UOC and the conceptual insertion sites identified. Although these potential sites were identified, they are not ready for detailed consideration at this time but are an anticipated requirement in the future. When this requirement becomes more refined, the Air Force will conduct a more detailed NEPA analysis. Section 2.3 (Alternatives) presents the detailed alternatives that the Air Force developed to address this operational requirement.

2.2.2.1 Enhance IW Test/Training Capability – Alternatives Evaluated but Not Carried Forward

All evaluated alternatives were carried forward.

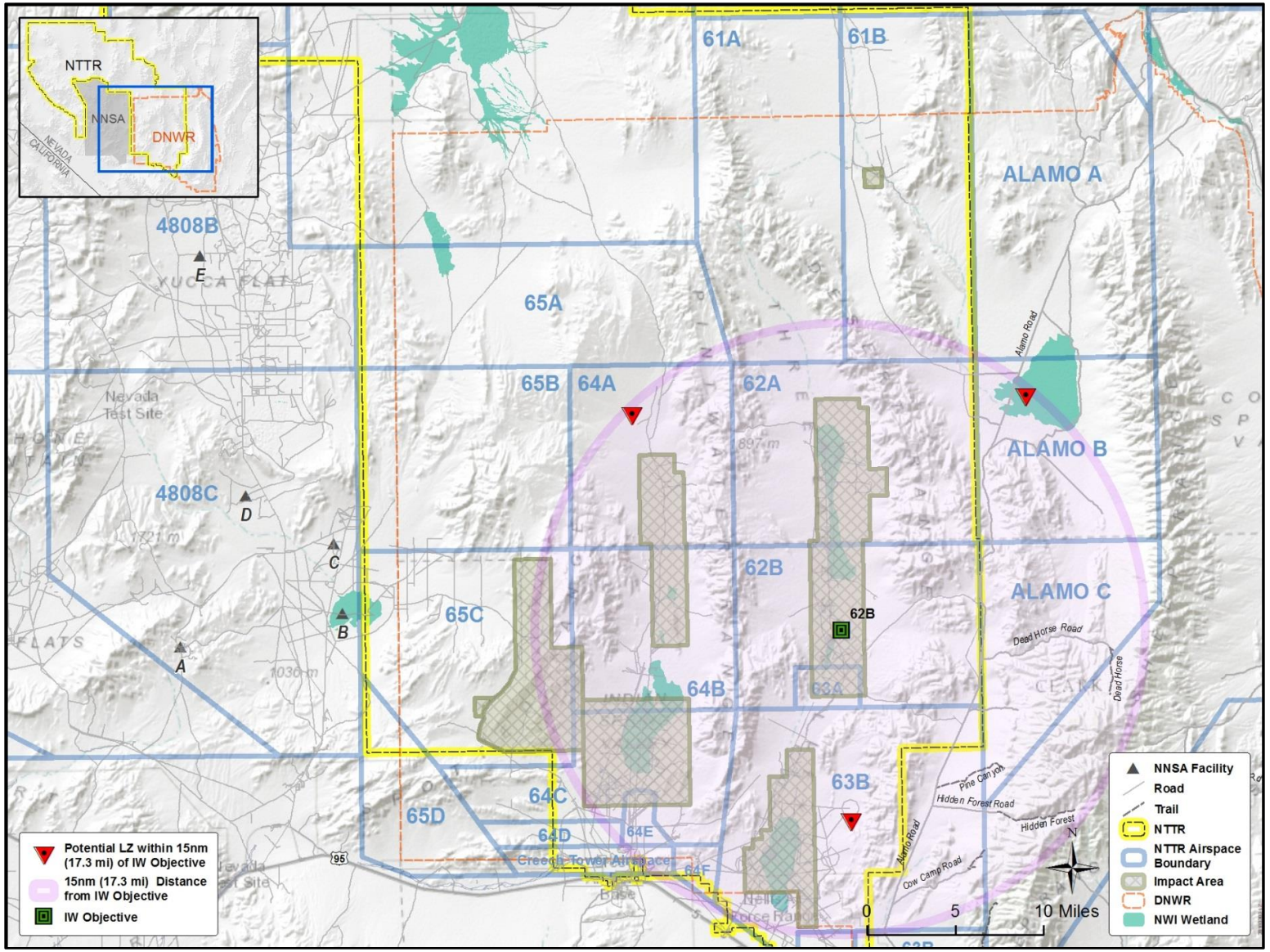

Figure 2-10. Composite of the Urban Operations Complex and the Conceptual Insertion Sites

2.2.3 Increase NTTR Operational Security and Safety

To address unauthorized public access incidents that have occurred in the overlap of the northern portion of Clark County and NTTR's South Range, the USAFWC evaluated those areas where the most incidents have occurred to minimize the amount of buffer area to be requested. In addition, areas that were administratively omitted by BLM during the previous land withdrawal were included so they could be formally included as part of the security buffer. The USAFWC used roadway infrastructure to establish a recognizable boundary along with airspace maps.

The USAFWC evaluated range areas surrounding the perimeter of the NTTR using Creech AFB as the originator for all UAS training and T&E activities. After reviewing the perimeter range areas, it was clear that all perimeter range areas with the exception of EC South and the live-fire ranges on the South Range could not be carried forward without creating scheduling conflicts with MCO operations. As previously mentioned, Section 2.3 (Alternatives) presents the detailed alternatives that the Air Force developed to address operational requirements.

2.2.3.1 Increase NTTR Operational Security and Safety – Alternatives Evaluated but Not Carried Forward

All evaluated alternatives were carried forward.

2.3 ALTERNATIVES

All action alternatives that are carried forward for analysis must meet a part of the purpose and need outlined in Section 1.4 (Purpose and Need) and reserve the NTTR for the military purposes as provided by the current withdrawal, which includes use by the Secretary of the Air Force as an armament and high-hazard testing area; for training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support; for equipment and tactics development and testing; and for other defense-related purposes consistent with the previously specified purposes. The NTTR is available to both DoD and non-DoD users who have valid requirements for its capabilities. Each alternative was evaluated against selection standards established and described in Section 2.1 (Alternative Development and Screening Process). Input from the scoping process as described in Section 1.5 (Environmental Impact Analysis Process) also affected development of the alternatives. In order to meet the USAFWC's requirements, the Air Force requires implementation of Alternatives 2 and 3, including all subalternatives, as well Alternative 4C. Consequently, implementation of any individual alternative or subalternative would meet a part of the purpose and need but not fully meet the requirements of the Air Force.

The Air Force recognized that there was one commonality associated with each candidate alternative: the Air Force would not relinquish any lands as part of the land withdrawal. Since each alternative includes this commonality, it will not be discussed in detail below for each specific alternative.

2.3.1 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

Under Alternative 1, there would be no changes to the current NTTR boundary. The North Range would maintain ready access and would continue to support the majority of MCO operations. The weapons-delivery areas will continue to be utilized to simulate tactical targets as described in Section 1.2.1 (North Range). The three ECRs (Tonopah ECR, Tolicha Peak ECR, and EC South) will remain active and support the MCO test and training mission. The activities outlined in Section 1.2.1 for the SNL would continue, such as projectile firings, ground-launched rockets (both high altitude and low altitude), air-launched rockets, explosion effects tests, earth penetration tests, cruise missile flights, and many miscellaneous activities requiring a remote location for non-nuclear DOE research and development projects or for other safety or security reasons.

In NTTR's South Range, adequate access would not be available, and the USFWS would continue to have primary jurisdiction over a majority of the South Range of the NTTR while the Air Force would have primary jurisdiction over the valley floors in the South Range to the 4,000-foot contour levels (U.S. Air Force, 1997a). Of the 259,714 acres that are below 4,000 feet, 112,000 acres are authorized only as target impact areas (associated with NTTR's 60-series ranges). The Secretary of the Interior maintains secondary jurisdiction over this acreage for wildlife conservation purposes. The area proposed by the USFWS for wilderness designation located in the South Range would be continued to be managed as de facto wilderness.

In addition, the airspace utilization under Alternative 1 would remain at current levels as illustrated in Table 2-1. NTTR airspace is grouped in the following manner: Restricted Airspace (RA), MOA/Air Traffic Control Assigned Airspaces (ATCAAs), Visual Routes (VR), and Creech Airfield operations, since Creech overlaps the NTTR boundary. Aircraft operational levels located in the airspace used for test and training are listed in Table 2-1.

Table 2-1. Current Airspace Utilization

Type of Airspace	Aircraft Operations
Restricted Airspace	24,898
MOA/ATCAAs	96,604
Visual Routes	57
Creech Airfield Operations	44,220

MOA/ATCAA = Military Operations Area/Air Traffic Control Assigned Airspace
Note: Restricted Airspace includes 4806, 4807, 4808, 4809; MOA/ATCAAs include Caliente, Coyote, Eglin, Reveille, Sally; and Visual Routes include 209 and 222

As with aircraft operations, munitions expenditures would remain at current levels as outlined in Table 2-2.

Table 2-2. Current Munitions Utilization

Munitions Type	Numbers Used
Large Caliber	10,915
Small Caliber	1,600,746

Note: Large caliber includes weapons in the following categories: Air-to-Ground Missile, Cluster Bomb Unit, Guided Bomb Unit, Illumination Unit (LUU) (a type of flare), M206, Mark (MK), and 2.75" rockets; small caliber (cal) includes .50 cal, 20 millimeter (mm), 30 mm, 40 mm, 5.56 mm, and 7.62 mm

Alternative 1 or the "status quo" would meet a limited portion of the purpose and need described in Section 1.4 (Purpose and Need), and the military test and training missions conducted at the NTTR would become increasingly constrained moving into the future. Although Alternative 1 significantly restricts test and training missions, it was evaluated and also used as a baseline for a comparative programmatic evaluation contrasted to all other alternatives.

2.3.2 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

The NTTR boundary under Alternative 2 would be the same as with Alternative 1, but the Air Force would have "ready access" in both the North and South Ranges. Section 1.4.1 (Increase MCO Test/Training Capability) describes the four essential elements of ready access (adequacy, flexibility, timeliness, and variability) that are necessary to meet current and future NTTR mission requirements.

Ready access could be instituted through a combination of methods, which may include the following:

- A Congressionally directed change in land management that effectively eliminates the need to manage the withdrawn lands as if they were wilderness. This could be incorporated in the 2021 Congressional decision on the NTTR withdrawal extension and expansion.
- Reallocation of primary jurisdiction between the USFWS and the Air Force for portions or all of the area of the DNWR that overlaps with the NTTR.
- Development, within a specified time period, of a binding Memorandum of Agreement, granting ready access to the DoD and establishing written procedures to ensure full compliance with other federal agency requirements. These written procedures may be included in other support documents such as the INRMP or ICRMP.
- Enactment of legislative provisions that ensure ready access, notwithstanding the operation of other specific statutory measures limiting such access, provided the withdrawn lands are managed under an approved INRMP in accordance with the *Sikes Act* (16 USC 670).

It should be noted that ready access does not mean exemption from applicable laws and regulations that are not specifically addressed by legislation supporting the withdrawal.

***Ready access** means having the ability to use the lands and resources on the NTTR without having to compromise mission success and realistic training because of land use restrictions and delays in access to the range. Coordination with other federal agencies who share responsibility for managing resources on these lands would still be essential.*

Providing ready access in the South Range would help meet increased demand by allowing for equal capabilities for MCO training and MCO T&E in the North Range and South Range, reducing scheduling conflicts and increasing overall range capacity. Ready access would allow additional natural resource management in areas that currently are inaccessible by the Air Force as well as cooperating agencies. For the purpose of analyzing the potential impacts associated with the increase in overall range

utilization under Alternative 2, this LEIS uses a projected 30 percent increase in test and training activities to provide a reference point for analytical comparisons. Therefore, aircraft operations, munitions expenditures, and motorized vehicular activity were analyzed at operational tempos 30 percent greater than those levels stated in Alternative 1. The anticipated increase in aircraft operations stems from projected F-35 requirements (U.S. Air Force, 2015a) as well as UAS and other operations. It is presumed that munitions usage and other operational equipment would increase at a level consistent with aircraft operations. In addition, it is assumed that there will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. The road improvements and maintenance would generally consist of leveling and grading activities; no road widening, paving, or hardening is anticipated at this time. Consequently, there would be a total of 11.5 acres of total ground disturbance.

Table 2-3 and Table 2-4 provide the operational tempo for aircraft operations and munitions used for analysis associated with Alternative 2. Regarding vehicle operations, since specific numbers and types of vehicles (i.e., motorized vehicles that are not aircraft) are difficult to obtain, analysis for this category was based on historical installation fuel consumption data. Resources that are affected by changes in motorized vehicular operations are addressed in Chapter 3 under the respective resource section.

Table 2-3. Thirty Percent Increase in Operations

Type of Airspace	Aircraft Operations
Restricted Airspace*	32,367
MOA/ATCAAs	125,585
Visual Route	74
Creech Airfield Operations	57,486

MOA/ATCAA = Military Operations Area/Air Traffic Control Assigned Airspace
*Note: Restricted Airspace includes 4806, 4807, 4808, 4809; MOA/ATCAAs include Caliente, Coyote, Eglin, Reveille, Sally; and Visual Routes include 209 and 222

Table 2-4. Thirty Percent Increase in Munitions

Munitions Type	Numbers Used
Large Caliber	14,190
Small Caliber	2,080,969

Note: Large caliber includes weapons in the following categories: Air-to-Ground Missile, Cluster Bomb Unit, Guided Bomb Unit, Illumination Unit (LUU) (a type of flare), M206, Mark (MK) , and 2.75" rockets; small caliber (cal) includes .50 cal, 20 millimeter (mm), 30 mm, 40 mm, 5.56 mm, and 7.62 mm

2.3.3 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Each of the subalternatives included in Alternative 3 would include ready access as defined in Section 1.4.1 (Increase MCO Test/Training Capability) and described under Alternative 2. As was the case with Alternative 2, it is anticipated that operations will increase by 30 percent in the near future. For the purpose of analyzing the potential impacts associated with the increase in overall range capacity under Alternative 3, this LEIS uses a projected 30 percent increase in test and training activities to provide a reference point for analytical comparisons (see Table 2-3 and Table 2-4).

The land boundary under Alternative 3 would include the current NTTR boundary as outlined in Alternative 1, plus various options for additional lands needed for the operational and safety requirements described in Sections 1.4.1 (Increase MCO Test/Training Capability) through 1.4.3 (Increase NTTR Operational Security and Safety). Each of the subalternatives associated with Alternative 3 would require fencing but only on the proposed boundaries that do not abut the current NTTR boundary. The fencing would be constructed to meet BLM fencing requirements, dependent on the topography and wildlife present, as outlined in BLM Handbook H-1741-1: Fencing, and the objective of the fencing would be to provide a physical barrier to prevent public access while allowing wildlife passage. For example, if the topography in an area supports bighorn sheep predominantly, fencing would be constructed using BLM Handbook H-1741-1: Fencing, conducive to bighorn sheep passage.

Figure 2-11 illustrates those areas that would be fenced. In order to conduct programmatic analysis, the following fencing specifications were used. The fencing would consist of four strands of wire. The bottom strand would be smooth while the three upper wires would be barbed. The maximum fence height would 40 inches. Wire spacing from the ground up would be 16 inches and then spacing between wires would be 6 inches, 6 inches, and 12 inches (i.e., 16 inches, 22 inches, 28 inches, and 40 inches above ground level), which is the standard for BLM antelope fencing.

As is typical practice for fencing installation, a two-track impression on the ground surface would be formed parallel to the fencing route during construction so that fencing supplies can be carried along the route of the fence as it is being built. Future use of the two-track impression would be periodic, depending on scheduled fence monitoring. The two-track impression would be associated with Alternative 3 subalternatives.

It should be noted that the environmental consequences analysis for each applicable affected resource has been conducted using the total area to be fenced that abuts the current NTTR boundary. This has provided a conservative analysis. However, there may be instances where natural barriers will not allow for fence construction.

Additionally, the Air Force recognizes that various cooperating agencies conduct ongoing studies and survey activities that are not related to this LEIS. Valuable data has been assimilated as a result of these long-term efforts, which specifically assist in managing biological and cultural issues in the areas associated with Alternative 3. Thus, the Air Force shall seek avenues with USFWS and BLM to continue long-term study and survey efforts, through the INRMP, and will continue operating within the Air Force procedures currently in place and outlined in Section 2.2.1 (Increase MCO Test/Training Capability).

2.3.3.1 Alternative 3A – Range 77 – EC South Withdrawal

As outlined in Section 1.4.2 (Enhance Irregular Warfare Test/Training Capability), the Air Force has identified ISR as a key component in IW strategies and has incorporated a robust training program to implement those strategies. As a result, the NTTR planners assessed range areas along the exterior perimeter of the NTTR that could

accommodate the UAS training while reducing the impact to the MCO environment. It was determined that EC South would accommodate this type of training.

Under Alternative 3A, the EC South area would be redesignated as "Range 77" to allow full air-to-ground operations. This area was previously used for live-fire exercises in the past but had been changed to an electronic range (see Section 1.4.1, Increase MCO Test/Training Capability). Alternative 3A would increase the NTTR boundary by 17,906 acres and would be used to add buffer to the safety footprint of Range 77. For the purposes of the LEIS and the ease of the reader, the LEIS presents this acreage as "approximately 18,000 acres." In order to preserve the safety of the public yet provide wildlife passage, a fence, as outlined in Section 2.3.3 (Alternative 3), would be constructed; however, this would be the only construction occurring in this area. There would be approximately 25 miles of fence. Munitions will not be used in this area. It would only serve as a safety buffer for live weapons deployment on the interior of Range 77. Figure 2-11 illustrates the proposed expansion area. Alternative 3A would meet the purpose and need described in Section 1.4 (Purpose and Need) and partially meet the additional operational requirement to enhance IW test/training capability described in Section 1.4.2 (Enhance Irregular Warfare Test/Training Capability).

2.3.3.2 Alternative 3A-1 – Amended Range 77 – EC South Withdrawal

As a result of the public input process, the Air Force added an additional subalternative to Alternative 3A. Alternative 3A-1 was created in response to concerns raised by the Beatty community regarding potential impacts to recreational and economic resources as well as concerns identified by the state of Nevada related to the designated routes of the Section 368 energy Corridor 18-224 and Interstate 11 (I-11). The Air Force considered this public input and sought an option that would allow them to adjust target areas so the proposed expansion area could be reduced.

Alternative 3A-1 reduces the proposed expansion area of Alternative 3A by 2,592 acres so that the total proposed expansion area of Alternative 3A-1 is 15,314 acres. For the purposes of the LEIS and the ease of the reader, the LEIS presents this acreage as "approximately 15,000 acres." Figure 2-12 illustrates the adjustments made to the boundary for Alternative 3A to create Alternative 3A-1. The reasons for the withdrawal proposed by Alternative 3A-1 are the same as outlined in Section 2.3.3.1 (Alternative 3A).

2.3.3.3 Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

Alternative 3B would withdraw approximately 57,000 additional acres along the current NTTR boundary of the South Range. Of those acres, 55,376 are located along the southeastern border of the NTTR, including approximately 48,880 acres along the southern border of the NTTR (areas designated as 64C/D and 65D) and 6,496 acres parallel to the current NTTR boundary and the U.S. Route 95 Nevada Department of Transportation right-of-way (Figure 2-11). Withdrawing both of these areas would support the NTTR with operational security and safety buffers as outlined in Section 1.4.3 (Increase NTTR Operational Security and Safety). The remaining 1,125 acres would be along the eastern edge of range areas 63B and 63C. Figure 1-10 illustrates

the locations of the 60-series ranges. During the 2001 land withdrawal process, the approximately 1,125 acres were not included in the MLWA published boundary for the NTTR, although it was analyzed in the 1999 LEIS (U.S. Air Force, 1999). At that time, BLM's Public Land Survey System went through a significant software update, resulting in a shift of the coordinate system and causing a perceived boundary shift. Essentially, under BLM's old Public Land Survey System data, the legal description was accurate, but when the software update affected the coordinate system, this acreage was no longer included in the legal description. In addition, the legal description was never published by DOI in the *Federal Register* as directed by the MLWA. Consequently, the BLM and the Air Force have agreed to rectify the situation by incorporating the change as part of this withdrawal process. Figure 2-11 illustrates the 1,125 acres to be incorporated. After Congressional withdrawal decisions are made, a land survey of the entire NTTR boundary will be conducted by the Air Force in cooperation with BLM's Cadastral office.

This area would be included in the withdrawal in addition to the 55,376 acres. Thus, the total for this alternative would be 56,501, or approximately 57,000, acres. Of the 57,000 acres, 33,000 acres are managed by the USFWS Refuge program. No construction would occur other than fencing as outlined in Section 2.3.3 (Alternative 3) to reduce public access while providing wildlife passage. The fencing would be approximately 30 miles.

2.3.3.4 Alternative 3C – Alamo Withdrawal

Based on the need for increasing operational requirements associated with MCO operations as well as alleviating competition for MCO electronic assets, Alternative 3C was developed to allow a two-axis front concept as outlined in Section 2.2.1 (Increase MCO Test/Training Capability).

As illustrated in Figure 2-11, Alternative 3C would request the withdrawal of 227,027 acres of the DNWR to correspond with potential weapons safety footprints associated with target impact areas associated with the 60-series ranges. (For the purposes of the LEIS and the ease of the reader, the LEIS presents this acreage as "approximately 227,000 acres.") These safety footprint areas must be controlled for public safety purposes; however, live munitions are only used specifically in the target impact areas. For example, Figure 2-13 illustrates the overlap of the weapon safety footprint located on 62A as it relates to the DNWR. This overlap of the weapons safety footprint necessitates the withdrawal request as outlined in Section 2.2.1 (Increase MCO Test/Training Capability).

During public scoping, concerns were raised about the loss of public access to the DNWR. During initial development of the Alternative 3C proposed expansion area, the Air Force took into consideration the potential impacts to grazing and recreational areas and reduced the land area to accommodate grazing rights and recreational areas to the south of the proposed expansion area. As a result, the public would continue to have access to key recreational areas such as Hidden Forest Cabin, Corn Creek Field Station, Cow Camp trailhead, and Joe May trailhead, as well as springs such as Corn Creek, Cow Camp, Upper Deadman, Lower Deadman, and Sawmill, among others. Figure 2-14 and Figure 2-15 illustrate recreational areas in the vicinity of Alternative 3C.

The public expressed an interest in the Air Force developing a "shared use" concept for the area associated with Alternative 3C. Unrestricted access would present public safety concerns associated with weapon safety footprints and security concerns for technologically advanced equipment that will be used for future test and training activities. Limited access, based on current practices, is granted on a case-by-case basis and would continue under Alternative 3C should Congress select this alternative.

In addition, Alternative 3C implements IW capabilities that would involve developing potential insertion points as outlined in Section 2.2.2 (Enhance IW Test/Training Capability) and conceptualized in Figure 2-10 in that section. The insertion point would include one runway that would be a mockup location to provide special operations personnel a location to practice tactics, while a second runway would be an active runway, providing more realistic insertion training. Each runway would be 6,000 feet long and 90 feet wide. It is anticipated that ground disturbance activities associated with construction of the runways would be less than 13 acres. The mockup runway would not be used for aircraft operations. However, it is anticipated that the active runway would be a dirt runway and operational levels would occur at a tempo of 520 takeoff and landings annually. Also, it is assumed that there will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. The road improvements would generally consist of leveling and grading activities; no road widening, paving, or hardening is anticipated at this time. Consequently, it is anticipated that there would be 24.5 acres of total ground disturbance for Alternative 3C, which was the upper limit used in analyses of the affected resources outlined in Chapter 3 (Affected Environment and Environmental Consequences).

The training activities would be associated with various aircraft to include A-10, C-17, C-130, CV-22, HH-60, and AH-64. Forward Air Refueling and Rearming Procedures (FARRP) would be used during the training activities. As the name indicates, FARRP consists of two training activities (refueling and munitions loading of aircraft) that occur in austere areas such as a dry lake bed. FARRP is a concept designed to conduct rapid turnaround of aircraft engaged in combat in order to move the aircraft forward as the battle moves forward. A cargo aircraft such as a C-130 or C-17 would land first and use its internal fuel load to transfer fuel to other fixed- and rotary-wing aircraft while other crew members are reloading new munitions on the aircraft. In addition to the conceptually planned activities previously described, the Air Force will construct fencing as outlined in Section 2.3.3 (Alternative 3) to reduce public access yet provide for wildlife passage. There would be approximately 60 miles of fence with Alternative 3C. Small arms blank munitions and inert weaponry will be used in this area, but no new target impact areas will be created as part of this withdrawal action. However, at this time, the details associated with specific locations that might experience ground disturbance are not ready for decision or site-specific NEPA-related environmental analysis in this LEIS. Analysis of this alternative focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature.

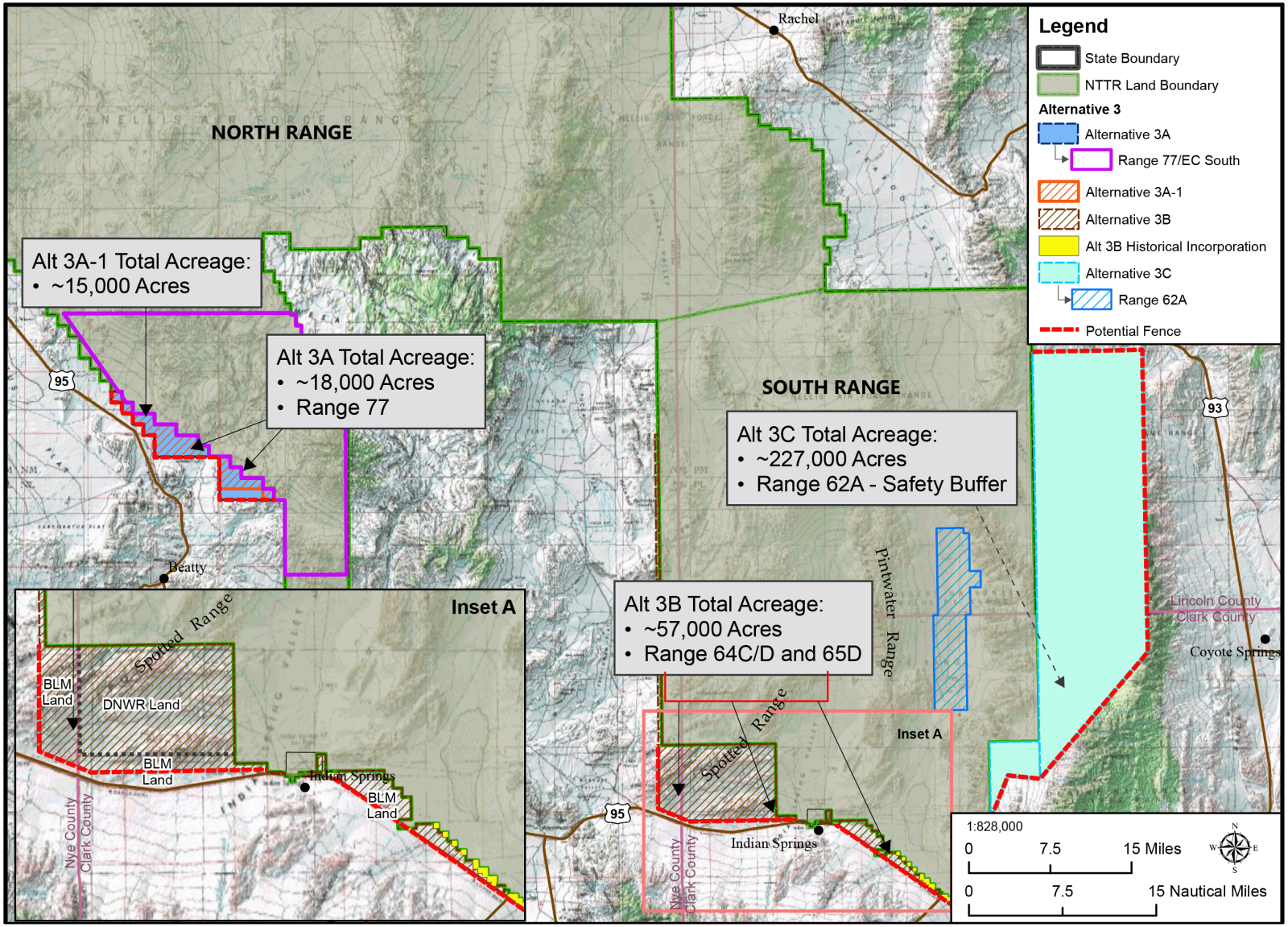

Figure 2-11. Alternative 3A, 3B, and 3C Locations and Acreages

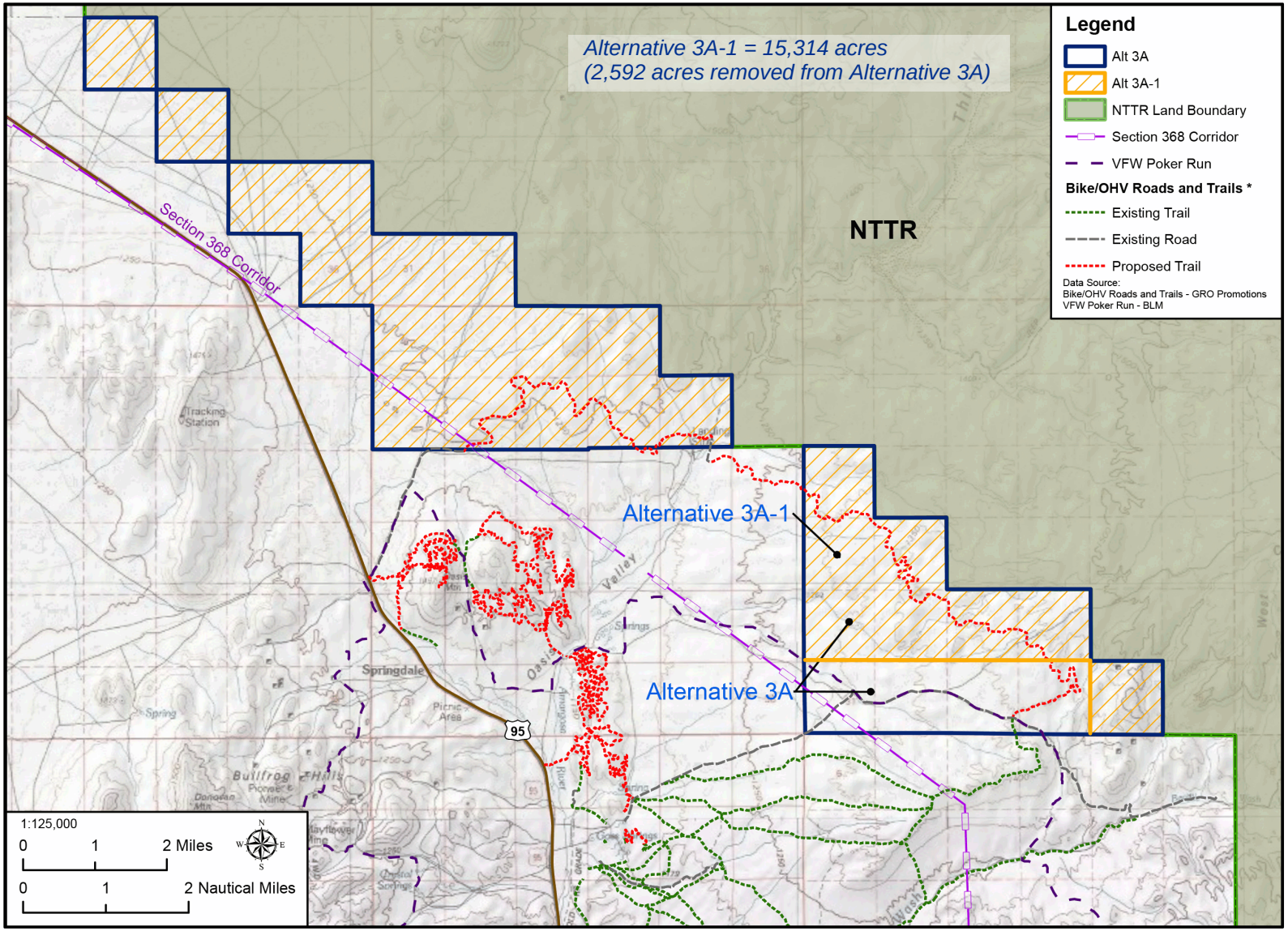

Figure 2-12. Alternative 3A-1 Location and Acreage

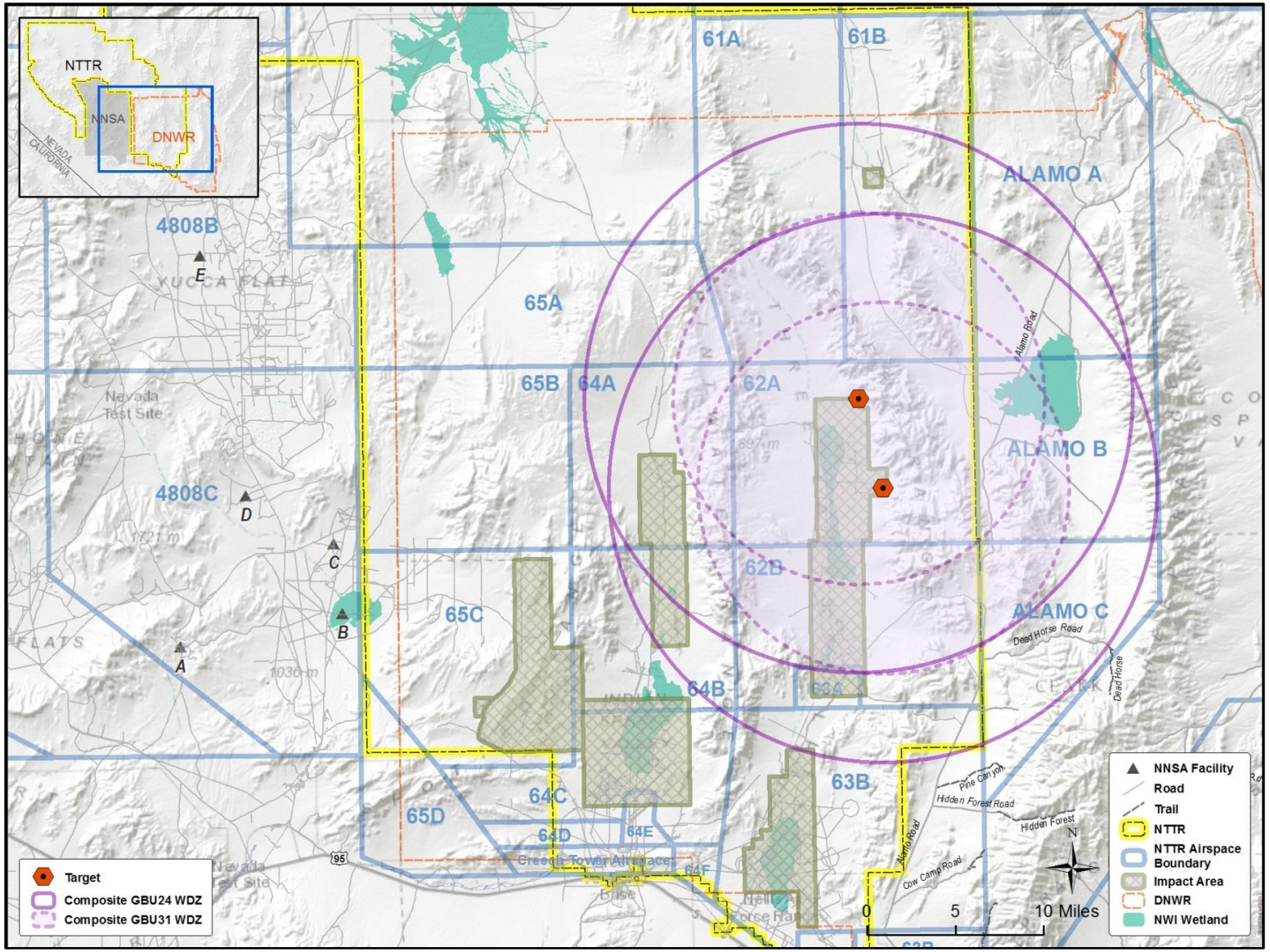

Figure 2-13. Alternative 3C – Conceptual Weapons Safety Footprint for 62A on DNWR

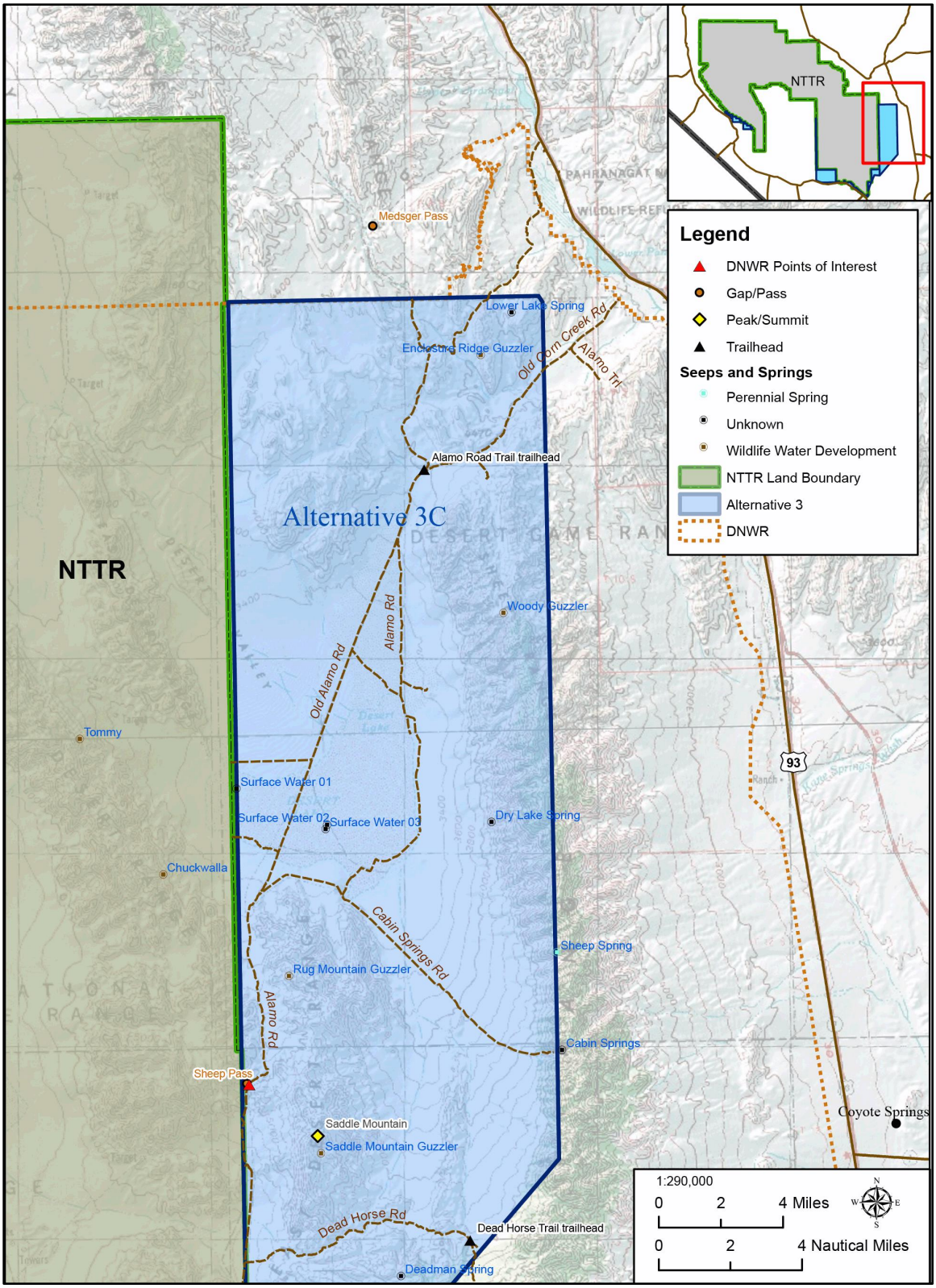

Figure 2-14. Recreational Areas Affected by Alternative 3C – Northern Area

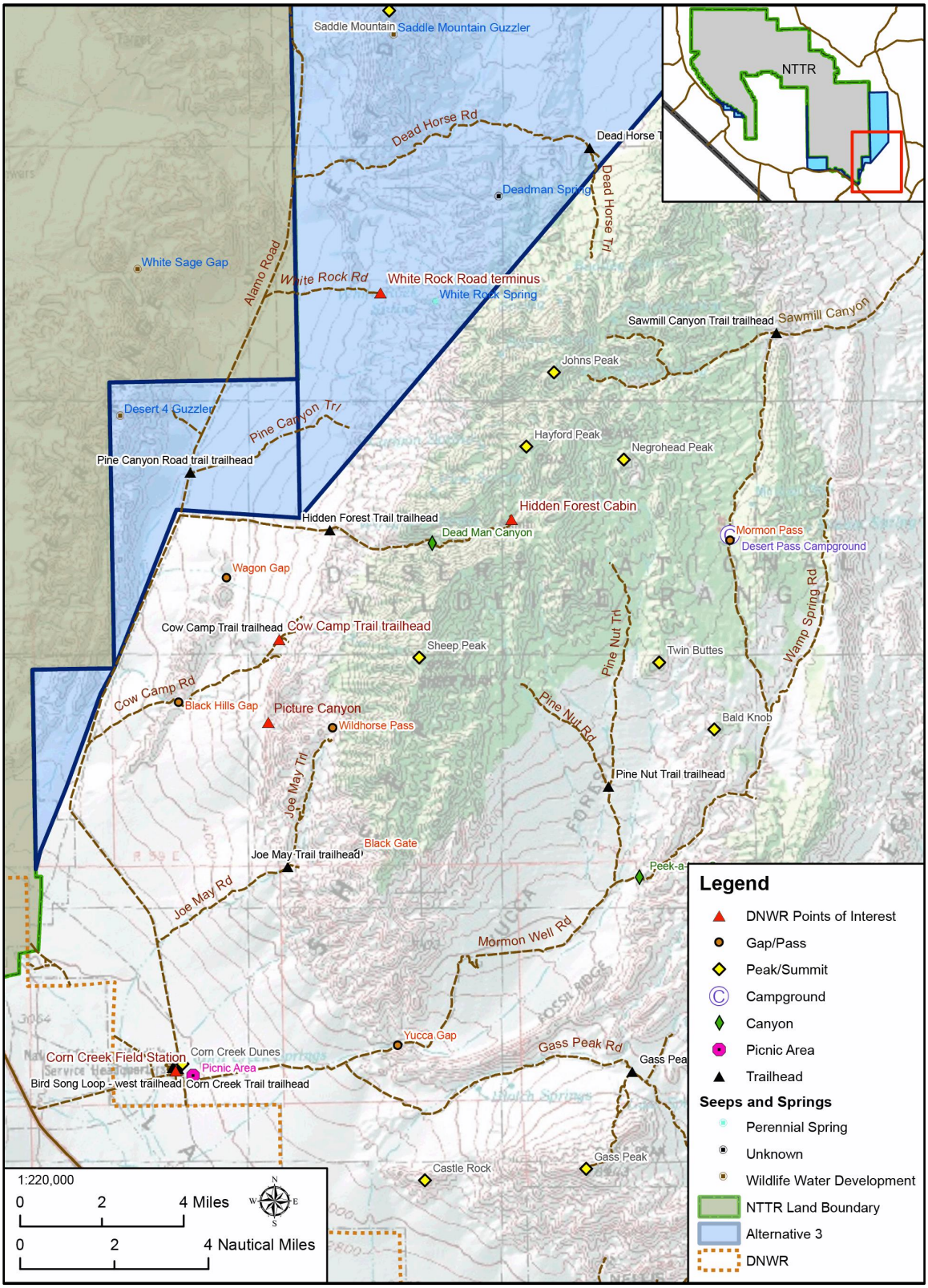

Figure 2-15. Recreational Areas Affected by Alternative 3C – Southern Area

2.3.4 Alternative 4 – Establish the Period of Withdrawal

Alternative 4 cannot be implemented on its own. In order to implement Alternative 4, it would be necessary to also pair it with one or more of the other alternatives or subalternatives presented previously. The only difference among the three subalternatives is the length of the new withdrawal period, which would begin upon the conclusion of the existing withdrawal period that is currently scheduled to expire on November 6, 2021.

2.3.4.1 Alternative 4A – 20-Year Withdrawal Period

Alternative 4A would implement one or more of the aforementioned alternatives or subalternatives, and the new period of withdrawal would expire at the end of a period of 20 years.

2.3.4.2 Alternative 4B – 50-Year Withdrawal Period

Alternative 4B would implement one or more of the aforementioned alternatives or subalternatives, and the new period of withdrawal would expire at the end of 50 years.

2.3.4.3 Alternative 4C – Indefinite Withdrawal Period

Alternative 4C would implement one or more of the aforementioned alternatives or subalternatives, and the new period of withdrawal would not expire.

Section 2.5 (Preferred Alternative) states that the implementation of Alternatives 2, 3A-1, 3B, 3C, and 4C would be considered the Air Force's Preferred Alternative.

2.4 NO ACTION ALTERNATIVE

The CEQ regulations (40 CFR 1502.14(d)) require the alternatives analysis in an EIS to "include the alternative of no action." The No Action Alternative provides a baseline against which decision makers can compare the magnitude of potential environmental effects of the action alternatives.

Under the No Action Alternative, Congress would exercise its constitutional authority to not take action to extend the withdrawal legislation in time to support MLWA expiration in November 2021.

Detailed evaluations and characterizations are not included in this analysis since the full scope of the No Action Alternative implementation will be determined in coordination with the Secretary of the Interior.

Under the No Action Alternative, BLM-administered public lands would be subject to the multiple use resource management objectives of the *Federal Land Policy and Management Act* (FLPMA). Surface management of the DNWR would continue to reside with the USFWS.

Prohibitions previously placed in effect by the MLWA on appropriations under the public land laws would expire. Expiration of these prohibitions means that appropriative land uses such as mining, mineral leasing, or livestock grazing could potentially be reintroduced. Management of the former NTTR lands would continue as currently directed until new management planning under FLPMA and NEPA regulations could be completed.

Although withdrawal of these lands under MLWA from all forms of appropriative land use (such as mining, geothermal leasing, or livestock grazing) would expire, segregation of these lands from appropriative land uses would continue until the Secretary of the Interior publishes an order opening the lands for such uses. An opening order could not be issued by the Secretary until the costs, benefits, and environmental consequences of competing land use could be fully evaluated through planning directed by FLPMA and analyzed in NEPA documentation. The results of new land management planning may or may not find that portions or all of the former NTTR lands managed by the BLM should be opened to some or all forms of appropriative land use.

Existing land use management objectives of BLM lands on the perimeter or the vicinity of the NTTR would continue. Because the range lands would remain under the administration of the BLM and no changes would be expected in land status of adjacent lands, the No Action Alternative would not be expected to affect applicable general plans, resource management plans, or the officially stated policies or goals of agencies responsible for managing affected lands.

If land is contaminated, and the Secretary of the Interior and the Secretary of the Air Force determine that decontamination is practicable and economically feasible and that upon decontamination the land could be opened to operation of some or all of the public land laws, including the mining laws, the Secretary of the Air Force shall decontaminate the land to the extent that funds are appropriated for such purpose.

If the Secretary of the Interior decides that it is in the public interest to accept jurisdiction over lands proposed for relinquishment, it is authorized to revoke the withdrawal. Should the decision be made to revoke the withdrawal, the Secretary of the Interior shall publish in the *Federal Register* an appropriate order which shall:

1. terminate the withdrawal and reservation;
2. constitute official acceptance of full jurisdiction over the lands by the DOI; and
3. state the date upon which the lands will be opened to the operation of some or all of the public lands laws, including the mining laws.

If the Secretary of the Interior concludes that decontamination is not practicable or economically feasible of all or part of the former NTTR, or that the land cannot be decontaminated sufficiently to be opened to operation of some or all of the public land laws, or if Congress does not appropriate funds for the decontamination of such land, the Secretary of the Interior shall not be required to accept the proposed land for relinquishment.

If the Secretary of the Interior declines to accept jurisdiction over lands proposed for relinquishment or determines that some of the lands are contaminated to an extent that prevents opening the lands to operation of the public and laws, then the Secretary of the Air Force:

1. would take appropriate steps to warn the public of contamination of lands and any risks associated with entry onto those lands;
2. shall undertake no activities on such lands except in connection with decontamination of such lands; and
3. shall report to the Secretary of the Interior and Congress concerning the status of the lands.

Existing airspace would not be affected by not extending the land withdrawal; however, without control of ground areas, the airspace could not be used to support live-fire exercises and related military high-hazard activities.

Withdrawal Period

The withdrawal duration of the No Action Alternative would end on November 6, 2021.

Management Responsibilities

The DOI, through the USFWS, would continue to manage the DNWR to protect and preserve desert bighorn sheep and other species of wildlife. It is anticipated that the DOI, through the BLM, would employ multiple-use concepts on lands that do not pose a health threat to potential users. A detailed estimation of the former NTTR areas requiring remedial actions prior to final release or a determination of actions required would be necessary if Congress selected the No Action Alternative. Access to the DNWR would be under the jurisdiction of the USFWS. Access to all other lands would be under the jurisdiction of the BLM.

NTTR Boundary Realignment

The approximately 2.9 million acres of lands withdrawn under P.L. 106-65 as amended would no longer be segregated for military use. Much of the South Range that overlaps the DNWR would be under the jurisdiction of USFWS. Most of the North Range would be returned to BLM.

Disposal and Management of Released Lands

The lands withdrawn by the USFWS for the DNWR would be administered by the USFWS. Lands that the DOI does not consider contaminated would be administered by the BLM. Lands considered to be contaminated would remain the responsibility of the Air Force or the DOE until sufficiently decontaminated to allow for the transfer to the DOI.

2.5 PREFERRED ALTERNATIVE

The Air Force's Preferred Alternative is the selection of Alternatives 2, 3A-1, 3B, 3C, and 4C. The Preferred Alternative includes mitigations and appropriate procedures for permitting/deconflicting non-military activities on the ground that will not compromise public safety, detract from mission accomplishment, or impair range operations. The Air Force is committed to assisting tribal governments and cooperating agencies with their management responsibilities as well as assisting other non-DoD users with their access needs where feasible. Section 2.9 (Mitigation) identifies current procedures and outlines specific strategies, including the development of an Intergovernmental Executive Committee, to balance military needs with land management requirements and other access requests.

2.6 PERMIT REQUIREMENTS

This LEIS is prepared in compliance with NEPA; other federal statutes, such as the *Clean Air Act* (CAA) and the *Clean Water Act* (CWA); Executive Orders; and applicable state statutes and regulations. This section lists NTTR-related permits and certifications reviewed during the LEIS process as well as potential permits that may be required for the future conceptual activities described in Section 1.4 (Purpose and Need).

Airspace Management

As indicated in Section 1.3.1 (Range Requirements), additional airspace is not a requirement for this withdrawal nor is it being requested as part of this withdrawal extension or expansion; however, the current airspace is not used to its full potential because of land use restrictions in the South Range. If airspace requirements change, the Air Force would work with the FAA to address the changes.

Air Quality

- Changes to operations and/or withdrawn lands may require review and revisions to the following permits:
    - Creech AFB Title V Part 70 Operating Permit for Source: 473 (expires May 30, 2018)
    - Nellis AFB Title V Part 70 Operating Permit for Source: 117 (expires September 17, 2020)
    - Class I Air Quality Operating Permit #9711-1233.01, issued December 2, 2011

Biological Resources

- An Incidental Take Permit for impacts to federally listed species and migratory birds and eagles may apply depending on the results of USFWS consultation.

Cultural Resources

- Cultural resources fieldwork conducted in support of this LEIS will require permits for all studies conducted in proposed expansion areas. *Archaeological Resources Protection Act of 1979* permits and agency approval are required for all archaeological projects that would occur on BLM or USFWS lands.

Earth Resources

- The Nevada Division of Environmental Protection (NDEP) requires a General Construction Stormwater Permit if the project will discharge to a Waters of the State and if the project will disturb 1 or more acres, or if it is part of a larger plan for development that will ultimately disturb 1 acre or more.
- If NDEP determines that a project less than 1 acre in size will impact receiving waters or its tributaries within a 0.25-mile radius of the project, the project will also require a construction stormwater permit. If the project requires a construction stormwater permit a NOI would be completed for coverage under the Construction Stormwater General Permit. Stormwater permits would contain best management practices (BMPs) subject to approval by NDEP. BMPs could include stormwater diversion, erosion control or any number of best practices.

Water Resources

- National Pollutant Discharge Elimination System (NPDES) permit, in accordance with the CWA (NDEP, Bureau of Water Pollution Control)
- Construction activities that disturb 1 acre or more of land would require development of a Stormwater Pollution Prevention Plan as part of the NPDES permitting process. In general, a Stormwater Pollution Prevention Plan identifies measures that will be implemented to prevent the discharge of sediments and pollution (via stormwater) from a construction site.
- Permit to discharge dredged or fill material into waters of the United States (including wetlands) under Section 404 of the CWA (U.S. Army Corps of Engineers [USACE]), and associated certification of compliance with State water quality standards (NDEP, Bureau of Water Quality Planning).
- Permit for appropriation of surface water or groundwater rights (Nevada Division of Water Resources, Office of the State Engineer)
- Application for Approval of a Water Project and Permit to Operate a Public Water System, in accordance with the *Safe Drinking Water Act* (NDEP, Bureau of Safe Drinking Water).
- Any activities resulting in changes to oil storage quantity or management measures would require either preparation of a new Spill Prevention, Control, and Countermeasure (SPCC) Plan, or update of an existing SPCC Plan. The purpose of a SPCC Plan is to identify and implement methods to prevent the discharge of oil or oil-based products into waterways.

2.7 GENERAL ENVIRONMENTAL CONSTRAINTS

As the EIAP process evolved for the LEIS, it became apparent that the site-specific locations for detailed activities were not yet ready for decision. Therefore, the focus of alternative analyses with respect to environmental impacts in this LEIS is to catalog resources within proposed withdrawal areas and, based on the types of activities proposed in these areas, identify in a conceptual and qualitative manner potential impacts that may occur to cataloged resources from a programmatic perspective; this serves to support the EIAP for future proposed activities once defined. An example of this type of analysis is to consider that, while the Air Force does not yet know where, exactly, a potential threat emitter might be placed within a proposed withdrawal area, it is reasonable to recognize that threat emitter placement results in ground disturbance and generation of electromagnetic radiation. In addition, the Air Force realizes that such ground disturbance has particular impacts to various affected resources (such as various animal species for example) and understands that electromagnetic radiation has certain impacts to different types of animal species (e.g., birds, rodents, bighorn sheep). Therefore, from a programmatic perspective, the Air Force does not necessarily need to understand where specifically an emitter might be placed to understand the potential impacts to specific types of resources.

To further this programmatic analysis, through cataloging the types of resources present in the proposed withdrawal areas, the Air Force can identify potentially sensitive areas that should be avoided for specific activities; as an example, springs and seep areas should be avoided for ground-disturbing activities such as construction or vehicle use. Avoidance of construction and vehicle use within springs and seeps would be considered an "environmental constraint." In support of environmental impact analysis, this environmental constraint dictates that there would be no construction or vehicle use in spring and seep areas and, therefore, there would be no adverse impacts to these water sources within the NTTR for these types of activities.

The NTTR has many existing environmental constraints for avoiding or mitigating impacts to resources throughout the entire NTTR, as implemented through the NTTR natural resources management program, Cultural Resource Programmatic Agreement, and the NTTR ICRMP. These environmental constraints are inherent to operational activities on the NTTR and would be applied to any additional withdrawn lands. The environmental constraints form the basis of the baseline environmental impact analysis within the context of this LEIS.

As a component of this analysis, the existing environmental constraints have been identified and expanded to cover proposed withdrawn lands. In addition, other environmental constraints have been identified through consultation with the Nevada SHPO and the USFWS. Documentation resulting from consultation with the Nevada SHPO and the USFWS regarding this Proposed Action is provided in Appendix B, Agency Consultation and Coordination, and incorporated into the environmental constraint structure because they are required to be implemented as part of the Proposed Action regardless. Environmental constraints were then used to identify "constraint areas" within the NTTR and proposed expansion areas to support

programmatic analyses. These analyses can then be utilized for future planning purposes during the EIAP when decisions regarding placement of emitters or locations for specific training activities are proposed; the constraint analysis will help to inform comparisons between operationally suitable emitter/training locations and the intersection with environmental constraints, and then site-specific analysis can be conducted in the future.

Therefore, in the context of this document, "General Environmental Constraints" are actions inherent to the Proposed Action (and therefore not technically mitigations) resulting from existing standard practices/requirements and/or consultation documentation with Nevada SHPO and the USFWS. Through the environmental impact analysis process associated with this LEIS, additional "Resource-Specific" Mitigations and management practices were also identified to minimize potentially adverse impacts for activities that may pose adverse impacts despite operational constraints. The mitigations would be required to be implemented, depending on the associated alternative selected through the decision-making process.

Summarized below are the General Environmental Constraints that would be implemented as part of the Proposed Action.

The NTTR operates under two major planning programs. The natural resources management program, which supports requirements of the *Sikes Act*, establishes and implements guidance regarding the management of natural resources throughout the NTTR. In addition to the natural resources management program, the NTTR operates under a cultural resources management program, which establishes and implements guidance for management of cultural resources. Both programs and resulting management guidance documents incorporate requirements associated with respective consultations of the USFWS, NDOW, and SHPO. Since the basis of both the natural resources management program and cultural resources management program implement consultation guidelines and requirements, the Air Force has chosen to generally include each of these programs' management guidelines as environmental constraints.

Below are examples of some those management guidelines that will be implemented prior to the Proposed Action:

- Develop a Mitigation Plan as required by NEPA identifying Proposed Resource-Specific Mitigations to be implemented, responsible parties for mitigation implementation and compliance evaluation, and monitoring mechanisms for evaluation of mitigation effectiveness.
- Develop and implement a methodology to identify specific training areas and troop movement corridors prior to ground operations to allow for any natural or cultural resource surveys and protection measures that may be necessary (i.e., desert tortoise and cultural surveys).
- Through various existing program offices and current practices, NTTR planners, with user group support, will:

- Develop guidance on environmental restrictions and compliance requirements, to include mitigations and environmental constraints identified in this LEIS and associated consultations, as well as the natural resources management program and cultural resources management program.
- Provide both a visual and written presentation of restrictions as presented in this LEIS to unit commanders and training personnel. This can be accomplished through NTTR Range Safety and Operations Procedures annual briefings, additional site-specific environmental briefings, and/or through the Center Scheduling Enterprise.
- Document and resolve any issues related to environmental compliance with the cooperating agencies upon notice of any compliance issues.

It should be noted that the scope of this LEIS addresses test and training activities that would take place within the boundaries of the NTTR. It does not address those test and training activities wherein the public lands are used outside the bounds of the NTTR.

2.8 ENVIRONMENTAL COMPARISON OF ALTERNATIVES

A summary of the environmental consequences, grouped by resource area, associated with each potential alternative combination and the level of the impacts of the alternatives described, including the no-action condition is presented in this section. Table 2-5 provides an overall summary of impacts for all of the activities that constitute the Proposed Action and utilizes color coding to reflect the degree of impact without consideration of any potential mitigations outside those required by law and/or as a result of regulatory/permits that would be required as part of an alternative. Permit related requirements (i.e., “permit mitigations”) that would be part of an alternative as required by law (e.g., storm water permits) are included in the analyses of impacts because these “permit mitigations” will be implemented regardless of the outcome of the analyses. The significance of impacts was determined by evaluating the context, intensity, and duration of the action (40 CFR 1508.27) and the relative effect on individual resources. This process is further detailed in Chapter 3.

Details on programmatic actions and their potential impacts as related to the potential withdrawal expansion areas can be found in Chapter 3. While Table 2-5 provides an “at-a-glance” summary of impacts based on the individual alternative analyses presented in Chapter 3, see Section 3.15.1 (Summary of Impacts for Potential Alternative Combinations) for a more detailed summary of impacts resulting from the interaction between potential alternative combinations.

Impacts were evaluated with consideration of implementation of general environmental constraints inherent to the Proposed Action associated with NTTR operational procedures and other NEPA-related documents for similar actions occurring on the NTTR on similar resources. General Environmental Constraints are a prerequisite for

implementing the Proposed Action. Once analyses were completed, additional Proposed Resource-Specific Mitigations were identified to avoid or minimize adverse impacts. All General Environmental Constraints were previously described in Section 2.7; all Proposed Resource-Specific Mitigations identified through analyses are provided in Section 2.9.2.

Terms Used to Describe Significance

As previously mentioned, significance of impacts is determined by considering how the Proposed Action interacts with the various resources in terms of context, intensity, and duration, as described in each respective resource section in Chapter 3. Context can be analyzed in terms of society as a whole (human, national), the affected region, the affected interests, and the locality. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than across a broad region.

Intensity refers to the severity of the identified impact, while duration considers the long-term and short-term nature of the potential impact. The impact analyses consider direct, indirect, and cumulative impacts on resources along with how both beneficial and adverse impacts affect public safety, the characteristics of the geographic area and proximity of the Proposed Action to sensitive resources, the potential controversial nature of the potential impact, whether possible effects are highly uncertain or involve unique or unknown risks, whether the action may establish a precedent for future actions with significant effects, cumulative impacts, impacts to cultural resources or endangered species, and whether the Proposed Action and/or alternatives threatens to violate federal, state, or local laws or environmental protection requirements. Each of these aspects is addressed as appropriate in the applicable resource area sections and chapters in this LEIS. General criteria for impacts to resource/issue areas are summarized below and are presented relative to individual resource/issue areas:

- Beneficial – Beneficial impacts may occur under any context, intensity, or duration. These generally result in some benefit or overall improvement to the resource impacted by the action. Such impacts may include a reduction in air emissions or restoration of habitats; the scope of the impact is directly related to the context, intensity, and duration of the impact. Elimination of baseline air emissions or recovery of large areas of desert tortoise habitat may be considered significant beneficial impacts, while a small reduction in baseline air emissions or restoration of small areas of habitat may be considered beneficial but relatively insignificant.
- Adverse – Adverse impacts generally result in detriment or degradation of the impacted resource, the degree or level of impact directly related to the context, intensity, and duration of the impact. The Air Force has identified the potential for adverse impacts for several resource areas, which can be either significant (unavoidable or avoidable/mitigatable) or insignificant. Resources experiencing potential adverse impacts are shaded “yellow” or “red” in the summary of impacts table (Table 2-5).
    - Significant Unavoidable – Physical aspects are easily perceptible, and typically endure over the medium-to-long term, with a regional context

and a high intensity; however, significant impacts can occur potentially over the short term under any context given a high intensity. Significant adverse impacts are typically not recoverable over the short term and require long-term recovery processes with extensive mitigation or revision of the Proposed Action to avoid or minimize impacts. An example of a significant adverse impact would be destruction of large percentages of desert tortoise habitat or degradation of water quality that may affect human health and the environment. Potential significant effects that cannot be reduced to acceptable levels through mitigation or management measures would be considered significant unavoidable adverse effects. Such impacts are identified as "red" in Table 2-5. Unavoidable impacts are further discussed in Section 2.9.3 (Unavoidable Impacts).

- Significant Avoidable/Mitigatable – Impacts are similar as described above. However, these impacts can either be avoided or minimized through implementation of mitigations and/or management actions. These impacts are identified as "yellow" in Table 2-5.

- Insignificant – These impacts can be beneficial or adverse and are typically short- to medium-term impacts under any context or intensity. Beneficial impacts that are not significant may include restoration of small areas of desert tortoise habitat. Adverse but not significant impacts are typically recoverable over the short-to-medium term, with mitigations required to minimize the level of impact or potential for impact. The extent of mitigation would be dependent on the identified context and intensity of the impact. Examples of adverse impacts that are not significant may be short, intermittent increases in noise to transient recreational users that do not affect overall usability of recreational areas or the potential for localized, intermittent soil erosion on washes due to troop movement during dismounted movements. These are recoverable impacts over the short term through Proposed Resource-Specific Mitigations to avoid noise-sensitive areas for training in the case of noise impacts and, for soil impacts, minimizing the size of troop units conducting ground training activities, rotating troop movement corridors, and not using locations that show signs of erosion. Resources experiencing insignificant effects are identified as "green" in Table 2-5.
- Neutral or No Effect – These are impacts that are typically of a low-intensity, such that they are imperceptible regardless of context or duration. Such impacts, whether beneficial or otherwise, are recoverable over the short term without mitigation and result in no overall perceptible change to the resource. Resources experiencing neutral or no effects are identified as "green" in Table 2-5.

Table 2-5 summarizes the impacts for each resource area as they relate to the potential combination of alternatives. More detail on all impacts can be found in the respective resource-specific discussions provided in the associated sections in Chapter 3 and summarized in Section 3.15 (Summary of Impacts).

Table 2-5. Summary of the Degree of Impacts for Potential Alternative Combinations

Alternative Key: Alt 1 = Existing NTTR Only Alt 2 = NTTR + Ready Access Alt 3A = NTTR + EC South Alt 3A-1 = NTTR + EC South, but Avoid Energy Corridor, Poker Run, Trails Alt 3B = NTTR + 64C/D, 65D, and Administrative Incorporation Alt 3C = NTTR + Alamo Withdrawal Alt 4A = 20 years Alt 4B = 50 years Alt 4C = Indefinite	Air Quality	Airspace	Biological Resources	Cultural Resources	Earth Resources	Hazardous Materials and Solid Waste	Health and Safety	Land Use and Recreation/	Visual Resources	Noise	Socioeconomics	Environmental Justice	Transportation	Water Resources	Wilderness and Wilderness Study Areas
Alt 1 + 4															
Alt 2 + 4															
Alt 3A + 4															
Alt 3A-1 + 4															
Alt 3B + 4															
Alt 3C + 4															
Alt 1 + 3A + 4															
Alt 1 + 3A-1 + 4															
Alt 1 + 3B+ 4															
Alt 1 + 3C+ 4															
Alt 1 + 3A + 3B + 4															
Alt 1 + 3A-1 + 3B + 4															
Alt 1 + 3A + 3C+ 4															
Alt 1 + 3A-1 + 3C+ 4															
Alt 1 + 3B + 3C+ 4															
Alt 1 + 3A + 3B + 3C+ 4															
Alt 1 + 3A-1 + 3B + 3C+ 4															

Table 2-5. Summary of the Degree of Impacts for Potential Alternative Combinations

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Alt 2 + 3A + 4															
Alt 2 + 3A-1 + 4															
Alt 2 + 3B + 4															
Alt 2 + 3C + 4															
Alt 2 + 3A + 3B + 4															
Alt 2 + 3A-1 + 3B + 4															
Alt 2 + 3A + 3C + 4															
Alt 2 + 3A-1 + 3C + 4															
Alt 2 + 3B + 3C + 4															
Alt 2 + 3A + 3B + 3C + 4*															
Alt 2 + 3A-1 + 3B + 3C + 4*															
No Action Alternative															

Green – Neutral or no effect on the resource
Yellow – Potential significant impact, but avoidable or can be reduced to less than significant through mitigation, to public health and safety, the human and natural environment, and/or potential violation of federal, state, or local regulations
Red – Potential significant unavoidable adverse environmental impact that cannot be minimized through mitigation.
*This configuration best meets Air Force requirements.

Impacts to public health and safety would be either avoided or minimized through implementation of operational constraints and mitigations. Any unique geographic characteristics (e.g., sensitive habitats, areas prone to erosion) associated with the proposed emitter or training sites would be avoided to the extent practicable, and any potential adverse impacts to the quality of the human environment would be minimal (mainly the potential for occasional annoyance to recreational users from noise and limited access to some previously accessible areas). There are no unknown risks or impacts that may be considered controversial in nature associated with emitter site use or training activities (such actions have been extensively analyzed in this LEIS and other Air Force documents as referenced in this LEIS), and the Proposed Action is not precedent-setting because the DoD utilizes public lands throughout the United States for both emitter sites and military training. If adverse impacts to cultural resources and endangered species are identified, these impacts would also be minimized/mitigated through implementation of operational constraints and mitigations as identified through consultation under the NHPA and the ESA, respectively. Additionally, the use of emitter sites and training activities would comply with all federal, state, and local laws. Finally, the Air Force has not identified any significant potential for cumulative impacts (as discussed in Chapter 4). Therefore, based on the context, intensity, and duration of impacts identified in this LEIS, the Air Force has not identified significant beneficial impacts under the Proposed Action and Alternatives, but has identified the potential for significant adverse impacts to land use and recreation, visual resources, and wilderness under certain alternatives.

2.9 MITIGATION

Specified mitigation measures have been identified, and analyzed, and will be carried forward in implementing the selected actions. Some impacts are mitigated through avoidance, by incorporating proposed mitigation measures into the design of the alternatives carried forward. For alternatives where potential impacts are not mitigated by avoidance, potential mitigation measures are summarized in this section and analyzed under the appropriate resource area.

2.9.1 Defining a Mitigation Measure

The mitigation measures discussed and analyzed in an LEIS cover a range of issues generally addressing mitigation measures applied in the design of reasonable alternatives (i.e., mitigation by avoidance) or address mitigations not included in the design, but applied after the impact analysis. Mitigation measures are considered even for impacts that, by themselves, would not be considered “adverse.” The proposal is considered as a whole to address specific effects on the environment (regardless of the level of the impacts), and mitigation measures are developed and analyzed where it is feasible to do so.

CEQ regulations (at 40 CFR 1508.20) define mitigation in the following five ways:

1. **Avoiding** the impact altogether by not taking a certain action or parts of an action.
2. **Minimizing** impacts by limiting the degree or magnitude of the action, and its implementation.
3. **Rectifying** the impact by repairing, rehabilitating, or restoring the affected environment.
4. **Reducing or eliminating** the impact over time by preservation and maintenance operations during the life of the action.
5. **Compensating** for the impact by replacing or providing substitute resources or environments.

During the initial development of the proposed implementation of various alternatives for extending the withdrawal and expanding the boundaries of the NTTR, constraints were included in the screening standards. This meant that avoiding, minimizing, or reducing potential impacts was a priority guiding the development of alternatives. Congress will make the final decision on the alternatives through legislation; however, it is appropriate for the Air Force to identify mitigations and current management actions to be carried forward as well as identify potential mitigations that would be put in place depending upon the alternatives selected.

The Secretary of the Air Force and the Secretary of Interior would establish, by MOU, an Intergovernmental Executive Committee for the land withdrawn by Congress for the purpose of exchanging views, information, and advice relating to the management of the natural and cultural resources of the withdrawn and reserved lands and to proactively collaborate on studies and analyses developed in accordance with, but not limited to, NEPA, the *Fish and Wildlife Coordination Act* (16 USC 661, et seq.), NHPA (16 USC 470 et seq.), ESA (16 USC 1531 et seq.), and the *Sikes Act* (16 USC 670).

The MOU would include the following primary goals and objectives:

- Establish an Air Force-led Intergovernmental Executive Committee
- Develop/document communication, data sharing, and reporting procedures
- Coordinate biological and cultural resources management
- Establish procedures for coordinating changes of activity within the DNWR
- Establish reporting requirements for mitigation implementation
- Establish a Comprehensive Public Report (published every five years)

A suggested framework for the Intergovernmental Executive Committee would include selected representatives from the Air Force, USFWS, BLM, DOE, NDOW, and other appropriate government agencies. The Committee would be established for the purpose of reviewing and addressing biodiversity, environmental policy, and regulatory issues, as well as the exchange of views, information, and recommendations relating to adaptive management of natural and cultural resources of the lands withdrawn. The

Committee could operate in accordance with specific terms set forth in an MOU. The Committee is a potential solution to address concerns that were raised during public review by both federal agencies and the public. The internal structure of the Committee and frequency of meetings would be addressed in its charter.

Section 2.9.2 below provides potential mitigations identified through analyses that would serve to avoid or minimize potential adverse impacts.

2.9.2 Proposed Resource-Specific Mitigations and Management Actions to Reduce the Potential for Environmental Impacts

Noise

- Under all action alternatives, continue to provide information to range users, through the NTTR Supplement to AFI 13-212, *Range Planning and Operations*, regarding noise-sensitive areas, prior to conducting training or testing activities. This assists pilots in avoiding noise-related impacts. This action minimizes impacts across all action alternatives.

Air Quality

- Under all action alternatives, employ standard management measures for construction activities such as watering of graded areas, covering of soil stockpiles, and contour grading (if necessary), to minimize temporary generation of dust and particulate matter. This would serve to minimize air emissions associated with elements of the Proposed Action and across all action alternatives.
- On June 4, 2018 (83 *Federal Register* 25776–25848), the U.S. Environmental Protection Agency (EPA) issued a revision to 40 CFR Part 81, Subpart C, which designated non-attainment areas under the 2015 ozone standard. Nellis AFB and a small portion of the NTTR are located in the portion of Clark County, Nevada, that was designated as non-attainment with the revision to 40 CFR 81.329 (83 *Federal Register* 25819). The effective date of the designation is August 3, 2018 (83 *Federal Register* 25776). By operation of law, a General Conformity applicability analysis will be required to be completed for covered actions that are approved and scheduled for implementation to begin on, or after, August 2, 2019. If the General Conformity applicability analysis demonstrates that emissions of ozone precursor pollutants from a proposed action equal or exceed the applicable *de minimis* levels promulgated in 40 CFR 93.153(b)(1), then draft and final General Conformity determinations will be required before any emissions-related activities associated with that proposed action may proceed (42 USC 7506(c) and 40 CFR Part 93, Subpart B [40 CFR 93.150–165]).

Land Use, Recreation, and Visual Resources

- Measures to minimize visual impacts and light emissions, as practical, include the following:

- For all action alternatives, the Air Force would continue to site and design future facilities as described in Unified Facilities Criteria (UFC) 3-530-01, *Interior and Exterior Lighting Systems and Controls,* in order to minimize night-sky effects and reduce light trespass and glare. Examples include: design all lighting to provide the minimum illumination of an appropriate color needed to achieve safety and security objectives; be directed downward and shielded to focus illumination on the desired areas; be controlled with timers, sensors, and dimmers; be vehicle-mounted for nighttime maintenance work rather than permanently mounted; and use anti-glare light fixtures.
- For all action alternatives, in order to minimize landscape scarring where surface disturbance may occur by such actions as construction, troop movement, or training structure emplacement, the Air Force would evaluate the following: treatments such as thinning and feathering vegetation at project edges to smooth the transition between natural and built areas; salvaging landscape materials such as rock, soil, and vegetation for reuse; contouring soil borrow areas and other features to approximate natural slopes; using native vegetation to establish form, line, color, and texture consistent with the surrounding undisturbed landscape; distributing stockpiled topsoil to disturbed areas and replanting; removing or burying gravel or other surface treatments; and controlling noxious and invasive weeds.
- For Alternatives 2 and 3, the Air Force would evaluate development of a Facilities Design Plan for Reduced Visual Dominance. This may increase the visual harmony of new facilities with the natural landscape through:
  - Selecting appropriate materials and surface treatments for structures to reduce visual contrast, such as coloring the concrete to match the predominant color in the surrounding landform and using nonreflective materials.
  - Painting facilities a suitable color to reduce the contrast of the structures on the landscape.
  - Selecting the most appropriate color to as closely as possible match the predominant background colors of the immediate area for natural shadows, normal fading, and weathering.
  - Using topography and vegetation on the landscape to screen the view of new development and avoiding locating facilities near visually prominent landscape features.

- For all action alternatives, to address access issues for the South Range as well as the proposed expansion areas the Air Force will develop an Access Management Plan, in coordination with stakeholders determined by the Intergovernmental Executive Committee. (Stakeholders could consist of the

USFWS, U.S. Geological Survey [USGS], tribes, etc.) The Access Management Plan would evaluate and establish mechanisms and procedures for allowing access to withdrawn areas in support of scientific research, natural and cultural resources management programs (including the INRMP and ICRMP, respectively), and public affairs programs. Many of these mechanisms and procedures are currently in place, but the Access Management Plan would formalize the process so individual access requests would be submitted as outlined in the NTTR AFI 13-212 Supplement and evaluated based on each request's purpose and need. Criteria for legitimate purpose and need(s) would be developed and codified within the Access Management Plan. The Plan would be periodically reviewed by the Intergovernmental Executive Committee and associated Plan stakeholders to determine the efficacy of the Plan and identify any access-related issues and revisions/adjustments to established procedures and mechanisms for access.

- Examples of criteria for access could include, but not be limited to:
    - Scientific Research Purposes – Access for purposes of natural or cultural resources studies. Examples of scientific research access could include gathering of sensitive species and migratory bird data, habitat data, archaeological and historic resource data, and other science-based data collection efforts.
    - Cultural/Religious Need – Access associated with cultural or religious need. As an example, some areas within the proposed withdrawal areas hold cultural and religious significance to Native American tribes and some members of the public who have historical ties to land areas and features (e.g., homesteads, mines, and gravesites). Tribes and other stakeholders need access to these sites in some fashion to support their cultural and religious heritage. For example, tribes will continue to conduct traditional ceremonies associated with pine nut gathering.
    - Natural Resource Management – Access for purposes of natural resources management activities conducted by groups not affiliated with the Air Force. The USFWS, USGS, NDOW, Fraternity of the Desert Bighorn, and others require access to land areas in support of natural resource management activities (e.g., maintenance of guzzlers, habitat restoration).
    - Public Affairs – Access in support of public and community relations. Examples include tours to ecologically or culturally significant areas, demonstrations of training activities on the withdrawal areas, and production of public communication materials such as videos.
- If the request for access is approved, the appropriate level of access would be determined based on the purpose and need for the request, and access allowances would be based on the following "access tiers," or combination of access tiers, as appropriate:

- Direct Physical Access – Direct physical access means actual access to the land areas in question. Direct access is currently granted on a case-by-case basis in accordance with the NTTR Supplement to AFI 13-212. This would continue under withdrawal renewal and/or expansion, with consideration of the purpose and need of the individual request as described above and as the mission schedule allows. Examples of opportunities for direct physical access may include conducting bird surveys, vegetation/habitat surveys, access to culturally significant sites, access to guzzlers, access for hunting (e.g., annual bighorn sheep hunt), and access for cultural representative tours. The Access Management Plan would further identify and codify duration and frequency of opportunities for direct access. As an example, potential training downtimes (e.g., range decontamination and holidays, where bombing ranges are closed for a period of time) could be leveraged to provide opportunities for direct access.
- Virtual Access – Virtual access includes access to data, imagery, and other information-related aspects associated with the land areas in question. As an example, virtual access could include game camera shots available online, reports and data derived from NTTR natural resource management efforts, and other data/information useful in informing the aforementioned criteria.
- Compensatory Access – Compensatory access includes compensating the loss of access to one area by establishing mechanisms for access to other areas that are currently difficult to access or inaccessible. As an example, because the withdrawal may result in loss of access to existing recreational areas in the DNWR such as the Sheep Mountain Range due to closure of Alamo Road, the Air Force could provide resources for road improvements or trail development/improvements in other areas of the DNWR Complex where access is currently difficult or non-existent due to existing conditions. For example, this could include improvements to Mormon Well Road, the area around Moapa Wildlife Refuge, or opportunities on other federal lands. This may require additional Congressional appropriations.

Socioeconomics

- For all action alternatives, to minimize potential conflicts between NTTR operations and population, housing, and economic activity in the region (to include grazing and mining, OHV recreation, and dispersed recreation), the Air Force would continue coordination between the military and federal land management agencies as well as local and regional planning departments.

  For Alternatives 3A/3A-1 and 3B, impacts to the energy Corridor 18-224 would be mitigated through coordination with NTTR to gain access or by construction of the proposed boundary fence along the eastern boundary of energy Corridor 18-224 within the proposed safety buffer area.

- For Alternatives 3A/3A-1 and 3B, if construction within the Section 368 energy corridor occurs, then the Interagency Operating Procedures from the Record of Decision for the *Final Programmatic Environmental Impact Statement, Designation of Energy Corridors on Federal Land in the 11 Western States* (DOE, 2009) will be evaluated for potential implementation.

Biological Resources

General

Under all action alternatives, the INRMP will be revised under authority of AFI 32-7064, *Integrated Natural Resources Management,* as implemented by Air Force Policy Directive 32-70, *Environmental Quality*, and DoD Instruction 4715.3, *Environmental Conservation Program*. The authority to establish natural resources management programs at DoD installations is provided by 16 USC 670 (the *Sikes Act*, Conservation Programs on Military Installations). A primary goal of the INRMP is to maintain ecosystem integrity and dynamics on the NTTR without compromising the military mission. The INRMP is a cooperative effort between other federal agencies as well as Nevada stakeholders, and the Air Force implements the biological resources guidelines of the INRMP. Through various existing program offices and current practices, NTTR planners, with user group support, will:

- Develop guidance on environmental restrictions and compliance requirements, to include mitigations and environmental constraints, and associated consultations, as well as the INRMP.
- Provide restrictions to unit commanders and training personnel (through NTTR Range Safety and Operations Procedures annual briefings, additional site-specific environmental briefings, and/or the Center Scheduling Enterprise).
- Document and resolve any issues related to environmental compliance with the cooperating agencies upon notice of any compliance issues.

The following specific biological resources mitigations would be implemented under all action alternatives.

- Provide information to range users, prior to conducting training or testing activities, regarding restrictions based on biologically sensitive areas and impacts on wildlife. This mitigation minimizes impacts across all action alternatives.
- The Air Force and USFWS would explore jointly funding permanent position(s) that would be located at Nellis AFB to work directly with Air Force personnel on management of biological resources. This could be done under the Interagency Agreement for the Conservation of Natural Resources on Air Force Controlled Lands between USFWS and the Air Force.

Vegetation:

- Under all action alternatives, ensure the INRMP requires monitoring of any habitat restoration sites on the NTTR.

- Construction projects or military actions under all action alternatives will evaluate implementation of the following vegetation management guidelines/ mitigations to minimize or avoid direct impacts to vegetation during ground disturbance activities:
    - Mission actions could be planned and sited in a manner to avoid sensitive plant communities, species, and habitat whenever possible. Similarly, riparian vegetation communities associated with springs, seeps, and wetlands could also be avoided wherever possible.
- For activities involving soil disturbance or vegetation removal under all action alternatives, the Air Force will consider implementing the following:
    - For areas that would be temporarily disturbed or where restoration is proposed, the top 6 inches of soil may (if required by federal resource agencies) be excavated separately from deeper soils and stockpiled in a separate location. Any excavations should be backfilled with deep soils first, with the topsoil being backfilled as the final layer. This allows the site to have a final layer of soil that approximates original soil conditions and that contains a relatively healthy seed bank for regrowth of vegetation, thus rectifying potential soil displacement.
    - Soils may be lightly rolled or compacted to reduce the potential for wind erosion.
    - Native plants may be installed (seeded or planted) so they are allowed to germinate following the first storm event after project completion. Initial irrigation may be used to stimulate germination of seedling plants but ought not to be continued to prevent adaptation of the plants to an artificially wet environment. If nursery stock is used for replanting, all plants should be native and endemic to the specific area. This would rectify loss of vegetation during ground disturbance.
- Under all action alternatives, to minimize the spread of invasive plant species throughout the NTTR and proposed expansion areas, the Air Force will consider the following:
    - Encroachment of invasive plants in disturbed or restored areas should be prevented, and any invasive plants that become established should be removed.
    - Excavation and construction equipment should be cleaned thoroughly before traveling from one area to another on the NTTR.
    - Off-road vehicle use should be minimized whenever possible to decrease the spread of invasive species such as red brome, Russian thistle, halogeton, and cheatgrass.
    - Wherever possible, maintenance of road shoulders ought to be minimized to prevent the spread of Russian thistle, halogeton, and cheatgrass. Those areas should be managed to develop native plant populations.

- To minimize impacts of grazing on vegetation communities under all action alternatives, no new livestock grazing allotments and no forest product removal may be allowed on the NTTR and proposed expansion areas. However, the Air Force may work to accommodate those ranchers that have current livestock grazing allotments in proposed expansion areas.
- For all action alternatives, in order to further avoid, minimize, or reduce impacts over time, long-term monitoring of NTTR and proposed expansion area vegetation could be conducted, to include high-resolution aerial photos (taken every five years). Natural resource managers can use monitoring to assess any major changes in vegetation characteristics (such as invasion of plant species, changes in hydrology, disturbance to soils, and other alterations of the native habitat). If significant changes are observed, the Air Force could evaluate the need to investigate and assess the areas to determine the cause of the change and take appropriate actions.
- Under Alternative 3, ensure the INRMP requires the habitat assessment and vegetation characterization for expansion areas if selected.

Special Status Plant Species:

- For construction projects or military actions, under all action alternatives, the Air Force will consider employing the following management guidelines for special status plants species (those considered sensitive or rare):
    - In order to avoid direct impacts to special status plant species from ground disturbance, the geographic information system (GIS) database could be reviewed during project planning to determine if the site of the action contains sensitive or rare plant species, including cacti and Joshua trees, or their habitats. If sensitive plant populations are identified, the action may be modified to avoid or minimize impacts to the rare plants where practical.
    - If impacts to rare populations cannot be avoided, methods of mitigation should be evaluated, which may include transplanting the plant population to another suitable habitat or planting substitutes to compensate for any loss. A location should be selected such that it can be avoided by future impacts if practical.

Special Status Wildlife Species:

The following would apply to all action alternatives:

- Ensure the INRMP requires annual surveys of the desert bighorn sheep population level on the NTTR. For example, surveying could be conducted by air, of the major mountain ranges within the NTTR, including the Sheep Range on the DNWR.
- Based on Intergovernmental Executive Committee direction, ensure the INRMP requires monitoring desert bighorn sheep movements. For example, collaring and health checks could be conducted on the sheep population as well as modeling/mapping spatial and temporal movements and location of

high use and critical areas such as preferred corridors between mountain ranges. Desert bighorn sheep movements, establishment of a 1-mile buffer area around lambing areas, food and water sources, or other areas critical to their well-being could be identified for consideration in planning military activities.

- Ensure the INRMP requires an annual survey of water sources. For example, a five-year cumulative survey of the NTTR could be conducted for natural water sources. The Air Force would continue to support USFWS efforts to assess man-made water sources maintained by non-DoD users, such as Fraternity of the Desert Bighorn, to ensure they are adequate for desert bighorn sheep and are not concentrating animals into areas incapable of sustaining them.
- Ensure the INRMP prescribes procedures for surveys on the NTTR for amphibians and reptiles include the Amargosa toad.
- Ensure the INRMP prescribes procedures for surveys on the NTTR for birds include the greater sage grouse.

Construction projects or military actions will consider employing the following management guidelines for special status wildlife species (which include bats, reptiles and amphibians, mammals, and wild horses):

- To avoid, reduce, or eliminate potential direct impacts to bats:
    - If an action potentially impacts mines, wooded areas, seeps, springs, or abandoned structures, the areas could be surveyed to determine if bats are present and if those bats are species of concern that should be conserved.
    - Potential locations of unimproved runways could be surveyed to assess bat activity, especially in mines, abandoned buildings, and springs or seeps. If necessary, bat roosts in common flying areas could be closed and bats moved to another area, if possible. Closing areas such as mine shafts, etc., that do not have bat presence would mitigate direct impacts, by not allowing new use.
    - In areas that do not conflict with the military mission, the Air Force could consider using management guidelines for bats documented in the Nevada Bat Conservation Plan (Nevada Bat Working Group, 2006). Any relocation attempt should adhere to established guidelines to minimize impacts to bats (Ruffell, Guilbert, & Parsons, 2009).
- To avoid, reduce, or eliminate potential direct impacts to special status reptiles, amphibians, small mammals, or wild horses:
    - Prior to the implementation and planning of any construction activity, the site will be surveyed to determine the presence of any of these species. If possible, construction plans could be altered to avoid impacts to any specials status, sensitive, rare, or uncommon species. The NDOW

protocol for protection of the banded Gila monster (see Appendix H, Biological Resources) should be implemented when possible.

- During any other surveys or projects, biologists and other qualified personnel would document the location and species of any reptiles and amphibians observed.
- The Air Force will continue to support the BLM management process for wild horse population surveys.

Migratory Birds, Bald and Golden Eagles:

The following would apply to all action alternatives:

- To comply with Incidental Take and Eagle Nest Take Regulations, activities would be located and scheduled to avoid or minimize adverse impacts to golden eagles, known nests and migratory birds, and bird/wildlife-aircraft strike hazard (BASH) issues (USFWS, 2016a).
  - In order to avoid, reduce, or eliminate potential direct impacts to migratory birds and bald and golden eagles, the Air Force could evaluate whether low-level flight paths used by aircraft traverse areas where habitat conducive to nesting or foraging by significant populations of birds may be present. If information is not available, the 99th Civil Engineering Squadron (99 CES) could survey the areas. Flight paths could then be adjusted to avoid these areas.
  - All projects and proposed mission actions may also be reviewed to determine if they will impact nesting areas of raptors.
- Ensure the INRMP requires annual surveying of migratory birds, golden eagles, and raptors on the NTTR. For example, surveying could include the migratory bird and raptor habitat and subset of habitat occupied by non-raptor species within the NTTR.
- Ensure the INRMP requires monitoring of nesting and fledgling success for golden eagles on the NTTR. Ensure the BASH component of the INRMP requires that a procedure for identifying species is outlined in the BASH Plan. The Air Force would continue to avoid low-level flights with the potential to affect migratory birds in and around the Pahranagat Wildlife Refuge, the headwaters of the Amargosa River, and Crystal Springs, as long as circumstances indicate it is necessary.

Desert Tortoise:

The following would apply to all action alternatives:

- Ensure the INRMP requires an annual survey of the Mojave desert tortoise population level on NTTR. For example, surveying could be conducted, in coordination with the Desert Tortoise Recovery Office, of Mojave desert tortoise habitat within the NTTR and areas of critical importance to the desert tortoise within each survey area identified.

- Ensure the INRMP requires cooperation with USFWS to address potential contaminants impacting the Mojave desert tortoise. For example, procedures could be established for collecting remains or other materials for analysis to determine whether contaminants are impacting Mojave desert tortoises and, if so, determine a solution.
- Specific mitigations measures, derived from the current NTTR Desert Tortoise Management Plan (99 CES/CEIEA, 2015), are described in Appendix H, Biological Resources, and proposed conservation measures associated with the Biological Assessment resulting from the Section 7 Consultation process are included in Appendix B, Agency Consultation and Coordination. These conservation measures would characterize a plan of action if the desert tortoise or its habitat is compromised, although avoidance of the desert tortoise habitat typically would be the preferred mitigation practice
- It is anticipated that the USFWS will issue a Biological Opinion, which will identify terms and conditions for operating on any withdrawn lands.

Fencing:

The following would apply to Alternative 3:

- The following mitigation measures, adapted from the BLM Handbook H-1741-1: Fencing (BLM, 1989), would be implemented to reduce potential adverse impacts to biological resources from fence installation in proposed expansion areas:
    - Minimize direct removal of vegetation and ground disturbance. Avoid bulldozer clearing or other major soil disturbing methods. In brushy areas, keep the cleared area to the minimum needed to allow construction. In areas with heavy vegetation, consider irregularly shaped fence line clearings rather than those with uniform width. Mechanical clearing can be successful if accompanied by rehabilitation actions that minimize soil loss and avoid long-term contrasts in vegetative cover.
    - Consultation with the USFWS is required if a proposed fencing project may affect a federally listed species. In addition, consultation with other cooperating agencies may be required if federally listed species, species proposed for listing, candidate species, state-listed species, or other special sensitive species have the potential to occur within or otherwise be affected by a proposed fencing project.
    - In places where watershed conditions create the potential for a large amount of runoff, special drainage crossing structures (sometimes called “water gaps”) could be used. Designs of this type of fencing vary, and need to consider the field situation and purpose of the fencing. The need for periodic reconstruction or major maintenance can be substantially reduced if this type of fence structure is used.

- Periodic monitoring of the fence and maintaining the fence in a usable condition, consistent with the original as-built standards, would be conducted. In addition, monitoring should include the fence line and access roads for invasive plant species.
- Major reconstruction or replacement should occur only when construction or design inadequacies, or the normal effects of use and environmental influences, leads to sufficient wear and deterioration that replacement is required.

Cultural Resources

The following would apply to all action alternatives:

- The Air Force will consider as per the installation (Nellis, Creech, and the NTTR) ICRMP (2012b) specific mitigations, management actions, and/or BMPs that would be presented as part of a treatment plan if cultural resources are threatened, although avoidance of the resource typically would be the preferred mitigation practice. For example, continue to restrict access and military operations around sensitive cultural sites, such as the Pintwater Cave. If the Air Force finds an undertaking may have an adverse effect on historic properties, Nellis AFB will consult with the Nevada SHPO, tribes, interested parties, and the Advisory Council on Historic Preservation to prepare a treatment plan to resolve adverse effects.
- In accordance with the ICRMP, conduct annual site monitoring of eligible cultural areas, which includes Pintwater Cave and Kawich Range (e.g., the Basket Site).
- In conjunction with the LEIS baseline ethnographic studies, the Air Force, in coordination with the tribes, will continue to develop ethnographic information along with archaeological studies.
- The Air Force recognizes the rights of Native American tribes and other entities with historical ties to access religious sites, objects, and historical resources on lands under Air Force control, within the limitations of the military mission. The Air Force will continue to provide a process for continued access as outlined in Section 2.2.1.
- Provide information to range users, prior to conducting training or testing activities, regarding restrictions and avoidance areas derived from culturally sensitive areas (specific cultural features will not be identified). This mitigation minimizes impacts across all action alternatives.
- The Air Force will continue to host a semi-annual meeting with federally recognized tribes through the CGTO or other appropriate forum. This process was created through dialogue with the tribes during the 1999 Withdrawal process.
- The Air Force will continue to conduct government-to-government consultation with federally recognized tribes as appropriate, for any activities that have the potential to adversely affect cultural resources. As a result, any

future undertaking in this area could require additional consultation under NEPA and Section 106 of the NHPA, depending on the scope and location of the activity.

Earth Resources

- In general, to avoid, reduce, or eliminate potential erosion impacts under all action alternatives, the most sensitive areas prone to erosion (loose soils, slumps and slopes, seep/spring banks, etc.) from ground-disturbing activities may be avoided. If avoidance is not possible, the Air Force may consider implementation of mitigations (discussed under Air Quality and Water Resources in this section) to minimize impacts to earth resources from erosion.

Water Resources

- For all action alternatives, to avoid, minimize, or reduce the potential for direct impacts to groundwater, aquatic environments, and other surface water resources, including indirect effects resulting from soil erosion, the following management requirements would be considered:
    - Avoid altering natural flow patterns of seeps and springs by diverting water, causing siltation, or damming any portion of seeps or springs.
    - Keep wheeled vehicles to existing trails/roads, except for missions that have been approved for off-road vehicle use.
    - Trenches dug for IW training purposes should be filled immediately after use.
    - Construction activities could be phased to limit the soil exposure for long periods of time.
    - Where applicable, erosion can be reduced by using rough grade slopes or terraced slopes.
    - To reduce overall soil exposure from construction activities, consider retaining as much area of existing undisturbed vegetation as possible.
    - Do not use seeps and springs or other water bodies as sediment traps.
    - Minimize the size of troop units, rotate troop movement corridors, and avoid troop movement through areas that show signs of erosion.
    - Avoid use of exploding ordnance within 200 feet of a well or natural spring.
    - Avoid ground-disturbing activities in areas where known seeps, springs, and other water resources are located.
- For all action alternatives, the Air Force water usage information for the Amargosa basin has been provided to USGS in the past, and the Air Force will work to ensure it is included in current DOI regional modeling. The Air

Force is committed to working with USGS to address regional groundwater modeling concerns associated with the Amargosa basin.

Transportation

- To minimize any potential transportation impacts from road closures under Alternative 3, the Air Force would provide advanced notice to the public regarding any permanent or temporary road closures associated with withdrawn lands. This would allow the public sufficient time to make alternate transportation arrangements.

2.9.3 Unavoidable Impacts

To the extent possible, mitigation measures, such as those identified in Section 2.9.2 (Mitigation), would be applied to reduce potential effects to acceptable levels. However, some impacts that cannot be mitigated would occur. Some of these impacts could be considered adverse or annoying to individuals potentially affected.

Noise

- Operational activities (flight operations, munitions use, vehicles, etc.) would continue to generate noise at or slightly above current levels, so surrounding communities, persons, and/or sensitive receptors may experience some annoyance. However, noise levels would not increase perceptibly above baseline levels (see Section 3.2.2).

Land Use, Recreation, and Visual Resources

- Unavoidable adverse impacts associated with land use and recreation include no longer managing the areas that had been proposed for wilderness designation in the South Range as wilderness under Alternative 2, loss of access to one active mining claim under Alternative 3A and 3A-1 (Range 77 withdrawal area), and elimination of existing recreational uses (except designated sheep hunts) within all proposed Alternative 3 withdrawal areas (see Section 3.4.2.4).
- The introduction and ongoing presence of equipment, structures, fencing, roads, and other elements of the proposed action alternatives could have a long-term impact on the visual character of the site. Areas of continued surface and vegetation disturbance and the presence of structures would create visual contrast in form, line, color, and texture compared to existing conditions. Depending on the viewer's location relative to new features, structural elements introduced by a future project could block views. Restoring the natural, predisturbance visual character of a desert environment is extremely difficult, can take decades, and often is unsuccessful. Therefore, surface and vegetation disturbance could create long-term visual impacts due to the persistence of scars in arid and semi-arid landscapes and the presence of permanent facilities developed under the proposed action alternatives (see Section 3.4.2).

Wilderness and Wilderness Study Areas

- Adverse impacts to the solitude or primitive and unconfined recreation quality of wilderness areas, areas that were proposed for wilderness, and Wilderness Study Areas outside the NTTR land boundaries would result from noise associated with aircraft operations (see Section 3.5.2).
- Varying amounts of land area would no longer be managed as wilderness within the southern Nevada region.

Socioeconomics

- A reduction in PILT payments in Nye County associated with the Proposed Action would occur (see Section 3.6.2.4).
- Permanent and/or temporary closures to recreational areas (see Section 3.6.2.4) would occur.

Water Resources

- Metals and chemical constituents resulting from munitions and explosive materials would be deposited on the NTTR and would have the potential to migrate into surface waters or groundwater. There is no practical method to collect and remove such materials from large areas. Lead and explosive residues have been found in groundwater near the southern boundary of the NTTR, but concentrations were either below EPA and Air Force screening levels (lead) or below levels considered to affect human health (explosive residue) (see Section 3.11.2.2).

Transportation

- Unavoidable adverse impacts associated with transportation include temporary and/or permanent road/trail closures associated with safety footprints and other military activities within the South Range under Alternative 2 and the proposed Alternative 3 withdrawal areas (see Section 3.14.2).

2.10 NATIVE AMERICAN PERSPECTIVE ON THE DESCRIPTION OF ALTERNATIVES

2.10.1 Native American Perspective: Alternative Development and Screening

The CGTO is concerned about culturally perceived harmful land disturbing Air Force actions described in this chapter of this LEIS. We are concerned because many of these actions adversely impact the NTTR land and the proposed expansion areas, which in turn affect the Native American cultural landscape and lifeways.

Since 1996, Nellis Air Force Base has worked closely with 17 culturally affiliated tribes to provide opportunities for tribally appointed representatives through the Native American Interaction Program. Tribal representatives are provided opportunities to visit

areas within the NTTR to help identify resources as part of their co-management responsibilities to protect the land and its abundant cultural resources. The NTTR and proposed expansion areas described in the Nevada Test and Training Range (NTTR) Land Withdrawal contain important places, spiritual trails and landscapes of traditional and contemporary cultural significance. Air Force actions to engage tribes in a long-standing relationship are considered positive steps towards fulfilling its trust responsibility and incorporating co-management opportunities with the CGTO.

To further avert or minimize potential impacts, the CGTO recommends the Air Force and CGTO collectively develop co-management strategies to help protect the land through the following actions before continuing current or proposed activities:

- Conduct systematic ethnographic studies by a qualified ethnographer to work in collaboration with designated tribal representatives to study and understand resources on the NTTR for enhancing co-management opportunities.
- Identify areas that tribes consider are not culturally maintained or are out of balance from disrespect, isolation, or damage so balance can be restored in culturally appropriate ways.
- Avoid further harmful ground-disturbing activities to the extent practicable.
- Make mitigation of restorable areas a top priority by working closely with the CGTO.
- Avoid or minimize damage to geological formations, notwithstanding hydrological and biological resources that are integral to sustaining cultural and ecological landscapes, songscapes or storyscapes.
- Implement collaborative environmental restoration projects using techniques guided by traditional ecological knowledge and minimizing ground disturbance.
- Continue to pursue systematic consultations with Native Americans on a regular basis so potentially impacted resources can be readily identified and alternative solutions can be discussed and adverse impacts averted.
- Provide Native American people increased access as appropriate to interact with culturally significant areas for religious or ceremonial purposes to effectively restore ecological balance to the natural and spiritual harmony that lives within the boundaries of the NTTR.

The CGTO believes the continuation of Air Force and the CGTO annual meetings vital to upholding trust responsibility and providing briefings about current and proposed actions in greater depth to deliberate on potential impacts, while developing mutually acceptable mitigation measures. Accordingly, the Air Force must support activities that sustain tribal interactions and systematically evaluate resources in culturally appropriate ways to build capacity for addressing areas important to Native Americans. This is particularly important for those actions requiring analysis under National Environmental Policy Act (NEPA), including but not limited to target or emitter placement or other development that has the potential to impact important cultural resources on lands managed by the NTTR.

In the view of Native Americans, avoidance of any action that further disturbs the land or its resources on the NTTR or proposed expansion areas is desirable. The CGTO believes we have been created and placed on these lands to serve as its voice needed to sustain life. Because of our birth-right and strong cultural ties to our ancestral land, the CGTO believes we have undeniable rights to interact with its precious resources, coupled with the continuous obligation to protect it. The CGTO takes this responsibility very seriously and has provided input for the alternatives presented throughout Chapter 3 so we may fulfill this important obligation.

2.10.2 Native American Perspective: MCO Test/Training Capability

The LEIS references tribal interactions with the CGTO to evaluate cultural concerns relating to impacts from overflights to rockshelters and "*petroglyphics*" [sic]. The CGTO is unaware of any such term. Based on the description applied to *petroglyphics*, it is presumed the text is referencing *petroglyphs* or *pictographs commonly referred to as rock writings or storied rocks*. The CGTO suggests a modification to the text is necessary and requests a reference source and introduction to properly introduce any new terminology.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter of the LEIS concisely describes the environmental resources that may be affected by the alternatives, including the Proposed Action, and analyzes the potential impacts to those resources. The analysis in this LEIS is applied in proportion to the importance of the anticipated consequences (e.g., impacts). To ensure the LEIS properly considers substantive issues, the Air Force focused the analysis on important issues commensurate with the importance of anticipated impacts. The Air Force has deemphasized nonsubstantive issues. The affected environment includes all areas and lands that might be affected, to include natural, cultural, and socioeconomic resources they contain or support.

As stated in Sections 2.3.2 and 2.3.3, the analysis in this LEIS uses a projected 30 percent increase in test and training activities to provide a reference point for analytical comparisons. Therefore, aircraft operations, munitions expenditures, and motorized vehicular activity were analyzed for Alternatives 2 and 3 at operational tempos 30 percent greater than those levels stated for Alternative 1.

The land boundary under Alternative 3 would include the current NTTR boundary as outlined in Section 2.3.1, plus various options for additional lands needed for the operational and safety requirements described in Sections 1.4.1 through 1.4.3. Each of the subalternatives associated with Alternative 3 would require fencing but only on the proposed boundaries that do not abut the current NTTR boundary. The fencing would be constructed to meet BLM fencing requirements, dependent on the topography and wildlife present, as outlined in BLM Handbook H-1741-1: Fencing, and the objective of the fencing would be to provide a physical barrier to prevent public access while allowing wildlife passage. For example, if the topography in an area supports bighorn sheep predominantly, fencing would be constructed using BLM Handbook H-1741-1: Fencing, conducive to bighorn sheep passage.

However, to conduct programmatic analysis for the affected resources discussed in this chapter, the following fencing specifications were used. The fencing would consist of four strands of wire. The bottom strand would be smooth while the three upper wires would be barbed. The maximum fence height would 40 inches. Wire spacing from the ground up would be 16 inches, and then spacing between wires would be 6 inches, 6 inches, and 12 inches (i.e., 16 inches, 22 inches, 28 inches, and 40 inches above ground level), which is the standard for BLM antelope fencing.

The Air Force used the scoping process to identify substantive issues to be carried forward for analysis, deemphasize nonsubstantive issues, and assist in narrowing the scope of the LEIS. The LEIS reflects the focused analysis that scoping indicated was appropriate and beneficial to support the legislative proposal. The scope of the LEIS includes consideration of 14 resource areas. This chapter focuses on data reflecting the affected environment and environmental consequences associated with the existing withdrawal and proposed expansion areas.

3.1 AIRSPACE

3.1.1 Affected Environment

Although additional airspace is not a requirement at this time, the current airspace is not used to its full potential, and more efficient use of the airspace is critical. Therefore, this section is provided to help clarify and provide context for the NTTR and the overall use of the affected environment. Military airspace is generally established for national defense, national security, and national welfare. Special Activity Airspace (SAA) is the term often used to describe military airspace. For purposes of this document, SAA is considered any airspace having defined dimensions within the National Airspace System wherein limitations may be imposed on aircraft operations, such as Restricted Areas, Prohibited Areas, MOAs, ATCAAs, and any other designated airspace areas. SAA consists of two common types of airspace: SUA (i.e., Special Use Airspace) and Airspace for Special Use (ASU).

3.1.1.1 Description of Resource

For the Native American perspective on information in this section, please see Section 3.1.4 and Appendix K, paragraph 3.1.1.1.1.

SUA is airspace of defined dimensions identified by an area on the surface of the earth wherein activities must be confined because of their nature and/or wherein limitations may be imposed on aircraft operations that are not part of those activities. SUA includes the following types of charted airspace: MOAs, Restricted Areas, Warning Areas, Alert Areas, Prohibited Areas, and National Security Areas. Controlled Firing Areas (CFAs) are uncharted. With the exception of CFAs, SUA is depicted on aeronautical charts. Additional information on SUA may be found in the following publications: 14 CFR 73, Special Use Airspace; FAA Joint Order (JO) 7400.2, Procedures for Handling Airspace Matters (FAA, 2014); FAA JO 7400.8, Special Use Airspace; FAA JO 7610.4, Special Operations (FAA, n.d.); Flight Information Publications (FLIP): General Planning (Chapter 2), AP/1A, AP/2A, AP/3A, and AP/4A.

ASU is used to collectively identify non-SUA assets. Establishing certain types of ASU may not require coordination with the FAA. ASU includes the following types of airspace: Aerial Refueling (AR) tracks/anchors, ATCAA, Altitude Reservation, Low-Altitude Tactical Navigation (LATN) areas, Temporary Flight Restrictions, Cruise Missile Routes, Orbit Areas, Local Flying Areas, Military Training Routes (MTRs) (Instrument Routes and Visual Routes), and Slow Routes. Establishing these ASUs does not require a rule making process, and some (designated solely in military documents) do not require coordination with the FAA for establishment. Additional information on ASU may be found in the FAA JO 7610.4, Special Operations (FAA, n.d.), command or local military publications, and FLIP: General Planning, and AP/1B, Military Training Routes North and South America (DoD, 2017).

3.1.1.2 Region of Influence

Adding or eliminating SAA controlled by the Nellis Air Traffic Control Facility (NATCF) is not within the scope of any of the proposed alternatives analyzed in this LEIS; however, SAA is discussed to better define the context of the affected environment in which the NTTR is used. The FAA has designated SAA around Nellis AFB, including the NTTR, for the Air Force. The NATCF is staffed by military and DoD civilian air traffic controllers and is available, upon request, to provide traffic advisories and assist aircraft in remaining clear of SAA areas. With regard to the proposed land withdrawal, it should be noted that the NTTR ground space boundaries may differ from the air space boundaries in some areas. Specific airspace areas controlled by the NATCF are shown on Figure 3-1; below the map, the designated airspaces are listed by type.

3.1.1.3 Restricted Areas

Within or adjacent to the NTTR, there are eight Restricted Areas: R-4806E, R-4806W, R-4807A, R-4807B, R-4808N, R-4808S, R-4809A, and R-4809B. All of these areas contain operations that are hazardous to nonparticipating aircraft. During certain time periods, R-4806E, R-4806W, R-4807A, R-4807B, and R-4809 are authorized for transit with certain restrictions. The NATCF is the controlling agency for these areas. R-4808N and R-4808S are adjacent to the NTTR and are controlled by the DOE. Specific boundary points (latitude and longitude), as well as designated altitudes and times of use, can be found in FAA Order 7400.8Y, Special Use Airspace (FAA, 2016). While the outer boundary is published, it should be noted that internal subdivisions also exist to maximize effective utilization of the airspace.

3.1.1.4 Military Operations Areas

The Desert and Reveille North and South MOAs (and their associated ATCAAs) are located north of Nellis AFB and are available for transit by civil VFR aircraft. Although no VFR restrictions exist for transiting these areas, military aircraft are exempted from the provisions of 14 CFR 91.71 concerning acrobatic flight within federal airways and control zones. The training conducted within the Desert and Reveille North and South MOAs consists of high-speed operations, including supersonic flight at or above 5,000 feet above ground level (AGL) and abrupt aircraft maneuvers. The Desert MOA is subdivided into an Air Traffic Control transition corridor (Sally) and three training areas: Elgin, Caliente (Alpha, Bravo, and Charlie), and Coyote (Alpha, Bravo, Charlie, and Delta). There are two Reveille MOAs, Reveille North and Reveille South. ATCAA overlies the Desert MOA from Flight Level (FL) 180 to unlimited. Reveille North and South ATCAA extend from FL180 to FL600. For the Reveille North MOA/ATCAA, airspace requirements above FL300 must be requested/scheduled 30 days in advance.

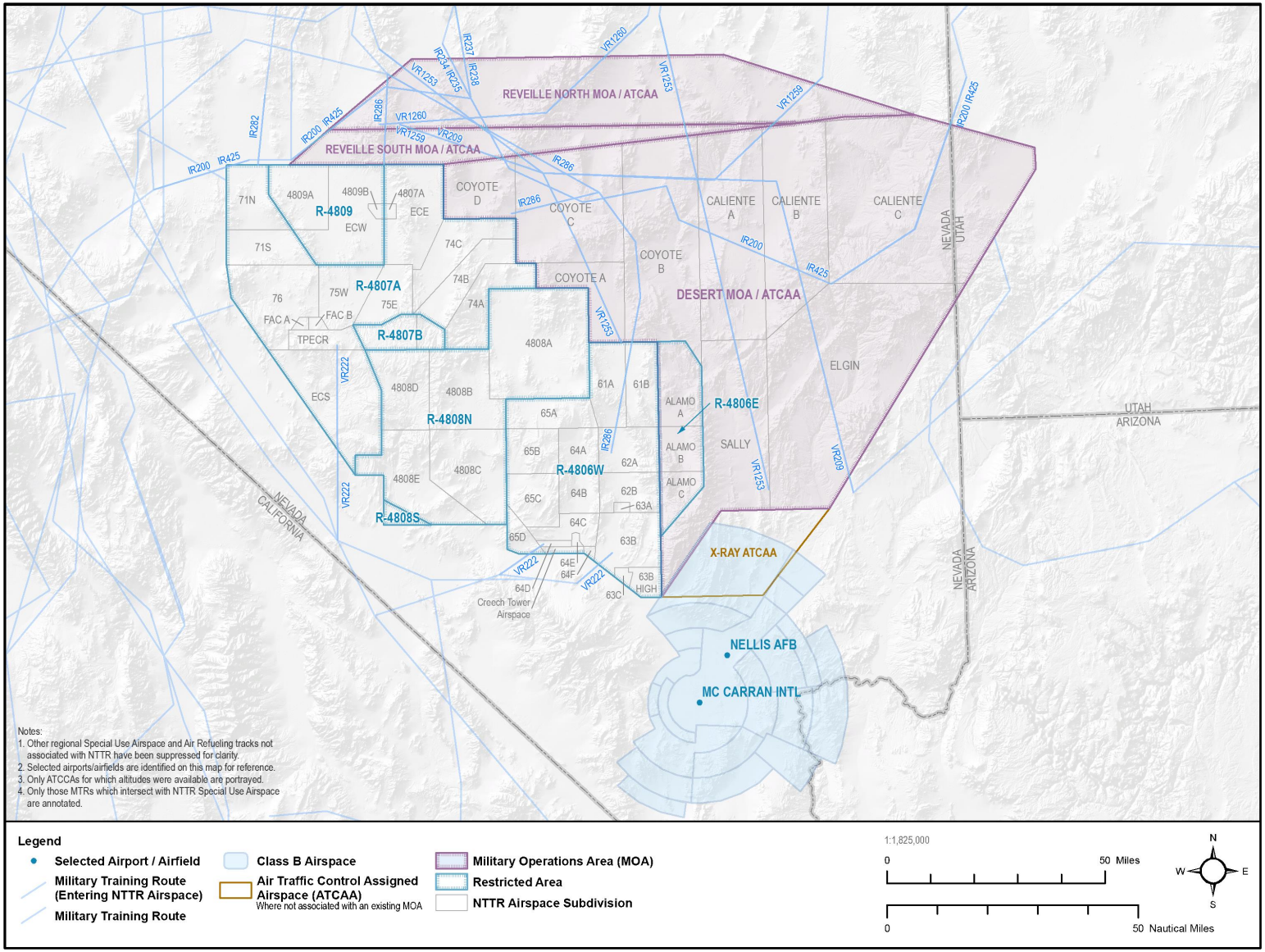

Figure 3-1. Airspace Map in the Vicinity of the NTTR

The NATCF is available to provide current status on activities and radar traffic advisories to VFR aircraft transiting the Desert and Reveille MOAs. Desert and Reveille North and South MOAs are depicted on the Las Vegas VFR Sectional and Low Altitude Enroute Charts. Specific boundary points (latitude and longitude) as well as designated altitudes and times of use can be found in FAA Order 7400.8Y, Special Use Airspace (FAA, 2016). Like the Restricted Areas, the outer boundary may be published, but internal subdivisions exist to maximize effective utilization of the airspace.

3.1.1.5 Alert Area 481 (A-481)

The Alert Area extends from Nellis AFB westward, 7,000 to 17,000 feet mean sea level (MSL). Military arrival and departure traffic transit this area, normally from 7,000 MSL to FL230. Although, the Alert Area begins at 7,000 MSL, military VFR departures may still occasionally pass through the VFR training area that lies beneath the Alert Area. Specific boundary points (latitude and longitude) as well as designated altitudes and times of use can be found in FAA Order 7400.8Y, Special Use Airspace (FAA, 2016).

3.1.1.6 Low-Altitude Tactical Navigation Area

Although LATN airspace is not charted, it is included in the flight planning process. LATN areas allow A-10, C-130, and helicopter aircraft to practice random tactical navigation and formations between 50 and 1,500 AGL. Airspeeds will be at or below 250 knots. There is a LATN area to the west of the Restricted Areas, south of the NTTR and east of the MOAs. These areas are normally used when no airspace is available within the NTTR.

3.1.1.7 Air Refueling Routes

There are two low-altitude VFR helicopter air refueling routes adjacent to the NTTR. AR-230V is west of Mesquite, Nevada, and extends from the LAS 025046 to the LAS 025081. Refueling altitudes are 6,000 to 8,000 MSL. Several types of helicopters and HC-130 refueling aircraft use AR-230V. All aircraft using AR-230V must remain under VFR. AR-231V is southeast of Beatty, Nevada, and extends from the BTY 124005 to the BTY 124042. Refueling altitudes are 6,000 to 8,000 MSL. Several types of helicopters and HC-130 refueling aircraft use AR-231V. All aircraft using AR-231V must remain under VFR. Additional refueling routes include AR-624, AR-625, and AR-635.

3.1.1.8 Military Training Routes

The MTR program was established by the FAA and the DoD for the purpose of conducting low-altitude and/or high-speed training. Generally, MTRs are established below 10,000 MSL for operations at speeds in excess of 250 knots. Each segment of an MTR is allocated a floor and ceiling altitude and lateral boundaries, described in nautical miles left and right of centerline. MTRs are established according to the criteria in FAA JO 7610.4, Special Operations (FAA, n.d.). Routes are established as either Instrument

Routes or Visual Routes. Instrument Routes are used by the DoD and associated Air Force Reserve and Air Guard units for the purpose of conducting low-altitude navigation and tactical training in both IFR and VFR weather conditions at airspeeds in excess of 250 knots below 10,000 MSL. Visual routes are used by the DoD and associated Air Force Reserve and Air Guard units for the purpose of conducting low-altitude navigation and tactical training under VFR weather conditions at airspeeds in excess of 250 knots below 10,000 MSL. The DoD has a speed exemption to 14 CFR 91.117 (see FAA JO 7610.4). The FAA has approval authority over Instrument Route establishment, and the appropriate DoD Major Command (MAJCOM) approves establishment of Visual Routes. Environmental documentation in accordance with 32 CFR 989 is required to establish MTRs. Visual Routes are processed through the FAA via an Air Force Representative, who assigns all route numbers. Ultimately, MTRs are published in FLIP AP/1B (DoD, 2017) and charted on the FLIP AP/1B Area Planning Chart and FAA sectional charts. Some MTRs are included on DoD low-altitude IFR en route charts.

Table 3-1 lists the MTRs in and around the NTTR airspace. For specific route descriptions (latitude/longitude, altitudes, route width, hours of operation, and specific operating procedures) refer to FLIP AP/1B, Military Training Routes North and South America.

Table 3-1. Military Training Routes Within or Adjacent to the NTTR

MTR	Scheduling Agency	NTTR Airspace Accessed
IR 286	Nellis AFB	Segments in Reveille North MOA, Reveille South MOA, Desert MOA, R-4806E, and R-4806W
IR 234	Edwards AFB	Final segment exits Reveille MOA
IR 235	Edwards AFB	Last segment enters Reveille MOA (reverse of IR 234)
IR 237	Edwards AFB	Last segment enters Reveille MOA
IR 238	Edwards AFB	First segment exits Reveille MOA (reverse of IR 237)
IR 425	Edwards AFB	Traverses Reveille and Desert MOAs
IR 200	NAS Point Mugu	Traverses Reveille and Desert MOAs (reverse of IR 425)
IR 206	NAS Point Mugu	None
IR 285	Offutt AFB	First segment exits North Desert MOA
IR 310	Offutt AFB	Last segment enters North Desert MOA (reverse of IR 285)
VR 1252	NAS Lemoore	None
VR 1253	NAS Lemoore	Traverses Desert MOA
VR 1259	NAS Lemoore	Traverses Reveille and Desert MOAs
VR 1260	NAS Lemoore	First and last segments in Reveille MOA
VR 208	NAS Lemoore	None
VR 209	NAS Lemoore	Traverses Reveille and Desert MOAs
VR 222	Nellis AFB	Final segments in R-4806W and R-4807A

AFB = Air Force Base; IR = Instrument Route; MOA = Military Operations Area; NAS = Naval Air Station; VR = Visual Route

3.1.2 Environmental Consequences

The Air Force recognizes that it is difficult to determine significance at the programmatic level. If the areas associated with the Proposed Action or alternatives are withdrawn for military use, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts, and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made. However, at a programmatic level, the Air Force does not anticipate significant impacts overall as they relate to airspace under any alternative.

3.1.2.1 Analysis Methodology

As previously mentioned in Section 3.1.1.2 (Region of Influence), none of the proposed alternatives would involve physical changes (external boundaries, dimensions, altitudes, etc.) to any airspace currently controlled by NATCF. As such, any changes will be limited to how the airspace is used. Although additional airspace is not required, certain airspace may be utilized more extensively, while use of other airspace units may decrease. Therefore, the utilization of the current airspace would likely be modified. The result could potentially change noise levels, patterns, and dispersal due to changes in aircraft operation. See the noise analysis in Section 3.2.2 for more details on potential noise impacts due to aircraft operation. Activities such as munitions use (bombs, small arms, blanks), ground disturbance (construction or troop movement), or emitter operations would not affect airspace under any of the alternatives and are not discussed further in this section.

3.1.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of the NTTR (North and South Range) – Status Quo

Under Alternative 1, congestion, range constraints, and the inability to properly test and train would continue across the NTTR.

3.1.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

Alternative 2 would provide ready access in the North and South Ranges through a Congressionally directed change in land management in the South Range that would effectively eliminate the need to manage the areas that were proposed for wilderness within the withdrawn lands as if they were wilderness, as well as reallocate primary jurisdiction between the USFWS and the Air Force for portions of the DNWR that overlap with the NTTR. This alternative would allow the NTTR to provide equal capabilities for MCO training and MCO T&E in the North Range and South Range, relieving scheduling challenges and increasing throughput. Threat emitters would be used to create a realistic IADS to maximize and enhance pilot training opportunities. There would be increased utilization of the airspace that overlies the South Range due

to an anticipated 30 percent increase in operations but ready access would allow better utilization of the airspace.

3.1.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

Alternatives 3A, 3A-1, and 3B would add land to create a safety buffer for the redesignated Range 77 and for the South Range, respectively. There would be no changes to airspace, but implementation of these alternatives could result in increased use and scheduling of the airspace in and around the proposed Range 77 and the South Range, respectively.

Alternative 3C would allow a two-axis front MCO concept and expand potential weapons safety footprints associated with the target area located on Range 62A. As with Alternative 2, there is anticipated to be a 30 percent increase in operations; however, this increase would not result in any changes to the existing airspace boundaries. While no changes would be made to the airspace boundaries, the future construction of two runways would likely result in increased use and scheduling within the South Range. However, it should be noted, as indicated in Section 2.3.3.4, any Alternative 3C future construction would require a site-specific NEPA analysis at that time.

3.1.2.5 Alternative 4 – Establish the Period of Withdrawal

The proposed withdrawal periods associated with Alternative 4—Alternative 4A (20-year withdrawal period), Alternative 4B (50-year withdrawal period), and Alternative 4C (indefinite)—must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect airspace, there are no specific impacts associated with Alternative 4, and it is not anticipated that any of the subalternatives (4A, 4B, or 4C) would impact how the airspace is used.

3.1.2.6 No Action Alternative

Under the No Action Alternative, existing airspace would not be affected by not extending the land withdrawal. However, without control of ground areas, the restricted airspace could not be used for its intended purpose of primarily supporting live-fire exercises and related military high-hazard activities. Nonhazardous airspace activities would continue to occur.

3.1.3 Proposed Resource-Specific Mitigations and Management Actions

No mitigations have been identified for airspace.

3.1.4 Native American Perspective: Airspace

The CGTO understands the existing air space will not change under the proposed land withdrawal. However, cultural views about the air within the proposed air space are described under Section 3.3.4 (Native American Perspective on Air Quality).

3.2 NOISE

3.2.1 Affected Environment

3.2.1.1 Description of Resource

For the Native American perspective on information in this section, please see Section 3.2.4.1 and Appendix K, paragraph 3.2.1.1.1.

Noise is defined as unwanted sound. Potential noise impacts are dependent on characteristics of the noise such as sound level, pitch, and duration. Noise impacts are also strongly influenced by characteristics of the noise receiver (i.e., persons, animals, or objects that hear or are affected by noise). Noise analysis considers potential impacts that could result in annoyance, speech interference, sleep disturbance, human health effects (auditory and nonauditory), wildlife impacts, and structural damage. Additional discussion of specific noise effects on other affected resources can be found in Section 3.6 (Socioeconomics), Section 3.7 (Environmental Justice), Section 3.8 (Biological Resources), and Section 3.9 (Cultural Resources). Appendix C (Noise) presents information on noise metrics and describes methods used to model aircraft and munitions noise levels.

Because both the duration and frequency of noise events also play a role in determining overall noise impact, several metrics are used that account for these factors. Each metric discussed below is used in the assessment of noise impacts in this LEIS. A more thorough explanation of these metrics can be found in Appendix C (Noise).

- A-weighted decibel (dBA) sound level measurements reflect the frequencies to which human hearing is most sensitive. Noise levels in this LEIS can be assumed to be A-weighted unless a different weighting is specified.
- Day-night average sound level (DNL [symbol - L_{dn}]) represents aircraft noise level averaged over a 24-hour period with a 10-decibel (dB) penalty to flights occurring between 10:00 PM and 7:00 AM to account for the added intrusiveness of noise during these hours.

- Sound exposure level (SEL) accounts for both the maximum sound level and the length of time a sound lasts.
- Maximum sound level (L_{max}) is the highest sound level measured (using time integration of either 1/8 second or 1 second) during a noise event. L_{max} decreases as altitude or distance from the observer increases and varies according to the type of aircraft, airspeed, and power setting.
- Peak Noise Exceeded by 15 Percent of Firing Events, or PK_{15}(met), accounts for weather-influenced statistical variation in received single-event peak noise levels, such as with munitions use. This metric is not frequency-weighted.
- C-weighted day-night average sound level (CDNL [symbol - L_{cdn}]) is the 24-hour day-night averaged C-weighted sound level computed for areas subjected to sonic booms and blasts from high explosives.
- Onset-rate adjusted monthly day-night average sound level (L_{dnmr}) is the measure used for subsonic aircraft noise in military airspace (ranges, MTRs, or MOAs).

3.2.1.2 Region of Influence

The region of influence (ROI) for noise includes the lands under and near NTTR airspace and airspace above the proposed expansion areas. This includes land under the SUAs, MOAs, and MTRs. For Nellis AFB, installation aircraft operations, such as takeoffs, landing, and touch-and-goes are not included in this analysis since these are already included in the installation noise analyses. However, this information was included for the analysis associated with Creech AFB since it is included within the NTTR boundary. The same airspace units would be utilized under all of the alternatives; however, the frequency of operations in some airspace units would increase under some alternatives. Noise environments in the vicinity of the NTTR are dominated by aircraft noise and munitions activities. Other noise sources include ground vehicles and other machinery.

3.2.1.3 Laws and Regulations

There are no specific legal limits that apply to military noise. In 1972, Congress passed the *Noise Control Act*, which imposed limitations on source noise levels of several types of equipment. However, because noise controls could, in some cases, reduce the combat effectiveness of military equipment, military equipment was exempted from these requirements. For the same reason, FAA limitations on civilian aircraft noise do not apply to military aircraft. The Air Force participated in the Federal Interagency Committee on Urban Noise, which developed guidelines for compatibility of land uses with elevated noise levels. Noise impacts are defined based on published guidelines on the compatibility of various land uses with noise and published scientific documents on noise effects.

3.2.1.4 Noise Modeling

The NOISEFILE database is used to represent noise data for each aircraft. NOISEFILE is used by the noise modeling software MR_NMAP and NOISEMAP to predict noise levels. Operational data were collected from pilots, air traffic controllers, aircraft maintainers, range operators, and other sources in accordance with standard data collection procedures.

The data were put into computerized noise models to generate estimates of noise levels. The following noise models were applied as appropriate for each type of noise.

Subsonic Noise

The MOA and Range NOISEMAP (MR_NMAP) suite of computer programs is used for computing subsonic aircraft noise underneath SUAs. Noise levels from aircraft operations beneath military airspace units were calculated using the L_{dnmr} metric.

The NOISEMAP suite of computer programs was used for computing subsonic aircraft noise in the vicinity of Creech AFB. Aircraft noise levels in the vicinity of Creech AFB were calculated and are presented using the DNL metric.

Supersonic Noise

The BOOMAP modeling software was used to model supersonic noise. BOOMAP accounts for the statistical variations in air combat maneuvers when computing CDNL levels and the number of sonic booms per month expected to reach the ground under an SUA. CDNL values are measured in C-weighted decibels and are denoted dBC.

Large-Caliber Weapon Noise

Noise from detonation of large-caliber weapons (20 millimeter or greater) is computed using DoD's Blast Noise (BNOISE) program. BNOISE is a collection of computer programs which together can produce CDNL contours for impulsive sources such as guns, artillery, mortars, demolitions, bombs, etc.

Construction Noise

Construction noise was evaluated using Roadway Construction Noise Model version 1.1, the Federal Highway Administration's standard model for the prediction of construction noise (U.S. Department of Transportation [USDOT], 2016). The Roadway Construction Noise Model has the capability to model types of construction equipment that would be expected to be the dominant construction-related noise sources associated with this aspect of the Proposed Action. All construction noise analyses assumed that a standard set of construction equipment would be used. Construction noise is expected to be limited to normal working hours (7:00 AM to 5:00 PM). Construction noise impacts are quantified using the metrics L_{max} and L_{10} (loudest 10 percent noise level) as calculated based on distance from a given receptor.

3.2.1.5 Baseline Noise Levels

Baseline aircraft noise levels for the NTTR were calculated using the models discussed above based on operations conducted in the NTTR airspace for calendar year 2015. As mentioned, these data were obtained from NTTR operators, pilots, schedulers, air traffic controllers, etc., using standard data collection methods.

Subsonic Noise

Table 3-2 presents the resulting noise levels for Restricted Areas, MOAs/ATCAAs and MTRs. The baseline L_{dnmr} values for Restricted Areas, MOAs/ATCAAs, and MTRs were calculated to vary from less than 45 dB to 69 dB. The baseline noise levels are also illustrated in Figure 3-2.

Table 3-2. Summary of L_{dnmr} Values for Special Use Airspaces

SUA Name	Baseline L_{dnmr} (dBA)	SUA Name	Baseline L_{dnmr} (dBA)
R-4806	60	Coyote	67
R-4807	66	Elgin	60
R-4808	<45	Reveille	61
R-4809	69	Sally	<45
Caliente	67	VR-209	<45
		VR-222	<45

< = less than; dBA = A-weighted decibels; L_{dnmr} = Onset-rate adjusted monthly day-night average sound level; SUA = Special Use Airspace

Creech AFB

The analysis of Creech AFB operations results in DNL contours of 65 to 85 dB plotted in increments of 5 dB for an average annual day condition (Figure 3-2 [Inset]). The 65-dB contour extends approximately 2 NM to the southwest and southeast mostly due to transient military and RQ-170 operation.

Under baseline conditions, a total of approximately 4,159 people live within areas affected by 65 to 69 dB DNL. Approximately 12 to 21 percent of the population in an area exposed to 65 to 70 dB DNL is highly annoyed by noise (see Section 3.7, Environmental Justice, for more on populations affected by noise).

Supersonic Aircraft Noise

Aircraft flight in excess of the speed of sound (Mach 1) generates a sonic boom. The BOOMAP software was used to analyze the operational data for supersonic flights and generate the CDNL values associated with these operations.

Table 3-3 and Figure 3-3 show the CDNL values associated with baseline supersonic operations. For example, Table 3-3 shows that the CDNL values for the baseline condition vary from 51 dBC to 61 dBC. The number of sonic booms expected to reach the ground per day varies from one to five. Under baseline conditions, there are minimally populated areas outside of the NTTR boundary that are exposed to 62 dB CDNL or greater due to supersonic booms (see Section 3.7, Environmental Justice, for more on populations affected by noise).

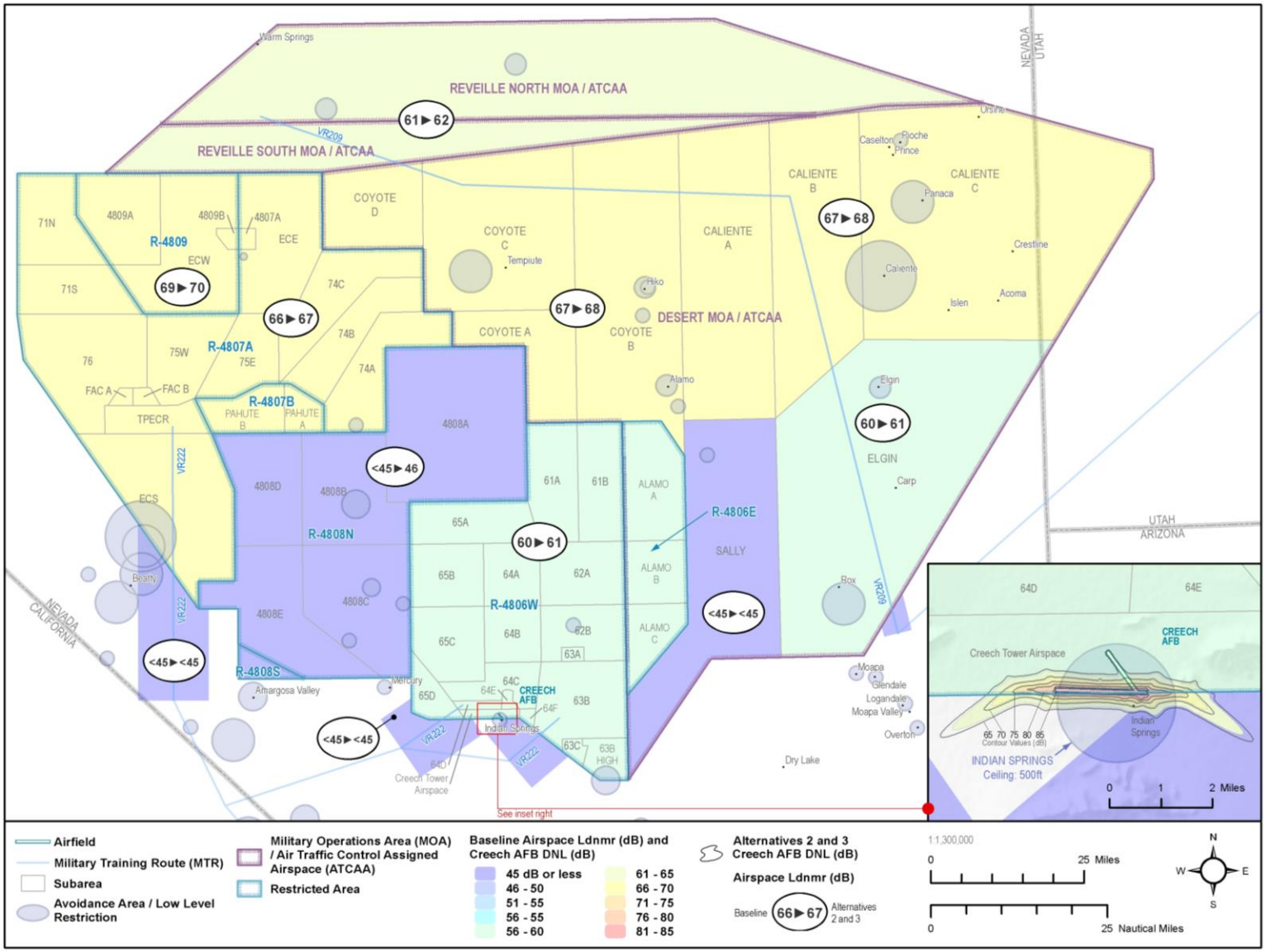

Figure 3-2. Subsonic Noise Exposure Within the NTTR

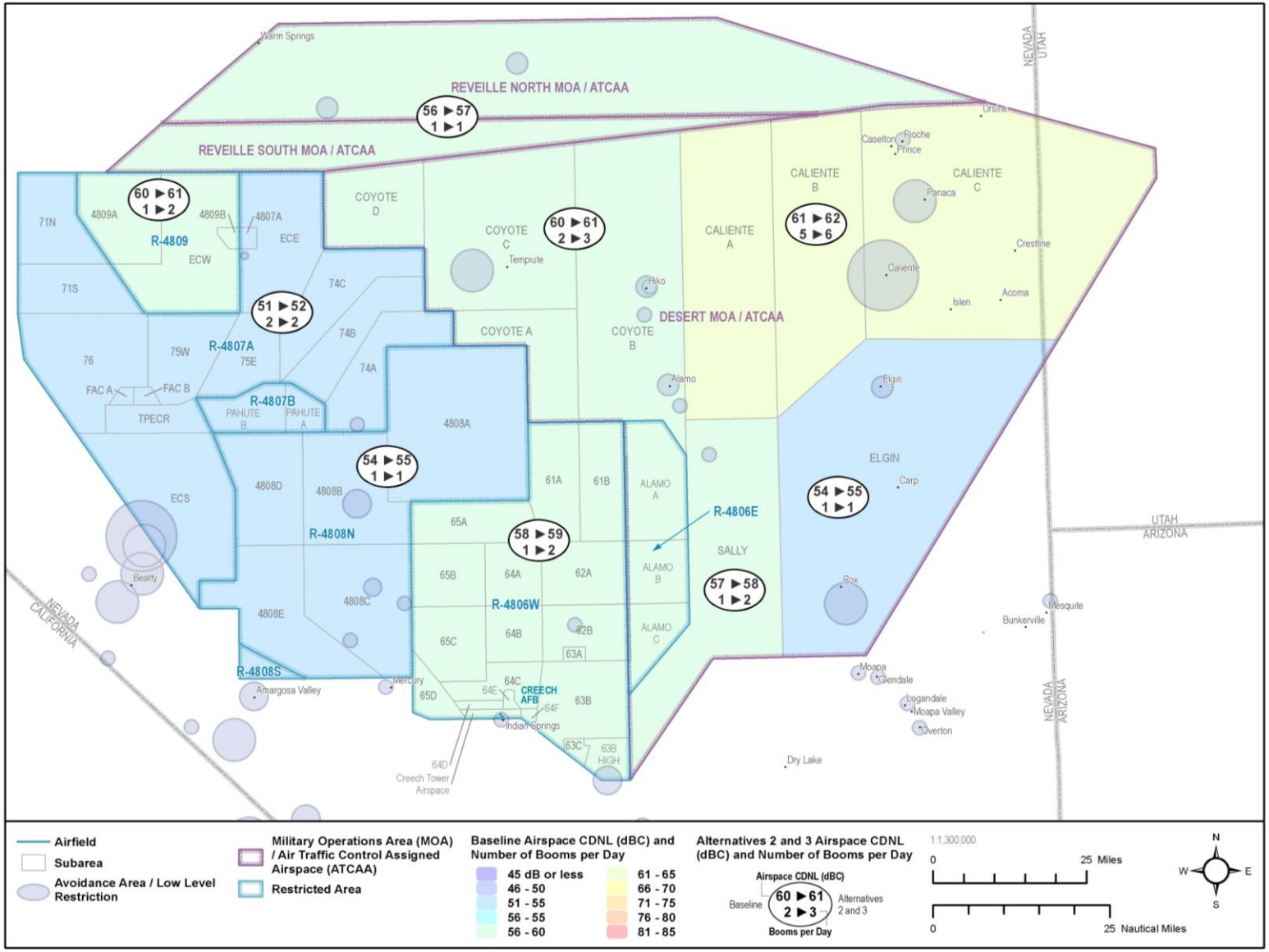

Figure 3-3. Supersonic Noise Exposure Within the NTTR

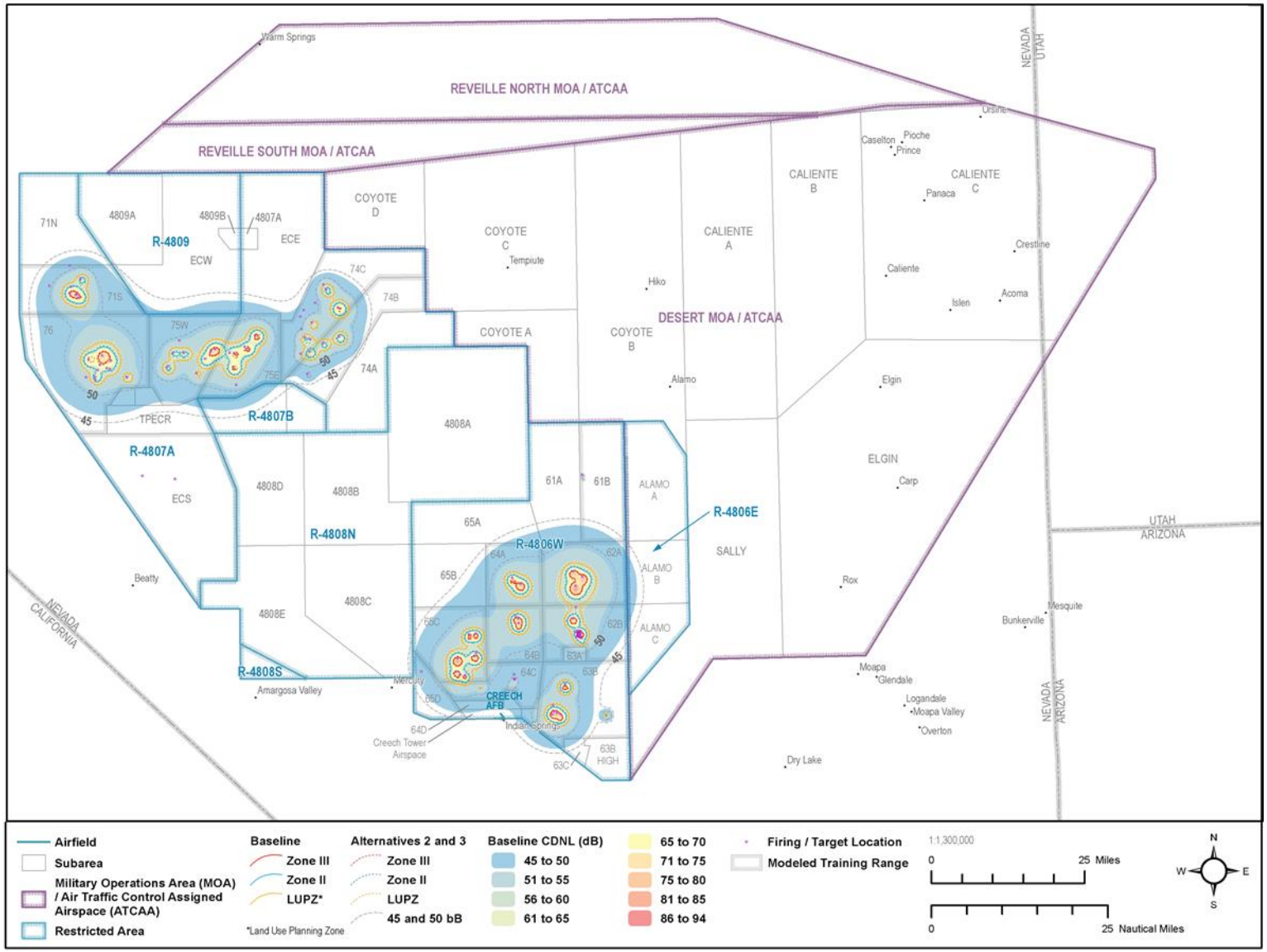

Figure 3-4. Large-Caliber Weapons Noise Exposure Within the NTTR

Table 3-3. Baseline Sonic Boom CDNL Values Within the NTTR

SUA Name	Baseline		SUA Name	Baseline	
	CDNL (dBC)	Booms per Day		CDNL (dBC)	Booms per Day
R-4806	58	1	Caliente	61	5
R-4807	51	2	Coyote	60	2
R-4808	54	1	Elgin	54	1
R-4809	60	1	Reveille	56	1
			Sally	57	1

dBC = C-weighted decibels; CDNL = C-weighted day-night average sound level; SUA = Special Use Airspace

Large-Caliber Weapon Noise

The BNOISE computer program was used to analyze the operational data for large-caliber weapons and to calculate the overall blast noise exposure in CDNL. The resulting noise levels are presented in Figure 3-4.

The CDNL contours for baseline conditions in Figure 3-4 are generally centered around the most active target complexes. The 57-dBC contours extend approximately 2 to 3 NM from active target areas.

Only a small area outside the NTTR boundary is exposed to 62 dB CDNL or greater due to large caliber weapons. However, review of satellite imagery shows there are no populations residing within these areas (see Section 3.7, Environmental Justice, for more on populations affected by noise).

Ground Disturbance

Ground-disturbing activities such as construction and maintenance operations and vehicle or troop movements do not generate sufficient noise to leave the NTTR boundary or affect members of the public. In general, the NTTR is remote and noise levels from construction equipment or vehicle noise from NTTR operations remain below the existing noise levels from vehicles and other sources associated with populated areas. Additionally, these activities are short in duration, and the noise environment returns to ambient levels following any construction, maintenance, or troop transport activities.

Emitter Operations

Conceptual emitter operation involves the running of a generator to power the emitter. Standard generator noise levels were used from the USDOT's Federal Highway Administration's extensive construction equipment noise database, with data obtained from numerous predicted and actual noise data sampling. Resulting noise levels at various receptor distances from the emitter operation sites are listed in Table 3-4. The noise associated with emitters is similar to running a large engine in a vehicle. This level of noise is unlikely to leave the NTTR boundaries and reach any members of the public.

Table 3-4. Noise Level Expected from Each Operating Emitter (Generator) Site

Distance to Receptor (feet)	L_{max} (dBA)	L_{10} (dBA)
1,100	74.6	74.6
200	68.6	68.6
300	65.1	65.1
400	62.6	62.6
500	60.6	60.5
600	59.0	59.0

dBA = A-weighted decibels; L_{10} = loudest 10% noise level; L_{max} = maximum noise level

3.2.2 Environmental Consequences

The Air Force understands the difficulty in determining significance of impacts at the programmatic level. If the areas associated with the Proposed Action are withdrawn for military use, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts, and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made. However, at a programmatic level, while the Air Force anticipates that under all action alternatives there may be impacts associated with noise (e.g., annoyance), at this time the Air Force has not identified these impacts as significant overall.

3.2.2.1 Analysis Methodology

AFI 32-7070, *Air Force Noise Program*, provides the overall framework for computing noise levels associated with aircraft operations within SUAs and in the vicinity of military airfields (U.S. Air Force, 2016a).

The primary effect of aircraft noise on exposed communities is one of annoyance, including activity interference, which includes speech interference and sleep disturbance. Noise annoyance is defined by the EPA as any negative subjective reaction on the part of an individual or group (EPA, 1974). The best available method for predicting community annoyance response to aircraft noise is the updated Schultz curve (sometimes called the “Air Force Curve”) (Table 3-5). The Schultz curve was validated by the Federal Interagency Committee on Noise (FICON) (1992) based on the additional data points collected by the Air Force, for use by Federal agencies in aircraft noise-related environmental impact analysis and by the American National Standards Institute as a standard on community responses to environmental noise (U.S. Air Force, 2016a).

Table 3-5. Relationship Between Annoyance and DNL

Noise Exposure (DNL)	Percent of Population Highly Annoyed
<65	<12.29
65–70	12.29–22.10
70–75	22.10–36.47
75–80	36.47–53.74

< = less than; DNL = day-night average sound level

There are several commonly recognized average noise level thresholds that are based on expected community reaction. The first is DNL of 65 dB. This is a level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like aviation, which unavoidably result in noise. Areas exposed to DNL above 65 dB generally are not considered suitable for residential use. The second is DNL of 55 dB, which was identified by the EPA as a level "…requisite to protect public health and welfare with an adequate margin of safety," (EPA, 1974). From a noise exposure perspective, that would be an ideal selection. However, financial and technical resources are generally not available to achieve that goal. Most agencies have identified DNL of 65 dB as a criterion that protects those most impacted by noise, and that often can be achieved on a practical basis (FICON, 1992). This corresponds to about 12 percent of the exposed population being highly annoyed. The third is DNL of 75 dB. This is the lowest level at which adverse health effects could be credible (EPA, 1974). For all practical purposes, DNL and L_{dnmr} are equivalent with the major differences being that DNL is based on the number of average annual day operations while L_{dnmr} is based on the month with the largest number of operations. Also, L_{dnmr} accounts for the startle effect of humans and/or animals from high speed jet aircraft overflying the terrain, which is not necessary when analyzing noise in the normal airdrome environment.

Community annoyance from sonic booms, firing of heavy weaponry, and other impulsive noises is predicted using CDNL. The correlation between CDNL and annoyance has been estimated based on community reaction to impulsive sounds over several years (CHABA, 1981). Values of the C-weighted equivalent to the Schultz curve are different than that of the Schultz curve itself. Table 3-6 shows the relationship between percentage of the population highly annoyed, DNL, and CDNL. If both continuous and impulsive noise occurs in the same area, impacts are assessed separately for each.

Table 3-6. Relationship Between Annoyance, DNL, and CDNL

CDNL	Percent Highly Annoyed	DNL
48	2	50
52	4	55
57	8	60
61	14	65
65	23	70
69	35	75

Source: (CHABA, 1981)
CDNL = C-weighted day-night average sound level; DNL = day-night average sound level

In a similar way, U.S. Army Regulation 200-1 (AR 200-1) (U.S. Army, 2007) provides the overall framework for modeling noise levels associated with large-caliber weapons noise on air-to-ground and ground-to-ground training ranges. Consistent with AR 200-1, munitions noise level results at 57, 62, and 70 dBC are reported to the Army Construction Engineering Research Laboratory as a quality assurance and verification of the large caliber noise modeling. AR 200-1 recommends the utilization of a Land Use Planning Zone (57 to 62 dBC) and a Noise Zone I (less than 62 dBC) where noise-sensitive land uses such as housing, schools, and medical facilities need to be carefully managed; a Noise Zone II (62 to 70 dBC) where noise-sensitive land uses are normally

not recommended; and a Noise Zone III (greater than 70 dBC) where noise-sensitive land uses are not recommended.

For all types of noise impacts, significance is determined based on the extent, context, and intensity of the impact in relation to relevant regulations, guidelines, and scientific documentation. Additional detail on noise analysis methodology can be found in Appendix C, Noise. Noise impacts on specific resources can be found in the respective resource's Environmental Consequences section, such as biological resources (Section 3.8.2), cultural resources (Section 3.9.2), land use (Section 3.4.2), and socioeconomics (Section 3.6.2).

During public hearings, some commenters asked about the process to address public noise concerns and complaints. The Air Force explained that complaints are addressed through the Public Affairs office at Nellis AFB, as outlined in AFI 32-7070, *Air Force Noise Program,* and specifically addressed in AFI 35-108, *Environmental Public Affairs*, which states:

> Noise Complaints. [Public Affairs (PA)] should handle noise complaints or queries directly and as completely as possible. PA should not refer callers to other bases or commands regardless of the aircraft origin or type. PA should provide timely, responsive, and factual answers to aircraft noise complaints in order to maintain positive media and community relations. PA should attend relevant installation meetings which are conducive to presenting the complaints, such as the Air Operations Board Meeting. Refer all claims to the installation office of the Staff Judge Advocate.

3.2.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

Aircraft Operations

For Alternative 1, aircraft operations would remain at the baseline levels discussed above. As listed in Table 3-2 and depicted in Figure 3-2, noise levels in the SUAs located in the southern portion of the NTTR, nearest populated areas, would remain at their existing levels, which are generally below an L_{dnmr} value of 45 dB except for R-4806W and Elgin, which are at an L_{dnmr} value of 60 dB, still well below the L_{dnmr} value of 65 dB level at which noise levels become a concern. Likewise, those SUAs in the northernmost portions of the NTTR would remain at the baseline 61-dB level, which is well below levels that result in land use compatibility concerns. Therefore, there would be no impact based on an increase in aircraft noise above the existing baseline noise environment.

Similarly, on-installation noise levels at Creech AFB would remain at the baseline levels discussed above, and the surrounding communities, wildlife on the NTTR, and potential cultural sites would not experience any additional noise beyond what has been already ongoing for years. As shown, noise levels above an L_{dnmr} value of 65 dB only extend off-installation in a small, remote area.

Supersonic noise levels would also remain at the existing baseline levels discussed above. Generally, sonic booms may or may not reach the ground depending on environmental and flight conditions. Several factors influence the trajectory of a sonic boom and its magnitude on the ground (e.g., aircraft altitude, temperature gradients). Furthermore, only one to five sonic booms would be generated in a given airspace region per day. Due to the large size of each airspace unit, booms within neighboring airspace regions would most often be separated geographically such that wildlife, structures, or neighboring communities would not typically experience numerous supersonic events on any given day.

However, the Air Force could continue providing information regarding noise sensitive areas and impacts on wildlife to military personnel, specifically pilots, prior to conducting training or testing activities. This would assist pilots in avoiding the creation of noise-related impacts. This action could minimize any impacts across all action alternatives.

Munitions Use

For Alternative 1, munitions use would remain at the baseline levels discussed in Section 3.2.1.5 (Baseline Noise Levels). Therefore, there would be no noise-related impact from munitions use with Alternative 1.

Ground Disturbance

Ground-disturbing activities such as construction and maintenance operations and vehicle or troop movements would remain at baseline levels and would not generate sufficient noise to leave the NTTR boundary or affect members of the public. Generally, noise levels from construction equipment or vehicle noise from NTTR operations would remain less than the existing noise levels from vehicles and other sources associated with populated areas. Additionally, these activities would continue to be short in duration, and the noise environment would return to ambient levels following any construction, maintenance, or troop transport activities. There would be no significant adverse impacts from noise associated with ground-disturbing activities with Alternative 1.

Emitter Operations

Noise associated with emitters would remain at the baseline levels discussed above. These would continue to be similar to running a large engine in a vehicle, and this level of noise would be unlikely to leave the NTTR boundaries and reach any members of the public or disturb wildlife or cultural sites. (See Table 3-4 for noise levels at various distances from emitter locations.) Therefore, there would be no significant adverse impacts from noise associated with emitter operations for Alternative 1, and noise levels would remain at or very near baseline levels.

3.2.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

Aircraft Operations

Table 3-7 and Figure 3-2 present the noise modeling results for Alternatives 2 and 3 (which are the same for aircraft noise). With a 30 percent increase in operations, the L_{dnmr} values for Restricted Areas, MOAs/ATCAAs, and MTRs would be expected to vary from less than 45 dB L_{dnmr} to 70 dB L_{dnmr}, with an average 1-dB L_{dnmr} increase in each individual airspace unit associated with the NTTR airspace complex.

For example, the L_{dnmr} value within R-4806 would be expected to increase from 60 dB L_{dnmr} (baseline conditions) to 61 dB L_{dnmr} for Alternative 2, an increase of only 1 dB L_{dnmr}. Again, the airspace units in the South Range would tend to remain below the 65 dB L_{dnmr} threshold, and all airspace units would remain below the 75 dB L_{dnmr} threshold. Therefore, there would not be any expected significant adverse impacts related to noise with Alternative 2.

Table 3-7. Summary of L_{dnmr} Values for SUAs

SUA Name	Baseline	Alternative 2	Alternative 3
	L_{dnmr} (dBA)	L_{dnmr} (dBA) (Change)	L_{dnmr} (dBA) (Change)
R-4806	60	61 (+1)	61 (+1)
R-4807	66	67 (+1)	67 (+1)
R-4808	<45	46 (+1)	46 (+1)
R-4809	69	70 (+1)	70 (+1)
Caliente	67	68 (+1)	68 (+1)
Coyote	67	68 (+1)	68 (+1)
Elgin	60	61 (+1)	61 (+1)
Reveille	61	62 (+1)	62 (+1)
Sally	<45	<45 (+0)	<45 (+0)
VR-209	<45	<45 (+0)	<45 (+0)
VR-222	<45	<45 (+0)	<45 (+0)

< = less than; dBA = A-weighted decibels; L_{dnmr} = onset-rate adjusted monthly day-night average sound level; SUA = Special Use Airspace

At Creech AFB and the surrounding areas, the 65-dB contour would be expected to extend slightly over 2 NM to the southwest and southeast due to transient military and RQ-170 operations and the overall increase in the number of operations. The 65-dB contour only overlaps the Indian Springs census-designated place boundary in one small area, which would expand approximately 150 feet south over a non-populated area. However, the adjacent community of Indian Springs has experienced a similar level of aircraft noise for decades, so while the residents may notice a gradual increase in the number of operations, compatibility issues would not be expected. Beyond that, the area surrounding Creech AFB is very remote, with the next nearest communities over 15 miles away (Mercury, Nevada, to the west and Pahrump and Las Vegas over 25 miles to the southwest and southeast, respectively). Therefore, it is unlikely that any surrounding communities would be impacted. Consequently, it is not likely that the increase in installation aircraft noise in the vicinity of Creech AFB under Alternative 2 would lead to any significant adverse impacts.

Table 3-8 and Figure 3-3 show the CDNL values associated with Alternatives 2 and 3. With a 30 percent increase in operations, the CDNL values would be expected to range from 52 dB to 62dB, with an average 1-dB increase over baseline noise levels for each airspace unit. The number of sonic booms per day would be expected to increase by one sonic boom over the baseline levels. However, these increases would be minimal and would not be anticipated to have any significant adverse impacts related to noise from the implementation of Alternative 2.

Table 3-8. Summary of Sonic Boom CDNL Values for SUA

SUA Name	Baseline		Alternative 2		Alternative 3	
	CDNL (dBC)	Booms per Day	CDNL (dBC) (Change)	Booms per Day (Change)	CDNL (dBC) (Change)	Booms per Day (Change)
R-4806	58	1	59 (+1)	2 (+1)	59 (+1)	2 (+1)
R-4807	51	2	52 (+1)	2 (+0)	52 (+1)	2 (+0)
R-4808	54	1	55 (+1)	1 (+0)	55 (+1)	1 (+0)
R-4809	60	1	61 (+1)	2 (+1)	61 (+1)	2 (+1)
Caliente	61	5	62 (+1)	6 (+1)	62 (+1)	6 (+1)
Coyote	60	2	61 (+1)	3 (+1)	61 (+1)	3 (+1)
Elgin	54	1	55 (+1)	1 (+0)	55 (+1)	1 (+0)
Reveille	56	1	57 (+1)	1 (+0)	57 (+1)	1 (+0)
Sally	57	1	58 (+1)	2 (+1)	58 (+1)	2 (+1)

CDNL = C-weighted day-night average sound level; dBC = C-weighted decibels; SUA = Special Use Airspace

Munitions Use

With an increase of 30 percent in large-caliber munitions expenditure, the CDNL contours for Alternative 2 would be expected to show a slight increase relative to baseline conditions by approximately 1 dBC. The 57-dBC contours would be expected to continue to extend approximately 2 to 3 NM from active target areas (Figure 3-4). Only the lowest level (45 to 50 dB) noise contours would extend off of the NTTR, and only in very small areas in the westernmost region of R-4807A and in the southernmost area south of Creech Tower Airspace, Range 64F, 63B, and 63C, where the noise contour is already extended off-installation under baseline conditions with no adverse impacts. No Land Use Planning Zone or Zone I/II/III areas would extend off of the NTTR itself. These increases would be minimal and would not be anticipated to have any adverse impacts related to noise from the implementation of Alternative 2.

Ground Disturbance

Ground-disturbing activities such as construction and maintenance operations and vehicle or troop movements would not generate sufficient noise to leave the NTTR boundary or affect members of the public. In general, the NTTR is remote, and noise levels from construction equipment or vehicle noise from NTTR operations would be less than the existing noise levels from vehicles and other sources associated with populated areas. Additionally, these activities would be short in duration, and the noise environment would return to ambient levels following any construction, maintenance, or troop transport activities. There would be no adverse impacts from noise associated with ground-disturbing activities from implementation of Alternative 2.

Emitter Operations

Emitter operation involves running a generator to power the emitter. The noise levels associated with emitters for Alternative 2 would be the same as discussed for Alternative 1. Therefore, there would be minor, less than significant, projected impacts from noise associated with emitter operations for Alternative 2.

3.2.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

Aircraft Operations

Noise associated with Alternatives 3A, 3A-1, 3B, and 3C from aircraft operations associated with the NTTR and at Creech AFB would be the same as those discussed above for Alternative 2 (Table 3-7 and Table 3-8). There would be minimal to no adverse impacts due to aircraft operations anticipated with the implementation of Alternatives 3A, 3A-1, 3B, and 3C.

Munitions Use

Noise associated with Alternatives 3A, 3A-1, 3B, and 3C from munitions use on the NTTR would be the same as those discussed above for Alternative 2 (Table 3-8). There would be no adverse impacts anticipated with the implementation of Alternatives 3A, 3A-1, 3B, and 3C.

Ground Disturbance

There would be no troop movement or construction (with exception of fencing installation) within the expansion areas proposed for Alternative 3A, 3A-1, or 3B. Therefore, there would be no adverse impacts from noise associated with ground-disturbing activities associated with implementation of Alternative 3A, 3A-1, or 3B.

Under Alternative 3C, conceptually, there would be construction of additional concrete or aggregate pads to place threat emitters within the newly withdrawn areas in order to create a more realistic training scenario. Construction noise was evaluated for the proposed construction of emitter pads, including clearing, grading, compacting, and paving activities. The analysis assumed that a standard set of construction equipment would be used in all construction projects and would run for approximately 40 percent of the workday. Resulting noise levels at various receptor distances from the construction site are listed in Table 3-9.

Table 3-9. Construction Noise Level Expected from Each Emitter Pad Construction Site

Distance to Receptor (feet)	L_{max} (dBA)	L_{10} (dBA)
100	79.0	82.6
200	73.0	76.6
300	69.4	73.0
400	66.9	70.5
500	65.0	68.6
600	63.4	67.0

dBA = A-weighted decibels; L_{10} = loudest 10% noise level; L_{max} = maximum noise level

Other ground-disturbing activities such as vehicle or troop movements would be minimal. For Alternative 3C, military vehicle use to transit to and from emitter sites for routine maintenance would be minimal and would occur in an area geographically separated from the public. Additionally, these activities would be short in duration, and the noise environment would return to ambient levels following any construction, maintenance, or troop transport activities. Personal vehicle use by recreational users is already ongoing in the proposed expansion area, and military vehicle use to transit to and from emitter sites for routine maintenance would produce similar or potentially less noise than from recreational use. Therefore, there would be no adverse impacts from noise due to ground-disturbing activities under Alternative 3C.

Emitter Operations

Emitter operations in the Alternatives 3A, 3A-1, and 3B expansion areas are not proposed under this withdrawal effort; therefore, there would be no adverse impacts from noise associated with emitter operations for Alternative 3A, 3A-1, or 3B.

The noise associated with emitters for Alternative 3C would also be the same as discussed for Alternative 1. Although the exact location of the emitters and associated noise are unknown at this time, the noise levels estimated are minimal at safe distances from the emitters. The proposed expansion area for Alternative 3C is remote and very few individuals are likely to be impacted at any given time. However, people engaging in recreation in the area likely desire its wilderness characteristics, including natural sound levels. Such recreationalists may feel more highly annoyed by relatively low noise levels associated with emitter operations than they would by the same noise level in a populated area. Because the emitters would likely be placed in the interior areas of the proposed Alamo expansion area and protected by fences or other access-prohibiting measures, this level of noise would be unlikely to leave the NTTR boundaries and reach any members of the public. Therefore, there would be minor, less than signficantly projected impacts from noise associated with emitter operations for Alternative 3C.

3.2.2.5 Alternative 4 – Establish the Period of Withdrawal

The proposed withdrawal periods associated with Alternative 4—Alternative 4A (20-year withdrawal period), Alternative 4B (50-year withdrawal period), and Alternative 4C (indefinite)—must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect noise, there are no specific noise impacts associated

with any subalternatives of Alternative 4, except to provide a point in time at which impacts from other chosen alternatives may end.

3.2.2.6 No Action Alternative

Under the No Action Alternative, the land withdrawal for the NTTR would not be extended. In this case, the land would be returned to the public and would require numerous management activities under FLPMA. Noise associated with military activities such as aircraft operations, munitions, and training operations would decrease greatly initially, and noise would decrease overall. However, in the long term, industrial activities such as mining could be associated with increased noise and potentially in areas that would affect the public to a greater degree than military operations do currently. Prohibitions previously placed in effect by the MLWA on appropriations under the public land laws would expire. Expiration of these prohibitions means that appropriative land uses such as mining, mineral leasing, or livestock grazing could potentially be reintroduced. Cleanup of contaminated or dudded areas would be required. This would involve the use of heavy machinery and vehicles. Noise from these activities would likely be greater than what is currently ongoing for military vehicular or troop movements and maintenance activities. Further, public use in these areas could also contribute to noise through vehicle operation, firearms use, and other recreational activities. While it is not possible to determine the overall impacts of the No Action Alternative at this time, noise impacts may occur but the level of significance cannot be determined at this time.

3.2.3 Proposed Resource-Specific Mitigations and Management Actions

Identified resource-specific mitigations and/or management actions for noise that would be implemented under all action alternatives include the following:

- Continue to provide information to range users, through the NTTR Supplement to AFI 13-212, *Range Planning and Operations*, regarding noise-sensitive areas, prior to conducting training or testing activities. This assists pilots in avoiding noise-related impacts. This action minimizes impacts across all action alternatives. (See Section 3.2.2.)

3.2.4 Native American Perspective on Noise

3.2.4.1 Native American Perspective: Noise Description of Resource

The CGTO is comprised of tribes with deep-rooted epistemological beliefs that connect us to the land. The CGTO believes noise is created by unnatural or man-made sounds that can intensify the effects on the land. Central to the Indian experience of viewscapes is isolation and serenity in an uncompromised landscape. If construction and operation of the proposed activities proceed in a culturally inappropriate manner, then visual resources within the NTTR will be adversely impacted, further perpetuating an unbalanced environment. (See Section 3.4.4.3, Native American Perspective: Visual Resources.)

Indian people know the land is a sentient being with eyes to see, ears to hear and feelings to express or react. The land must be kept in balance or else it will react and not have the ability to sustain the cultural and ecological balance needed to survive. The CGTO knows echoes can be intensified by man-made sounds such as sonic booms or other noises that occur from military activities that resonate through the landscape. This disturbance causes the land to become sick and out of balance. When sickness occurs, Indian culture is adversely impacted in the same way. Noise can cause a disruption to the serenity or can affect animals when solitude is needed to maintain resources that will ultimately have far reaching or long lasting effects beyond the NTTR.

Noise can create vibration that brings harm to the land, mountains, water, springs, rocks, rock writings (petroglyphs/pictographs), and other cultural resources including but not limited to plants and animals. Noise from sonic booms send shockwaves through the land and can cause echoes that travel through the mountains and canyons, thus becoming the voices of the land to provide warnings to everything within the region. If ignored or not understood, ecological imbalance will be inevitable creating lack of cultural continuity.

Echoes that resonate over the landscape are perceived as the voices of the land that mimic the sounds and can become a distraction to the serenity of the land. Unnatural sounds from military activities bring harm to the resources that can deteriorate them and cause an imbalance to the cultural landscape. The CGTO knows understands the cultural divisions between day time and night time and how they can act differently with different powers but have the ability to work together to sustain ecological balance in the world. When noise is continuous or high intensive, the land reacts from being sick or out of balance. When this occurs, animal behavior changes, which can effect stress levels or animal mortality rates. The CGTO knows that cultural intervention is necessary to conduct traditional balancing ceremonies to heal the land.

3.3 AIR QUALITY

3.3.1 Affected Environment

Air quality within the NTTR, the proposed expansion areas, and surrounding region would be affected by emissions from the Proposed Action and alternatives. The following sections describe the existing conditions related to air quality, including a description of the resource, applicable rules and regulations, the ROI, and baseline air quality and emissions.

3.3.1.1 Description of Resource

For the Native American perspective on information in this section, please see Section 3.3.4.1 and Appendix K, paragraph 3.3.1.1.1.

Air quality is affected by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The levels of pollutants are generally expressed on a concentration basis in units of parts per million or micrograms per cubic meter.

The baseline standards for pollutant concentrations are the National Ambient Air Quality Standards (NAAQS) and state air quality standards established under the CAA. These standards represent the maximum allowable atmospheric concentrations that can occur and still protect public health and welfare. The NAAQS provide both short- and long-term standards for the following criteria pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter equal to or less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$, respectively), ozone, and lead.

Under the CAA, it is the responsibility of the individual states to achieve and maintain the NAAQS. To accomplish this, states use the EPA-required State Implementation Plan. A State Implementation Plan identifies goals, strategies, schedules, and enforcement actions designed to achieve and maintain compliance with the NAAQS.

All areas of the United States are designated as having air quality better than (attainment) or worse than (nonattainment) the NAAQS. Areas where there are insufficient air quality data for EPA to form a basis for attainment status are unclassifiable; such areas are treated as attainment areas until proven otherwise. “Maintenance areas” are those that were previously classified as nonattainment but where air pollution concentrations have been successfully reduced to levels below the standard. Maintenance areas are subject to special maintenance plans to ensure compliance with the NAAQS.

The NDEP has adopted the NAAQS to regulate air pollutant levels within the state of Nevada, with the following exceptions and additions: (1) the state annual sulfur dioxide standard is more stringent than the national standard; (2) Nevada has added an 8-hour carbon monoxide standard specific to elevations greater than 5,000 feet above mean sea level; and (3) Nevada has added standards for visibility impairment and 1-hour hydrogen sulfide concentrations. However, in accordance with Nevada Administrative Code (NAC) 445B.22097, Nevada standards are only to be used “in considering whether to issue a permit for a stationary source and shall ensure that the stationary source will not cause the Nevada standards to be exceeded in areas where the general public has access” and further states that the NAAQS are to be used in determinations of attainment or nonattainment. The national and state ambient air quality standards are shown in Appendix D, Air Quality: Table D-1 (Summary of Nevada and National Ambient Air Quality Standards).

Hazardous air pollutants are chemicals that are known or suspected of causing cancer or other serious health effects. Unlike the criteria pollutants, there are currently no national ambient standards for hazardous air pollutants. Some volatile organic compounds are classified as hazardous air pollutants. Volatile organic compounds are also ozone precursors and include any organic compound involved in atmospheric photochemical reactions, except those designated by an EPA administrator as having negligible photochemical reactivity. Hazardous air pollutants are not covered by the NAAQS but may present a threat of adverse human health or environmental effects under certain conditions.

Permits

The NTTR operates currently under multiple air quality permits. Portions of the South Range are incorporated into the Creech AFB Title V Part 70 Air Operating Permit for Source 473 issued in accordance with Clark County Air Quality Regulations on May 31, 2013. The North Range of the NTTR operates under Class II Air Quality Operating Permit Number 9711-1233.01, issued on November 7, 2014. The Angel Peak Radar Complex operates under a Minor Source Permit for Source 17038 issued by Clark County Department of Air Quality and Environmental Management on February 14, 2012.

General Conformity

The EPA General Conformity Rule applies to federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The emissions thresholds that trigger requirements for a conformity analysis are called *de minimis* levels. *De minimis* levels (in tons per year) vary by pollutant and also depend on the severity of the nonattainment status for the air quality management area in question.

A conformity applicability analysis is the first step of a conformity evaluation and assesses if a federal action must be supported by a conformity determination. This process and requirements are further detailed in Appendix D, Air Quality. General Conformity is not applicable to this land withdrawal extension or expansion currently.

On June 4, 2018 (83 *Federal Register* 25776–25848), the EPA issued a revision to 40 CFR Part 81, Subpart C, which designated non-attainment areas under the 2015 ozone standard. Nellis AFB and a small portion of the NTTR are located in the portion of Clark County, Nevada, that was designated as non-attainment with the revision to 40 CFR 81.329 (83 *Federal Register* 25819). The effective date of the designation is August 3, 2018 (83 *Federal Register* 25776). By operation of law, a General Conformity applicability analysis will be required to be completed for covered actions that are approved and scheduled for implementation to begin on, or after, August 2, 2019. If the General Conformity applicability analysis demonstrates that emissions of ozone precursor pollutants from the Proposed Action equal or exceed the applicable *de minimis* levels promulgated in 40 CFR 93.153(b)(1), then draft and final General Conformity determinations will be required before any emissions-related activities associated with the Proposed Action may proceed. (42 USC 7506(c) and 40 CFR Part 93, Subpart B (40 CFR 93.150–165).

New Source Review/Prevention of Significant Deterioration

The CAA established New Source Review (NSR) and Prevention of Significant Deterioration (PSD) regulations to protect the air quality in regions that already meet the NAAQS. The major requirement of the PSD regulations is that the air quality impacts from new or modified NSR/PSD sources must not exceed the maximum allowable incremental increases for nitrogen dioxide, PM_{10}, or sulfur dioxide, as identified in Table 3-10.

Certain national parks, monuments, and Wilderness Areas have been identified as Class I areas, where any appreciable deterioration in air quality is considered significant. Class II areas are those where moderate, well-controlled growth could be permitted. There are three PSD Class I areas within 50 miles of the NTTR airspace. The Great Basin National Park on the eastern border of Nevada is approximately 45 miles northeast of the eastern corner of the NTTR airspace. The closest Class I area in Utah, Zion National Park, is approximately 37 miles east of the NTTR. The northeast corner of Death Valley National Park, which overlaps the California/Nevada border within 50 miles, is located approximately 10 miles from the southwestern portion of the NTTR. In addition, the Grand Canyon National Park Class I area is located approximately 55 miles east of the southeastern portion of the NTTR. The Lake Mead National Recreation Area, which is not a Class I area, is located approximately 23 miles from the southeastern corner of the NTTR South Range. The newly designated Basin and Range National Monument is located approximately 15 miles northeast of the NTTR boundary. Another recently designated monument, the Gold Butte National Monument, is located approximately 20 miles southeast of the NTTR boundary. It should be noted that the majority of emissions associated with the Proposed Action and alternatives would be from mobile sources and are not subject to NSR/PSD standards for stationary sources.

Table 3-10. Maximum Allowable Pollutant Concentration Increases Under PSD Regulations

Pollutant	Averaging Time	PSD Increments ($\mu g/m^3$)	
		Class I	Class II
Nitrogen dioxide	Annual	2.5	25
	24-hour	4	17
PM_{10}	24-hour	8	30
Sulfur dioxide	Annual	2	20
	24-hour	5	91
	3-hour	25	512

$\mu g/m^3$ = microgram per cubic meter; PSD = Prevention of Significant Deterioration; PM_{10} = particulate matter equal to or less than 10 microns in diameter

3.3.1.2 Region of Influence

The NTTR land and airspace associated with the proposed land withdrawal extension and expansion areas are located in Clark, Lincoln, and Nye Counties; therefore, these three counties have been designated as the ROI for the air quality analysis. According to the EPA, Lincoln and Nye Counties are in attainment for all criteria pollutants. Clark County has previously been in nonattainment for 8-hour ozone (1997 standard), carbon monoxide (1971 standard), and PM_{10} (1987 standard). However, as of November 5, 2014, Clark County has been redesignated as a maintenance area for each of these pollutants and is currently in attainment for all pollutants (EPA, 2016a). As a result of each county's attainment status, a conformity determination would not be required.

Emissions that would be generated from conceptual activities described in Section 2.2.1 (Increase MCO Test/Training Capability), and Section 2.2.2 (Enhance IW Test/Training Capability), were compared with Clark, Lincoln, and Nye County emissions (Table 3-11) obtained from EPA's 2014 National Emissions Inventory, which provides the latest

available data. The county data include emissions amounts from point sources, area sources, and mobile sources. Point sources are stationary sources that can be identified by name and location. Area sources are point sources from which emissions are too low to track individually, such as a home or small office building, or a diffuse stationary source, such as wildfires or agricultural tilling. Mobile sources are any kind of vehicle or equipment with gasoline or diesel engine, an airplane, or a ship. Two types of mobile sources are considered: on-road and nonroad. On-road sources consist of vehicles such as cars, light trucks, heavy trucks, buses, engines, and motorcycles. Nonroad sources are aircraft, locomotives, diesel and gasoline boats and ships, personal watercraft, lawn and garden equipment, agricultural and construction equipment, and recreational vehicles (EPA, 2016b).

Table 3-11. Baseline Criteria Pollutant Emissions Inventory for Clark, Lincoln, and Nye Counties, Nevada

County	Criteria Pollutant (tons/year)					
	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC
Clark	305,637	48,711	31,973	11,432	7,165	185,150
Lincoln	36,511	2,269	8,805	1,708	77	127,753
Nye	56,419	2,453	28,927	4,436	175	188,212
Total ROI	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**

Source: (EPA, 2016c)
CO = carbon monoxide; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_2 = sulfur dioxide; VOC = volatile organic compound

3.3.1.3 Greenhouse Gas Emissions/Baseline

Any greenhouse gas (GHG) analysis contained in this document was prepared in accordance with the Air Force Air Quality EIAP guidance. The six primary GHGs as defined by the EPA under Section 202(a) of the CAA by rulemaking (see Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the CAA, 74 *Federal Register* 66,495–66,546, December 15, 2009) are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Section 16(e) of EO 13693, *Planning for Federal Sustainability in the Next Decade*, released in March 2015, also includes nitrogen trifluoride. Each GHG has an estimated global warming potential (GWP), which is a function of its atmospheric lifetime and its ability to absorb and radiate infrared energy emitted from the Earth's surface. The GWP allows GHGs to be compared with each other by converting the GHG quantity into the common unit "carbon dioxide equivalent." Hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride are produced in relatively very small quantities and most often by very specific niche industries such as electronic component manufacturing. Additionally, EPA's National Emissions Inventory database only tracks the most abundant GHGs (carbon dioxide, nitrous oxide, and methane). Therefore, analysis focuses on these three primary GHGs represented as carbon dioxide equivalents (CO_2e) based on their GWP. Baseline GHG emissions for Clark, Lincoln, and Nye Counties, obtained from EPA's 2014 National Emissions Inventory, are summarized in Table 3-12.

Table 3-12. Baseline Greenhouse Gas Emissions Inventory for Clark, Lincoln, and Nye Counties, Nevada

County	Greenhouse Gas (tons/year)			
	CH_4	CO_2	N_2O	CO_2e
Clark	853	11,402,575	292	11,510,897
Lincoln	346	170,035	1	179,069
Nye	504	474,073	10	489,581
Total ROI	**1,703**	**12,046,684**	**303**	**12,179,548**

Source: (EPA, 2016c)
CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; CH_4 = methane; N_2O = nitrous oxide; ROI = region of influence

3.3.2 Environmental Consequences

Air quality within the NTTR, the proposed expansion areas, and the immediately surrounding region would be affected by emissions from sources associated with aircraft operations, munitions use, ground disturbance (construction, troop movement, vehicle use, etc.), and emitter operations. The following sections provide a description of air quality impacts that would occur from each alternative. Emissions from any alternative that cause an exceedance of any state or national ambient air quality standard would result in significant environmental impacts.

The Air Force acknowledges that it is difficult to determine significance at the programmatic level. However, if areas associated with the Proposed Action or alternatives are withdrawn for military use, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts, and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made. Nonetheless, at a programmatic level, while the Air Force has identified the likelihood of increased air emissions under all action alternatives, the Air Force does not anticipate these emissions to result in any significant impacts to air quality overall.

3.3.2.1 Analysis Methodology

In order to evaluate air emissions and their impact on the overall ROI, the emissions associated with the Proposed Action activities were evaluated in accordance with the tiered approach outlined in the *Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide – Fundamentals, Volume I and Volume II – Advanced Assessments*. The first step was to conduct an assessment to determine if the action was exempt for air quality analysis. The Proposed Action was not subject to any categorical exclusions or General Conformity exemptions. Since the Proposed Action is not subject to any exemptions under Tier I, a quantitative assessment (Tier II) was completed. The Tier II assessment requires a formal evaluation of air impacts based on a quantitative net change emissions inventory of the annual net total direct and indirect emissions of pollutants of concern. It should be noted that in the case of the Proposed Action, there were no net emissions realized.

Air quality impacts were evaluated quantitatively based on a two-pronged approach. Potential impacts to air quality were first identified as the total emissions of any primary pollutant that equals 250 tons per year for that pollutant based on the federal NSR/PSD major stationary source threshold. In addition to primary pollutants, GHGs were compared to an indicator level of 75,000 tons of GHGs. This established a first-level indicator of potential significance for both primary pollutants and GHGs.

However, since the majority of the emissions related to the Proposed Action and alternatives would result from activities associated with mobile sources, a second-level indicator was deemed appropriate. Consequently, if the evaluation showed that the first-level indicators for primary pollutants and GHGs would be exceeded, each pollutant was evaluated and compared with the total ROI emissions (Lincoln, Clark, and Nye Counties) on a pollutant-by-pollutant basis against the ROI's 2014 National Emissions Inventory data.

Potential impacts to air quality are evaluated with respect to the extent, context, and intensity of the impact in relation to relevant regulations, guidelines, and scientific documentation. The CEQ defines significance in terms of context and intensity in 40 CFR 1508.27. This requires the significance of the action to be analyzed with respect to the setting of the proposed action and based relative to the severity of the impact. NEPA regulations (40 CFR 1508.27[b]) provide 10 key factors to consider in determining an impact's intensity, which are described in Appendix D, Air Quality.

To provide a more conservative analysis, the three counties were selected as the ROI instead of the EPA-designated Air Quality Control Region, which is a much larger area. Air quality impacts would be considered significant if the increases in annual emissions of a pollutant would be anticipated to: (1) cause or contribute to a violation of any national or state ambient air quality standard; (2) expose sensitive receptors to substantially increased pollutant concentrations; (3) exceed any evaluation criteria established by a State Implementation Plan or permit limitations/requirements; or (4) be anticipated to cause an exceedance of the NAAQS or contribute to nonattainment.

The Air Conformity Applicability Model (ACAM) Version 5.0.7 was utilized to provide a level of consistency with respect to emissions factors and calculations. The ACAM provides estimated air emissions from proposed federal actions in areas designated as nonattainment and/or maintenance for each specific criteria and precursor pollutant as defined in the NAAQS. The ACAM was utilized to calculate construction emissions. Emission factors for aircraft were also obtained from ACAM. Munitions emission factors were used from EPA's *AP-42, Fifth Edition* (Volume I, Chapter 15: Ordnance Detonation) and calculated based on the net weight of the explosive (or a conversion factor for pounds per item) and the number of times that the munition was used annually. Generator emissions factors were obtained from the *Air Emissions Guide for Air Force Mobile Sources* (U.S. Air Force, 2016b) and calculated based on the horsepower and annual hours of operation. Equations and emission factors can be found in Appendix D, Air Quality.

The potential effects of GHG emissions from the Proposed Action are, by nature, global. Given the global nature of climate change and the current state of the science, it is not useful at this time to attempt to link the emissions quantified for local actions to any

specific climatological change or resulting environmental impact. Nonetheless, the GHG emissions from the No Action Alternative, Proposed Action, and alternatives have been quantified to the extent feasible in this LEIS for information and comparative purposes.

GHGs were included in the analysis, and are expressed in the following sections as CO_2e (carbon dioxide equivalents). The primary source of carbon dioxide emissions would be fuel combustion from aircraft emissions during training activities. GHG emissions were compared with the Air Force's recommended *de minimis* significance emissions rate of 75,000 tons per year. Details on GHG calculations are provided in Appendix D, Air Quality.

3.3.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

Under Alternative 1, Air Force testing and training activities on the NTTR would continue at current levels. Activities currently include aircraft operations, ground and vehicle operations, munitions use, and operation of threat emitters. Aircraft operations occurring below the 3,000-foot AGL atmospheric mixing layer in NTTR airspace, as well as Creech AFB total airfield operations and munitions use, were obtained from schedulers, air traffic control, and operators for the 2015 calendar year baseline. Since specific numbers and types of vehicles (i.e., motorized vehicles that are not aircraft) for each base are difficult to obtain, emissions from this category were based on historical installation fuel consumption data. Threat emitter operations were based on a conservative assumption of operating a 1.5-kilovolt-amp (kVA) diesel generator continuously for the entire year. For more detailed information on assumptions, emission factors, and calculations, see Appendix D, Air Quality.

Operational activities proposed under Alternative 1 would be the same as activities that presently occur in the ROI. As these activities are currently part of the environment and the area is in attainment/maintenance for all pollutants, aircraft operations associated with the NTTR do not adversely affect the regional air quality. Further, as shown in Table 3-13, the aircraft operations represent a small percentage of the overall annual emissions in the ROI. At less than 5 percent, nitrogen oxide represents the highest percentage of annual emissions in the ROI. Therefore, air quality impacts from aircraft operations associated with Alternative 1 in the ROI would be insignificant.

Table 3-13. Alternative 1 Aircraft Emissions

Source	Pollutant (tons/year)						
	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_x	VOC	CO_2e
Aircraft Emissions	702.07	2,418.90	184.40	162.53	120.33	127.83	448,746
Creech Airfield Emissions	44.56	25.97	3.73	3.30	2.06	7.92	6,317
Total Annual Emissions	**746.62**	**2,444.87**	**188.13**	**165.84**	**122.40**	**135.75**	**455,063**
ROI Baseline Emissions[1]	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percentage of Baseline	***0.19%***	***4.58%***	***0.27%***	***0.94%***	***1.65%***	***0.03%***	***3.74%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_x = sulfur oxides; VOC = volatile organic compound

[1] Source: (EPA, 2016c)

The potential exists for military aircraft to impair visibility within a federal Class I area, defined as (1) a reduction in regional visual range and (2) temporary atmospheric discoloration or plume blight. Criteria to determine significant impacts on visibility within Class I areas usually pertain to stationary emission sources, because mobile sources are generally exempt from permit review by regulatory agencies. Since there are no readily available quantitative techniques to estimate visibility impacts from in-flight aircraft, the assessment is made in a qualitative manner. The nearest Class I area to the NTTR is Death Valley National Park, approximately 10 miles from the western edge of the NTTR. Emissions from aircraft quickly disperse and do not currently affect visual range from a reference point 10 miles away. Additionally, plume blight would occur within an aircraft flight path, but only for a short duration immediately after passage of the aircraft. Therefore, impacts on visibility from the alternative within Class I areas in proximity to the NTTR would be insignificant.

There are emissions associated with munitions detonations occurring during test and training operations on NTTR. Ordnance use numbers for the baseline year (calendar year 2015) were provided by NTTR operators. Annual emissions were calculated and are provided in Table 3-14.

Table 3-14. Alternative 1 Munitions Emissions

Source	Pollutant (tons/year)						
	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_x	VOC	CO_2e
Munitions Emissions	10.67	0.50	359.59	346.57	0.14	0.26	441.12
ROI Baseline Emissions	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percentage of Baseline	***0.18%***	***4.53%***	***0.78%***	***2.90%***	***1.62%***	***0.03%***	***3.74%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_x = sulfur oxides; VOC = volatile organic compound

Additional particulate matter emissions may also occur from fugitive dust emitted during the delivery of ordnance from aircraft. However, fugitive dust emissions associated with munitions activities is generally small when nonexplosive ordnance is used. However, use of live ordnance does produce a substantial amount of fugitive dust, depending on the explosive potential of the ordnance and softness of the impacted soil. Fugitive dust emissions from ordnance deliveries may also be exacerbated during periods of high winds. However, these impacts would be localized and short in duration, and there are currently no major impacts from fugitive dust that affect the monitored regional air quality. The area remains in attainment for both PM_{10} and $PM_{2.5}$ despite these ongoing activities. Munitions deployment would remain the same under Alternative 1, and, therefore, would continue to be unlikely to contribute to any significant impacts to local or regional air quality within the ROI.

Construction, maintenance activities, and troop movements (both via vehicles and on foot) are expected to occur under Alternative 1 only at current levels. Air quality impacts associated with activities within the ROI could occur from combustive emissions due to equipment and vehicle usage and fugitive dust emissions in the form of particulate matter less than 10 microns in diameter (i.e., PM_{10}) as a result of ground-disturbing activities and equipment/vehicle operations on dirt roads. Table 3-15 shows a

representative baseline for annual emissions associated with military vehicles and construction equipment based on annual fuel consumption (U.S. Air Force, 2014b; 2014c). Impacts due to combustive emissions from these sources would be insignificant because most emission sources would be mobile and intermittent, and pollutant impacts would not be large enough in a localized area to cause any exceedance of an ambient air quality standard.

Air quality impacts during construction and general maintenance activities would be short-term and would cease at the end of the required maintenance. Additionally, the level of maintenance activity proposed under Alternative 1 would not differ substantially from activities that presently occur in this area. Therefore, air quality impacts from maintenance activities under Alternative 1 would be insignificant.

Although emissions associated with construction activities would be insignificant, the Air Force should consider employing standard management measures for construction activities such as watering of graded areas, covering of soil stockpiles, and contour grading (if necessary), to minimize temporary generation of dust and particulate matter. This would serve to minimize air emissions associated with elements of the Proposed Action and across all action alternatives.

Table 3-15. Alternative 1 Vehicle Emissions

Source	Pollutant (tons/year)						
	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC	CO_2e
Vehicle Operations	65.76	18.76	0.74	0.70	0.07	6.52	8,485
Total ROI[1]	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percent of ROI	***0.02%***	***0.04%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***	***0.07%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_2 = sulfur dioxide; VOC = volatile organic compound
[1] Source: (EPA, 2016c)

Air quality impacts from Alternative 1 emitter operations within the NTTR would primarily be caused by generator emissions associated with operation of various threat emitters across the NTTR. Generator emissions were calculated for a single threat emitter using a 1.5-kVA generator operating continuously for the entire year (Table 3-16). Actual emissions would likely be much lower, since emitters would only operate during necessary test or training exercises, which typically last on the order of days or weeks. It should be noted that multiple generator-powered emitters would be likely to be operated concurrently. However, typically in practice, these emissions would be localized and temporary in nature, only lasting for the duration of the test or training operation during which they are necessary for the mission.

Table 3-16. Alternative 1 Emitter Operation Emissions

Source	Pollutant (tons/year)						
	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC	CO_2e
Emitter Operation Emissions	0.08	0.15	0.01	0.01	0.01	0.02	13.81
Total ROI[1]	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percent of ROI	***0.00%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_2 = sulfur dioxide; VOC = volatile organic compound
[1] Source: (EPA, 2016c)

Alternative 1 Emissions Summary

Table 3-17 lists the annual emissions from all sources under Alternative 1. While annual emissions for each criteria pollutant exceed the 250-ton NSR/PSD threshold for carbon monoxide, nitrogen oxides, and particulate matter, it is important to note that these operations have been ongoing for many years and are already included in the baseline air environment. Further, Alternative 1 emissions would not exceed 5 percent of the ROI annual baseline emissions. Therefore, implementation of Alternative 1 would not be likely to contribute to a significant adverse impact to regional air quality.

Table 3-17. Summary of Alternative 1 Emissions

Source	Pollutant (tons/year)						
	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC	CO_2e
Aircraft Emissions	702.07	2,418.90	184.4	162.53	120.33	127.83	448,746
Creech Airfield Emissions	44.56	25.97	3.73	3.3	2.06	7.92	6,317
Munitions Emissions	10.67	0.5	359.59	346.57	0.14	0.26	441.12
Vehicle Operations	65.76	18.76	0.74	0.7	0.07	6.52	8,485
Emitter Operation Emissions	0.08	0.15	0.01	0.01	0.01	0.02	14
Total Alternative 1 Emissions	**823.14**	**2,464.28**	**548.47**	**513.11**	**122.61**	**142.55**	**464,003**
Total ROI[1]	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percent of ROI	***0.21%***	***4.61%***	***0.79%***	***2.92%***	***1.65%***	***0.03%***	***3.81%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_2 = sulfur dioxide; VOC = volatile organic compound

[1] Source: (EPA, 2016c)

3.3.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

Under Alternative 2, Air Force testing and training activities on the NTTR would be assumed to increase by approximately 30 percent from those levels stated for Alternative 1, as presented in Section 2.3.2 (Alternative 2). Aircraft operations, vehicle operations, and munitions use were all assumed to increase by the estimated 30 percent. It is difficult at this time to estimate the increase in operation of threat emitters, so a range of operations increases and number of total emitters operated is presented in order to inform the reader of the impacts of a minimal increase as well as a conservative, extreme increase. For more detailed information on assumptions, emission factors, and calculations, see Appendix D, Air Quality.

Table 3-18 shows the estimated annual emissions from aircraft operations under Alternative 2. The highest criteria pollutant emissions would be nitrogen oxides, which would represent only 1.37 percent of the ROI's annual emissions. Therefore, air quality impacts associated with Alternative 2 aircraft operations in this area would be less than significant.

The air quality analysis for munitions use associated with Alternative 2 also assumed an increase of 30 percent for all munitions/ordnance, as stated in Section 2.3.2 (Alternative 2). Table 3-19 shows the estimated annual emissions from munitions

operations under Alternative 2. The highest criteria pollutant emissions would be $PM_{2.5}$, which would represent only 0.59 percent of the ROI's annual emissions. Therefore, operational air quality impacts associated with Alternative 2 in this area would be insignificant.

Table 3-18. Alternative 2 Aircraft Emissions

Source	Pollutant (tons/year)						
	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_x	VOC	CO_2e
Aircraft Emissions	210.62	725.67	55.32	48.76	36.10	38.35	134,624
Creech Airfield Emissions	13.37	7.79	1.12	0.99	0.62	2.38	1,895
Total Annual Emissions	**223.99**	**733.46**	**56.44**	**49.75**	**36.72**	**40.72**	**136,519**
ROI Baseline Emissions	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percentage of Baseline	***0.06%***	***1.37%***	***0.08%***	***0.28%***	***0.50%***	***0.01%***	***1.12%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_x = sulfur oxides; VOC = volatile organic compound

Table 3-19. Alternative 2 Munitions Emissions

Source	Pollutant (tons/year)						
	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_x	VOC	CO_2e
Munitions Emissions	3.20	0.15	107.88	103.97	0.04	0.08	132.33
ROI Baseline Emissions	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percentage of Baseline	***0.00%***	***0.00%***	***0.15%***	***0.59%***	***0.00%***	***0.00%***	***0.00%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_x = sulfur oxides; VOC = volatile organic compound

Conceptually, up to fifteen 150-by-150-foot pads would be constructed to allow for placement and operation of threat emitters within the ready access areas to increase the operational relevance of MCO operations. Additionally, Alternative 2 would include approximately 4 acres of road improvements to allow for access to threat emitters and repeaters for installation, maintenance, and potentially periodic relocation. Construction activity and worker commute emissions were calculated using ACAM modeling software and compared with the ROI's baseline annual emissions.

Annual vehicular operations were also assumed to increase by 30 percent for Alternative 2, as stated in Section 2.3.2. Table 3-20 shows the estimated annual emissions from ground-disturbing activities and vehicular operations with Alternative 2. The highest criteria pollutant emissions would be PM_{10}, which would represent only 0.09 percent of the ROI's annual emissions.

Impacts related to ground-disturbing activities associated with Alternative 2 would amount to no more than 0.09 percent of the total ROI annual emissions for any of the criteria pollutants. Based on air emissions modeling and analysis, ground-disturbing activities with Alternative 2 would not be expected to result in any significant increase in air emissions and no adverse impacts would occur. Therefore, air quality impacts from ground-disturbing activities associated with Alternative 2 in this area would be insignificant.

Table 3-20. Alternative 2 Ground Disturbance Emissions

Source	Pollutant (tons/year)						
	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2	VOC	CO_2e
Emitter Pad and Roadway Construction Emissions	7.04	7.78	60.15	0.35	0.02	1.25	1,707
Vehicle Operations	85.49	24.38	0.96	0.91	0.08	8.47	11,030
Alternative 2 Ground Disturbance Total	**92.53**	**32.16**	**61.11**	**1.26**	**0.10**	**9.72**	**12,737**
Total ROI[1]	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percent of ROI	***0.02%***	***0.06%***	***0.09%***	***0.01%***	***0.00%***	***0.00%***	***0.10%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_2 = sulfur dioxide; VOC = volatile organic compound

[1] Source: (EPA, 2016c)

With Alternative 2, providing ready access and allowing for a dual-front MCO would lead conceptually to increased usage of threat emitters. While it has not yet been determined specifically how many emitters would be operated and at what level, a 30 percent increase was assumed to correspond with the increase in test and training activities. Table 3-21 provides the total emissions anticipated from a single emitter and a sampling of what emissions levels would be, assuming various numbers of emitters operated in the same manner (10, 15, 20, and 30 emitters, respectively) and compares these emissions to the ROI's annual baseline. Even assuming 30 emitters operated at a conservatively high frequency and duration, the highest percentage of baseline emissions is nitrogen oxides at less than 0.01 percent of the ROI's total emissions. Therefore, it is not likely that increases in emitter operations under Alternative 2 would adversely impact regional air quality.

Table 3-21. Alternative 2 Emitter Operation Emissions

Source	Pollutant (tons/year)						
	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2	VOC	CO_2e
Single Emitter Emissions	0.08	0.15	0.01	0.01	0.01	0.02	13.81
10 emitters	0.76	1.53	0.15	0.14	0.10	0.20	138.11
Total ROI[1]	398,567	53,433	69,705	17,576	7,417	501,115	12,179,548
Percent of ROI	***0.00%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***
15 emitters	1.14	2.30	0.22	0.21	0.14	0.30	207.17
Total ROI[1]	398,567	53,433	69,705	17,576	7,417	501,115	12,179,548
Percent of ROI	***0.00%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***
20 emitters	1.52	3.06	0.30	0.28	0.19	0.41	276.23
Total ROI[1]	398,567	53,433	69,705	17,576	7,417	501,115	12,179,548
Percent of ROI	***0.00%***	***0.01%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***
30 emitters	2.28	4.59	0.44	0.43	0.29	0.61	414.34
Total ROI[1]	398,567	53,433	69,705	17,576	7,417	501,115	12,179,548
Percent of ROI	***0.00%***	***0.01%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***	***0.00%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_2 = sulfur dioxide; VOC = volatile organic compound

[1] Source: (EPA, 2016c)

Alternative 2 Emissions Summary

Table 3-22 lists the annual emissions increase over baseline 2015 levels from all sources under Alternative 2. While annual emissions for carbon monoxide and nitrogen oxides would exceed the 250-ton NSR/PSD threshold, Alternative 2 emissions would be less than 2 percent of the ROI annual baseline emissions. Therefore, implementation of Alternative 2 would not be likely to contribute to a significant adverse impact to regional air quality.

Table 3-22. Summary of Alternative 2 Emissions

Source	Pollutant (tons/year)						
	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC	CO_2e
Aircraft Emissions	210.62	725.67	55.32	48.76	36.1	38.35	134,624
Creech Airfield Emissions	13.37	7.79	1.12	0.99	0.62	2.38	1,895
Munitions Emissions	3.2	0.15	107.88	103.97	0.04	0.08	132.33
Vehicle Operations	85.49	24.38	0.96	0.91	0.08	8.47	11,030
Emitter Pad and Roadway Construction Emissions	7.04	7.78	60.15	0.35	0.02	1.25	1,707
Emitter Operation Emissions	2.28	4.59	0.44	0.43	0.29	0.61	414
Total Alternative 2 Emissions	**322.00**	**770.36**	**225.87**	**155.41**	**37.15**	**51.14**	**149,802**
Total ROI[1]	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percent of ROI	***0.08%***	***1.44%***	***0.32%***	***0.88%***	***0.50%***	***0.01%***	***1.23%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_2 = sulfur dioxide; VOC = volatile organic compound
[1] Source: (EPA, 2016c)

3.3.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

Emissions associated with Alternatives 3A, 3A-1, 3B, and 3C from aircraft operations would be the same as those discussed for Alternative 2 (Table 3-18). As with Alternative 2, there would be no adverse impacts to air quality due to aircraft operations anticipated with the implementation of Alternatives 3A, 3A-1, 3B, and 3C.

Emissions associated with Alternatives 3A, 3A-1, 3B, and 3C from munitions use would be the same as those discussed for Alternative 2 (Table 3-19). Munitions use associated with Alternative 3B would remain at the current locations and at the increased levels evaluated for Alternative 2, but no munitions use would occur in the expansion area proposed for Alternative 3B (Range 64C/D and 65D, and the Administrative Incorporation area) nor Alternative 3C (Alamo areas). The Air Force would continue to utilize current target impact areas, so while munitions use would increase as discussed for Alternative 2, those munitions would not be used in newly

withdrawn areas. Therefore, there would be no adverse impacts to air quality due to munitions use anticipated with the implementation of Alternatives 3A, 3A-1, 3B, and 3C.

While ground-disturbing activities for Alternative 3A or 3A-1 may include a minor increase in maintenance activities, there would be no substantial increase in vehicle or fossil fuel combusting equipment operations as a result of Alternative 3A or 3A-1. For Alternative 3B, construction and troop movement would increase as discussed for Alternative 2, but would not occur within the Range 64C/D and 65D or Administrative Incorporation areas proposed for withdrawal for Alternative 3B. With Alternative 3B, there may be a minor increase in maintenance activities in newly withdrawn areas (such as fencing, road maintenance, etc.), but there would be no substantial increase in vehicle or fossil fuel combusting equipment operations. Therefore, impacts to air quality due to ground-disturbing activities with Alternative 3A, 3A-1, or Alternative 3B would be minimal.

For Alternative 3C, while there would be an increase in troop movement associated with additional IW training, the primary increase in air emissions would result from the construction of additional threat emitter pads in the Alamo withdrawal areas. Conceptually, up to fifteen 150-by-150-foot pads would be constructed to allow for placement and operation of threat emitters within the Alamo areas to increase the operational relevance of MCO operations. Additionally, Alternative 3C would include approximately 4 acres of road improvements to allow for access to threat emitters and repeaters for installation, maintenance, and potentially periodic relocation. Some surface improvements, such as grading and leveling using heavy machinery, would also be necessary for preparation of the runway to be used for FARRP activities. Construction activity and worker commute emissions were calculated using ACAM modeling software and compared with the ROI's baseline annual emissions. Likewise, as with Alternative 2, vehicle operations for Alternative 3C were assumed to increase by 30 percent to account for additional areas of maintenance and transport. This increase would also account for additional maintenance and installation activities associated with fencing of the expanded area for Alternative 3C (Table 3-23).

Table 3-23. Alternative 3C Ground Disturbance Air Emissions Compared with ROI Emissions (tons per year)

Source	Pollutant (tons/year)						
	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC	CO_2e
Emitter Pad, Roadway, and Runway Construction Emissions	7.88	9.06	127.80	0.40	0.02	1.43	1,983
Vehicle Operations	111.14	31.7	1.25	1.18	0.11	11.01	14,340
Ground Disturbance Total	**119.02**	**40.76**	**129.05**	**1.58**	**0.13**	**12.44**	**16,323**
ROI emissions[1]	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percentage of Total ROI	***0.03%***	***0.08%***	***0.19%***	***0.01%***	***0.00%***	***0.00%***	***0.13%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_2 = sulfur dioxide; VOC = volatile organic compound
[1]Source: (EPA, 2016c)

Impacts related to ground-disturbing activities associated with Alternative 3C would amount to no more than 0.19 percent of the total ROI annual emissions for any of the criteria pollutants. Based on air emissions modeling and analysis, ground-disturbing activities with Alternative 3C would not be expected to result in any significant increase in air emissions and no adverse impacts would occur.

Emitter operations would not increase as a result of Alternative 3A or 3A-1. For Alternative 3B, emitter use would increase as discussed for Alternative 2, but there would be no increase in emitter operations in the proposed expansion area (Ranges 64C/D and 65D and the Administrative Incorporation area). For Alternative 3C, the operation of threat emitters would likely increase over levels analyzed previously; however, as discussed for Alternative 2 and shown in Table 3-21, even the most conservative estimates show very minor contribution to the ROI's existing criteria pollutant baseline. Therefore, impacts to air quality resulting from emitter operations due to Alternative 3A or 3A-1 would be minimal, and no adverse impacts to regional air quality would be anticipated from implementation of Alternative 3B or Alternative 3C.

Additional particulate matter emissions may also occur from fugitive dust emitted during FARRP training activities such as takeoff and landings from aircraft at an austere unimproved runway location as discussed in Section 2.3.3.4 (Alternative 3C). Fugitive dust emissions associated with these activities could produce a substantial amount of particulate matter and fugitive dust, depending on the type of aircraft and time of year as well as the softness of the impacted soil. Fugitive dust emissions from FARRP training may also be exacerbated during periods of high winds. However, these impacts would be localized and short in duration, and there are currently no major impacts from fugitive dust that affect the monitored regional air quality. The ROI remains in attainment for both PM_{10} and $PM_{2.5}$. Since similar activities occur under Alternative 1, these fugitive dust emissions would be unlikely to contribute to any significant impacts to local or regional air quality within the ROI.

Although emissions associated with these training activities would be insignificant, the Air Force should consider employing standard management measures similar to those used for construction activities, such as watering of graded areas, covering of soil stockpiles, and contour grading (if necessary), to minimize temporary generation of dust and particulate matter.

Alternative 3 Emissions Summary

Table 3-24 lists the annual emissions increase over baseline 2015 levels from all sources under Alternative 3C, which is the most conservative alternative since it includes additional emissions for the construction of emitter pads. Emissions produced under Alternatives 3A and 3B would actually be lower than under Alternative 3C. While annual emissions for carbon monoxide and nitrogen oxides would exceed the 250-ton NSR/PSD threshold, Alternative 3 emissions would not exceed 2 percent of the ROI annual baseline emissions under any subalternative. Therefore, implementation of Alternative 3A, 3B, or 3C would not be likely to contribute to a significant adverse impact to regional air quality.

Table 3-24. Summary of Alternative 3 Emissions

Source	Pollutant (tons/year)						
	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC	CO_2e
Aircraft Emissions	210.62	725.67	55.32	48.76	36.10	38.35	134,624
Creech Airfield Emissions	13.37	7.79	1.12	0.99	0.62	2.38	1,895
Munitions Emissions	3.20	0.15	107.88	103.97	0.04	0.08	132
Vehicle Operations	111.14	31.70	1.25	1.18	0.11	11.01	14,340
Emitter Operation Emissions	2.28	4.59	0.44	0.43	0.29	0.61	414
Emitter Pad Construction Emissions	7.88	9.06	127.80	0.40	0.02	1.43	1,983
Total Alternative 3 Emissions	**348.49**	**778.96**	**293.81**	**155.73**	**37.18**	**53.86**	**153,388**
Total ROI[1]	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percent of ROI	***0.09%***	***1.46%***	***0.42%***	***0.89%***	***0.50%***	***0.01%***	***1.26%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_2 = sulfur dioxide; VOC = volatile organic compound

[1] Source: (EPA, 2016c)

3.3.2.5 Alternative 4 – Establish the Period of Withdrawal

The proposed withdrawal periods associated with Alternative 4—Alternative 4A (20-year withdrawal period), Alternative 4B (50-year withdrawal period), and Alternative 4C (indefinite)—must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect air emissions, there would be no impacts specific to the time-related portion of Alternative 4. Emissions are analyzed on an annual basis, and there are no known or anticipated changes to criteria pollutants or GHG emissions affected by the period of withdrawal. Annual emissions would remain at or near the baseline or implemented alternative level throughout the period of withdrawal.

3.3.2.6 No Action Alternative

Under the No Action Alternative, the land withdrawal for the NTTR would not be renewed. In this case, the land would be returned to the public and would require numerous management activities under the FLPMA. Initially, air pollutant emissions associated with military activity would decrease. However, in the longer term, overall emissions may increase, as industrial activities such as mining could be associated with greater levels of emissions of certain criteria pollutants such as particulate matter. Prohibitions previously placed in effect by the MLWA on appropriations under the public land laws would expire. Expiration of these prohibitions means that appropriative land uses such as mining, mineral leasing, or livestock grazing could potentially be reintroduced. While it is not possible to estimate emissions from such industrial activities at this time, the associated emissions could contribute greatly to the regional air pollutant emissions, potentially adversely impacting air quality. Further, appropriate decontamination operations may be required and could be extensive in scope and long in duration. These decontamination activities would include operation of heavy machinery and associated combustion of fossil fuels, which may lead to increased air

pollutant emissions over the long term, potentially greater than current military emissions. While it is not possible to determine the overall impacts of the No Action Alternative at this time, air quality impacts may be significant.

3.3.2.7 Air Emissions Alternative Comparison

Table 3-25 lists the total net emissions from direct and indirect emissions under each of the proposed alternatives. It is important to note (1) that Alternative 1 emissions are ongoing and have been for many years, so these are not new emissions and should actually be considered part of the ROI baseline, and (2) because the alternatives involve different geographic regions, more than one alternative could be implemented. However, aircraft and munitions activities would increase by 30 percent under either Alternative 2 or 3 or if both were implemented; thus, the emissions from those sources would not be additive if both were implemented. Conservatively, all emissions were added in Table 3-25, and total emissions from all action alternatives would still contribute to less than 8 percent of the ROI's annual regional criteria pollutant emissions for each pollutant. Carbon dioxide emissions would greatly exceed the 75,000-ton per year relative significance indicator. However, emissions from threat emitters would be the only emissions from potential stationary sources, and their emissions would be well below 75,000 tons per year in all cases.

Table 3-25. Alternatives Comparison of Emissions

Source	Pollutant (tons/year)						
	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_x	VOC	CO_2e
Alternative 1 Emissions	823.14	2,464.28	548.47	513.11	122.61	142.55	464,003
Alternative 2 Emissions	322.00	770.36	225.87	155.41	37.15	51.14	149,802
Alternative 3 Emissions	348.49	778.96	293.81	155.73	37.18	53.86	153,388
Total Alternative 1, 2, and 3 Emissions	**1,493.63**	**4,013.61**	**1,068.16**	**824.26**	**196.94**	**247.55**	**767,193**
Total ROI Baseline	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percent of ROI	***0.37%***	***7.51%***	***1.53%***	***4.69%***	***2.66%***	***0.05%***	***6.30%***

CO = carbon monoxide; CO_2e = carbon dioxide equivalent; NO_x = nitrogen oxides; PM_{10} or $PM_{2.5}$ = particulate matter with a diameter less than or equal to 10 or 2.5 microns, respectively; ROI = region of influence; SO_2 = sulfur dioxide; VOC = volatile organic compound

[1] Source: (EPA, 2016c)

3.3.3 Proposed Resource-Specific Mitigations and Management Actions

Identified resource-specific mitigations and/or management actions for air quality that would be implemented across all action alternatives include the following:

- Employ standard management measures for construction activities such as watering of graded areas, covering of soil stockpiles, and contour grading (if necessary) to minimize temporary generation of dust and particulate matter. This would serve to minimize air emissions associated with elements of the Proposed Action and across all action alternatives. (See Section 3.3.2.2.)

As outlined in Section 3.3.1.1 (Description of Resource), on June 4, 2018 (83 *Federal Register* 25776–25848), the EPA issued a revision to 40 CFR Part 81, Subpart C, which designated non-attainment areas under the 2015 ozone standard. Nellis AFB and a

small portion of the NTTR are located in the portion of Clark County, Nevada, that was designated as non-attainment with the revision to 40 CFR 81.329 (83 *Federal Register* 25819). The effective date of the designation is August 3, 2018 (83 *Federal Register* 25776). By operation of law, a General Conformity applicability analysis will be required to be completed for covered actions that are approved and scheduled for implementation to begin on, or after, August 2, 2019. If the General Conformity applicability analysis demonstrates that emissions of ozone precursor pollutants from the Proposed Action equal or exceed the applicable *de minimis* levels promulgated in 40 CFR 93.153(b)(1), then draft and final General Conformity determinations will be required before any emissions-related activities associated with the Proposed Action may proceed (42 USC 7506(c) and 40 CFR Part 93, Subpart B [40 CFR 93.150–165]).

3.3.4 Native American Perspective on Air Quality

3.3.4.1 Native American Perspective: Air Quality Description of Resource

The CGTO knows that the air is alive and can be affected by military activities. The Creator puts life into the air, which is shared by all living things. When a child is born, he pulls in the air to begin their life. The mother watches carefully to make sure that the first breath is natural and that there is no obstruction in the throat. It is believed if the day of birth is a windy day, it is a good day and the child will have a good life.

According to the tribal elders' perspectives expressed during visits to the NTTR, "...You can listen to the wind. The wind talks to you. Things happen in nature. Our people have weather watchers, who know when inclement weather conditions are imminent or when crops and things should occur. They watch the different elements in nature and pray to ask the winds to come and talk about these things. Sometimes you ask the north wind to come down and cool the weather. The north wind is asked to blow away the footsteps of the people who have passed on to the afterlife. That kind of wind helps people and it is considered positive. The wind also brings you songs, stories and messages. Sometimes the messages are about healing people, a sign that the sickness is gone now from the person or the land. Other times, we know change is coming to get the sickness and take it away. Other times the wind and other changes to the air can bring you the strength that you will need to confront the illness."

Dead Air - Indian people know air can be destroyed, causing pockets of *dead air*. There is only so much living air that surrounds the world. If you kill the energy, it is gone forever and cannot be restored.

Dead air lacks the spirituality and life necessary to support other life forms. Aircraft mishaps occur when they hit *dead air*. During a previous CGTO evaluation of the area, one member of the CGTO compared this Indian view of killing air with what happens when a jet flies through the air and consumes all of the oxygen, producing a condition where another jet cannot fly through it.

As one tribal elder noted, "The spiritual journey of the Southern Paiute Salt Songs are affected as the air quality is not the same as in the days of old. This Salt Singer

wonders what is going to happen if the situation isn't corrected. Southern Paiutes need this spiritual journey to ascend their deceased to the next life."

As people are emitting things into the air that are unnatural, such as past radiative tests, climatic changes such as droughts are occurring because the air is being disrespected. As the air continues to be disrespected, it perpetuates and intensifies imbalance throughout the environment. This impacts many resources, including the land, soil, water, plants, and animals.

Dust devils in various forms and sizes are culturally significant to Indian people and known to bring harm. The CGTO knows the frequency and intensity of dust devils have increased within the NNSS and the surrounding area. Dust devils contain negative energy, and can disperse hazardous and radioactive contaminants from the soil at the NTTR. Their spirits can bring harm if the air is disrespected and if you watch it or allow them to come near or pass through you. If this occurs, a person will become ill and must seek cultural intervention to heal.

Native Americans who were present during past above ground nuclear tests at the nearby Nevada National Security Site (formerly the Nevada Test Site) that is adjacent to the NTTR, believe that the sickness many illnesses may have been derived from radiation. To some, the effects of the radiation was in addition to what happened when the air itself was killed. Some tribal elders believe that even when the plants survived the initial effects of radiation or other sicknesses, the *dead air* altered or killed many of them or made some lose their spiritual power to heal things.

As noted by tribal elders, "*Sheep and other animals are being born out of season, which places them at greater risk from predators and inhibits living full lives. Consequently, their loss adversely impacts our cultural survival, as many of our stories and traditions surround these animals. Weather is out of balance. For example, when it snows, one can also hear thunder. Native people observe the changed nature of the vegetation and blame the atmospheric change on the air quality derived from the bomb testing on the NNSS."*

The CGTO recognizes that climatic change is occurring and will continue to impact the natural resources of the NNSS and the surrounding region. When rain gauge (anemometer) data are averaged over a decade they can mask the reality that plants and animals are adjusted to regular cycles of rain and snow. Isolated heavy rain events can increase the annual rainfall amounts, but are largely not useful for sustaining life. Plants and animals need the climate to return to its historic, normal annual rainfall, which is more evenly dispersed by season.

The CGTO knows that ceremonies have historically helped manage the climate in the NTTR region. Unfortunately, we have not been able to perform these ceremonies at the frequency needed as our holy land continues to suffer. To facilitate the healing of this area, the Air Force must make provisions for the CGTO to access the land and perform these rituals, which are further described below.

3.4 LAND USE, RECREATION, AND VISUAL RESOURCES

3.4.1 Affected Environment

Lands within the current NTTR boundary have primarily been used for military testing and training since the 1940s. Historical uses included mining and grazing; however, all mineral and grazing rights were eliminated between 1949 and 1965 except in limited areas that were authorized at the time of the 1986 withdrawal. Lands within the proposed expansion areas include BLM and DNWR land, which are primarily used for wildlife management and recreational activities. However, some of the activities that occur on BLM-managed land are different from the DNWR. For example OHV use occurs on BLM land but is not allowed on the DNWR. BLM land also contains areas with grazing allotments and mining claims. The DNWR is protected and managed for wildlife while still providing opportunities for visitors to experience a variety of wildlife-dependent and outdoor activities.

The following sections describe the existing conditions related to NTTR land use and land uses within the proposed expansion areas and summarize applicable material presented from the *Land Use Study of the Nevada Test and Training Range* (U.S. Air Force, 2017a).

The Land Use Study includes a general description of current land uses at the NTTR and the authorization for each land use per the MLWA of 1999; a legal description of the NTTR and changes in withdrawn lands since the 1999 withdrawal; MOUs and rights-of-way, including land uses and agency or government jurisdiction; land users and their primary jurisdictions within the NTTR; areas that qualify for special land status, such as possible Wilderness Areas, cultural resource/protection areas, biological habitat areas, etc.; and land rights and/or uses that have been eliminated or bought out or that need to be acquired by the Air Force. It also provides a resource for integration into the land use portion of the LEIS; describes land management practices within the NTTR; and maps land uses as an overlay to the NTTR.

3.4.1.1 Description of Resource

For the Native American perspective on information in this section, please see Section 3.4.4.1 and Appendix K, paragraph 3.4.1.1.1.

Land use generally refers to the management and use of land by people, often for residential or economic purposes. Components of land use include general land use patterns, land ownership, land management plans, and special use areas. General land use patterns characterize the types of uses within a particular area. Human land uses typically include residential, commercial, industrial, agricultural (open rangeland livestock grazing), utilities and transportation, recreation, and in the case of the NTTR, military activities. Land use also includes areas set aside for preservation or protection of natural resources such as wildlife habitat, vegetation, or unique features, while some natural features are protected under designations such as national parks, national forests, national wildlife refuges,

Wilderness Areas, or other designated areas, including areas/corridors designated for energy-related transmission purposes.

Public scoping comments identified recreational concerns as a major issue; therefore, recreation is a focus of land use impacts analysis. Recreational resources, for the purpose of this analysis, include primarily outdoor recreational activities that occur away from an individual's place of residence. This also includes natural resources and man-made facilities that are designed or available for public recreational use in remote areas. The setting, activity, and other resources that influence affected recreation resources enable assessment of potential impacts to this resource. Recreation on public lands is generally only limited by state and federal laws, as well as public use restrictions put into place when an activity may be hazardous to a protected area or a nearby population. Common restrictions are associated with target shooting and OHV usage.

3.4.1.2 Region of Influence

The ROI for Alternative 1 includes all of the existing areas within the North and South Ranges as well as the existing airspace boundaries. The ROI for Alternative 2 would be the same since the existing NTTR boundary would not change. Under Alternative 3, the ROI would include the areas within the current NTTR boundary as outlined in Alternative 1, plus various options for additional land withdrawals as described in Sections 2.3.3.1 (Alternative 3A) through 2.3.3.4 (Alternative 3C). There is no specific ROI associated with Alternative 4 because it would need to be implemented with one or more of the other alternatives or subalternatives and only would affect the period of withdrawal.

3.4.1.3 General Land Use, Ownership, and Management Plans

Existing NTTR Boundary (Alternatives 1 and 2)

An overview and general description of the NTTR, including the current boundary, primary uses and missions, NTTR airspace, other land users, and primary jurisdictions is presented in Section 1.2 (Background). The NTTR Land Use Study (U.S. Air Force, 2017a) includes more detailed information on the general land use, ownership, and management plans for the existing NTTR withdrawal, as described in Section 3.4.1.1.

Section 3.10 (Earth Resources) contains additional information on the mineral resources within the NTTR and surrounding area. There are no active mining claims or oil and gas leases located within the NTTR. All of the unpatented mining claims and all of the oil and gas leases have either expired or were acquired by the United States. Existing rights-of-way within the NTTR occur in two principal areas/locations. The first includes three power transmission lines and a telephone line associated with Creech AFB. The second is existing grazing rights in the Groom Mountain area, known as the Bald Mountain Allotment. Owners of these grazing rights are able to access this allotment in order to graze cattle between March 1 and February 28 (U.S. Air Force, 2017a).

With the exception of a few private land uses, public lands adjacent to the NTTR fall within the jurisdiction of the DOE, the USFWS, or the BLM. Aside from the Las Vegas

metropolitan area, these private land uses include the cities of Beatty and Tonopah and the unincorporated communities of Amargosa Valley, Goldfield, and Indian Springs.

The BLM maintains the primary jurisdiction of the NTTR lands and has responsibility for the Nevada Wild Horse Range located on the NTTR. The USFWS maintains primary jurisdiction of the majority of the South Range that overlays the DNWR.

The DOE and the NNSA Nevada Field Office have several land uses within the NTTR. These include the Pahute Mesa area, the Tonopah Test Range, and Yucca Mountain area. In 1952, land was withdrawn between the NTTR North and South Ranges for the Nevada Test Site. Formerly known as the Nevada Proving Grounds, the site was established for the testing of nuclear devices. Now known as the Nevada National Security Site (i.e., the NNSS), it safely conducts high-hazard operations, testing, and training in support of the NNSA, DoD, and other agencies.

The USFWS is responsible for the administration and management of the DNWR. Primary jurisdiction of the DNWR, including the joint-use area shared with the Air Force, also rests with the USFWS, while the Air Force has secondary jurisdiction, with the exception of the impact areas associated with the 60-series ranges in which the Air Force has primary jurisdiction and USFWS has secondary. Within those impact areas, the military conducts several training activities, including bombing and targeting areas (see Section 1.2.2, South Range). The way in which the Air Force can use this area is defined in both the MOU between the Air Force and the USFWS (updated December 1997) and within the MLWA of 1999 (U.S. Air Force, 2017a).

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

The proposed Range 77 – EC South withdrawal areas associated with Alternatives 3A and 3A-1 are located adjacent to the southwest portion of the NTTR North Range, north of the town of Beatty (see Figure 2-11, Alternative 3A, 3B, and 3C Locations and Acreages and Figure 2-12, Alternative 3A-1 Location and Acreage). The existing EC South area was previously used for live-fire exercises but now is an electronic range. Currently EC South contains a limited number of electronic threat simulators, which provide a separate area for tactics threats. The use of live ordnance on this range was terminated when the range was re-designated as an electronic warfare range. The area proposed for withdrawal is public land managed by the BLM's Tonopah Field Office, Battle Mountain District.

One active mining claim is located within the proposed withdrawal area (U.S. Air Force, 2017a) for Alternatives 3A and 3A-1. This claim is for lode mining, as opposed to placer mining. There are no mineral leases or oil and gas leases in the proposed withdrawal areas.

Portions of two BLM grazing allotments (Figure 3-5) are located within the proposed withdrawal area for Alternatives 3A and 3A-1, one of which is unallocated or closed to grazing and the other is active (Razorback).

Alternatives 3A and 3A-1 proposed expansion area includes portions of energy Corridor 18-224 north of the town of Beatty. See Section 3.6 (Socioeconomics) for a discussion of impacts associated with energy corridors.

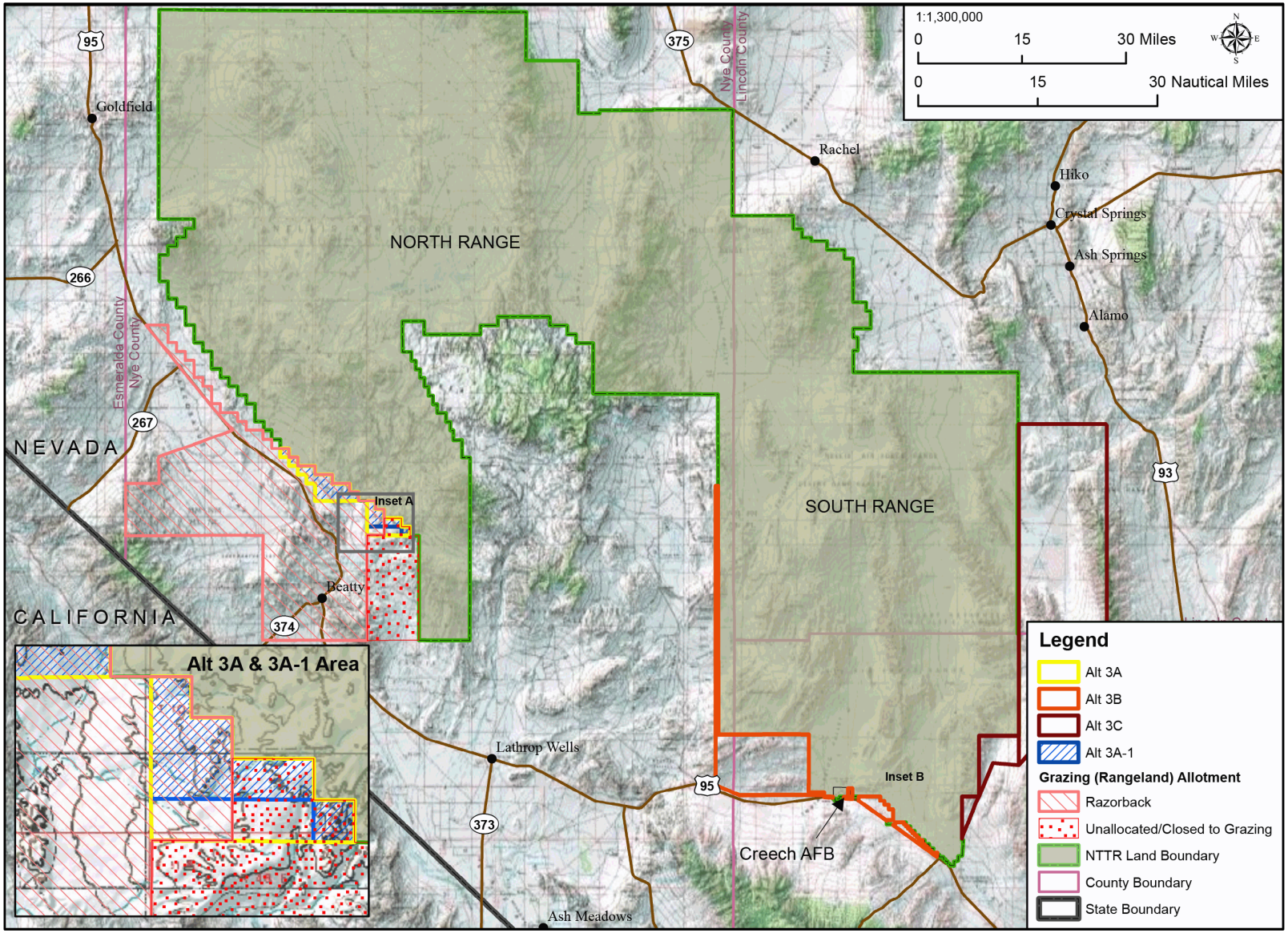

Figure 3-5. BLM Grazing Allotments Within the Range 77 – EC South Withdrawal Area

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

The proposed withdrawal area associated with Alternative 3B consists of two areas (see Figure 2-11). The larger portion is located along the southwest edge of the NTTR South Range (areas designated as Range 64C/D and Range 65D). The western and southern portions of the area are managed by BLM's Southern Nevada District and the rest is DNWR land managed by the USFWS. The other smaller area is parallel to the current NTTR boundary and U.S. Route 95. The portion immediately adjacent to U.S. Route 95 is Nevada Department of Transportation right-of-way while the remainder is BLM-managed land.

Creech AFB is located adjacent to the larger part of the proposed withdrawal area near the town of Indian Springs along U.S. Route 95. Air Force facilities are found on both sides of the highway, with the majority of assets located to the north (e.g., runways; hangars; and maintenance, administrative, and operational facilities). The Point Bravo and Silver Flag Alpha Range Complex areas are located just east of Creech AFB along the highway and adjacent to the southern portion of the proposed withdrawal area.

Approximately 240 acres of the existing withdrawal (Point Bravo) bisects energy Corridor 223-224 and a locally designated transportation and utility corridor (US95-Crater Flat). There is no corridor designation within the existing NTTR withdrawal. However, consistent with the *Record of Decision for the Approved Nevada Test and Training Range Resource Management Plan and Final Environmental Impact Statement* (BLM, 2004), the BLM may issue a lease, easement, right-of-way, or other authorization with respect to the nonmilitary use of the withdrawn land but only with the concurrence of the Air Force. See Section 3.6 (Socioeconomics) for a discussion of impacts associated with energy corridors.

South of U.S. Route 95 and Point Bravo are two State of Nevada Department of Corrections facilities: Southern Desert Correctional Center and the adjacent High Desert State Prison.

There are no mining claims, mineral leases, or other oil and gas leases or grazing allotments in the proposed withdrawal area for Alternative 3B.

Alternative 3C – Alamo Withdrawal

The proposed withdrawal area for Alternative 3C is located within the DNWR to the east of the shared use area (see Figure 2-11). Restricted airspace exists above the three Alamo areas even though the areas have not been withdrawn.

The public mineral estate within the proposed withdrawal area was withdrawn from location and entry under the U.S. mining laws by Public Land Order (PLO) 7070. PLO 7828 extended PLO 7070 through August 3, 2034. Even though the lands remain open to mineral leasing, including oil and gas, there are no active mining claims, mineral leases, or other oil and gas leases in the proposed withdrawal area.

3.4.1.4 Recreation and Special Use Areas

For the Native American perspective on information in this section, please see Section 3.4.4.2 and Appendix K, paragraph 3.4.1.4.1.

Existing NTTR Boundary (Alternatives 1 and 2)

Access restrictions on the NTTR preclude all unrestricted recreational opportunities in the area, including hunting (U.S. Air Force, 2017a). This restriction is established through NAC 504.340, which prohibits all hunting and trapping within the NTTR, except that hunting bighorn sheep is authorized in certain portions of the DNWR and NTTR. A controlled hunt for bighorn sheep is conducted each year between December 17 and January 1 in these portions of the DNWR. The shared use area of the DNWR is contained with NDOW-designated hunting units 280, 281, and 282. Bighorn sheep hunting is permitted within the Stonewall Mountain area of the NTTR and is included as a part of Unit 252. These hunting units are only open to permit holders. Anyone wishing to hunt on the NTTR must pass a background check and attend a mandatory safety briefing. Also, party size is limited to a maximum of five people within the NTTR portion of Unit 252 at any given time. No other recreational activities are allowed within the boundaries of the NTTR.

The DNWR (see Figure 1-5, South Range Overlap with DNWR) was established in 1936 for the conservation and development of natural wildlife resources, especially the protection and preservation of desert bighorn sheep. The refuge currently includes 1,614,554 acres, with 845,787 acres concurrently withdrawn by the Air Force. Of this withdrawn area, the MLWA of 1999 transferred primary jurisdiction of 112,000 acres of bombing impact areas from the USFWS to the Air Force, though the USFWS retains secondary jurisdiction over these lands. The DNWR/NTTR shared use area is currently being administered under a joint-use MOU (U.S. Air Force, 2017a).

The Nevada Wild Horse Range is a special management area located within the North Range of the NTTR (Figure 3-6). The Southern Nevada District of the BLM has administrative responsibilities for all land and management activities within the Nevada Wild Horse Range. The 2008 Nevada Wild Horse Range Herd Management Area Plan and the 1974 Wild Horse Management Area MOU provide management guidance for the wild horse population on the NTTR.

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

Recreational activities within the proposed withdrawal area for Alternatives 3A and 3A-1 include but are not limited to hunting, hiking, camping, bird-watching, target shooting, and OHV activities. There are currently no restrictions on target shooting, with the exception of the standard guidelines (no glass targets, 1,000 feet from roads and houses, etc.).

Public lands not closed to OHV usage are commonly limited to existing roads, trails and dry washes, with the exception of dry lakes, which are open to all OHV activities (U.S. Air Force, 2017a). The Oasis Valley and Oasis Mountain areas northeast of Beatty and directly adjacent to the NTTR are popular areas for hiking, mountain biking, and OHV activities and have recently experienced an increase in outdoor recreation users and events (Figure 3-7). A few of the primary users and events include:

- Trails-OV (www.trails-ov.org), which helps to develop, promote and maintain a series of trail systems for mountain biking, trail running, equestrian use and rock climbing including the Spicer Ranch Trail System and Transvaal Flats Trail System.
- Beatty VFW (www.beattyvfw.com), which holds Jeep/4-wheel drive vehicle events like the "Run Through the Desert" Fun Day and the Annual Bullfrog Historical Mining District Poker Run.
- Best in the Desert Racing Association (www.bitd.com), which hosts the annual "Vegas to Reno" off-road race.

The proposed withdrawal areas for Alternatives 3A and 3A-1 overlap with the Bullfrog HMA (Figure 3-6), managed by the BLM. This HMA provides suitable habitat for wild burros, but not for wild horses. The overlap area is 2,877 acres (U.S. Air Force, 2017a).

The proposed withdrawal area for Alternative 3A includes portions of NDOW-designated hunting units 252 and 253. These units allow for the hunting of mule deer and desert bighorn sheep (U.S. Air Force, 2017a). (A smaller portion of the Bullfrog HMA and hunting unit 253 would be impacted by Alternative 3A-1.)

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

Recreational activities within the portion of the proposed Alternative 3B withdrawal area that is managed by the BLM Southern Nevada District include but are not limited to hunting, hiking, camping, bird watching, target shooting, and OHV activities.

There are currently no restrictions on target shooting, with the exception of the standard guidelines (no glass targets, 1,000 feet from roads and houses, etc.). Public lands not closed to OHV usage are commonly limited to existing roads, trails, and dry washes, with the exception of dry lakes, which are open to all OHV activities (U.S. Air Force, 2017a).

Public access in the approximately 33,000 acres of the proposed withdrawal area for Alternative 3B within the DNWR is restricted for safety and security. No recreational activities occur in this area except for limited hunting of desert bighorn sheep.

Within the administrative incorporation area (eastern edge of range areas 63B and 63C) no off-road vehicle use is allowed per the BLM Southern Nevada District. The portion of the proposed withdrawal area that overlaps the DNWR is shown as a restricted area by the USFWS due to the close proximity to the NTTR.

A very small portion (114 acres) of the proposed withdrawal area for Alternative 3B overlaps with the Wheeler Pass HMA (Figure 3-6), which is managed by the BLM for wild horses and wild burros. However, the HMA dataset has an undefined and potentially low level of precision that could create the impression of an overlap of this size, where one may not exist (U.S. Air Force, 2017a).

The proposed withdrawal area for Alternative 3B includes portions of NDOW-designated hunting units 280, 281, and 282 (U.S. Air Force, 2017a). These units only allow for the hunting of desert bighorn sheep.

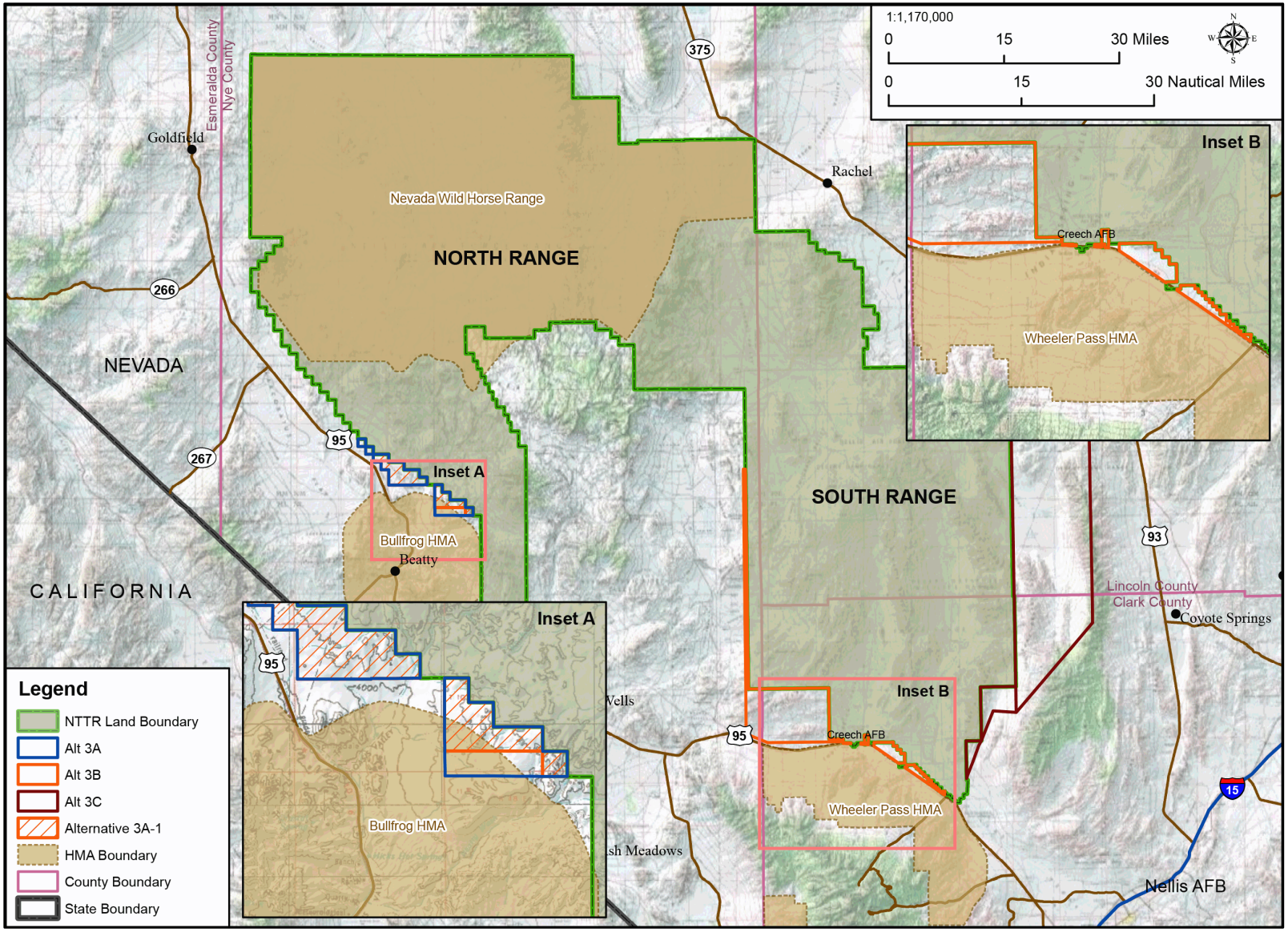

Figure 3-6. Nevada Wild Horse Range and Herd Management Areas

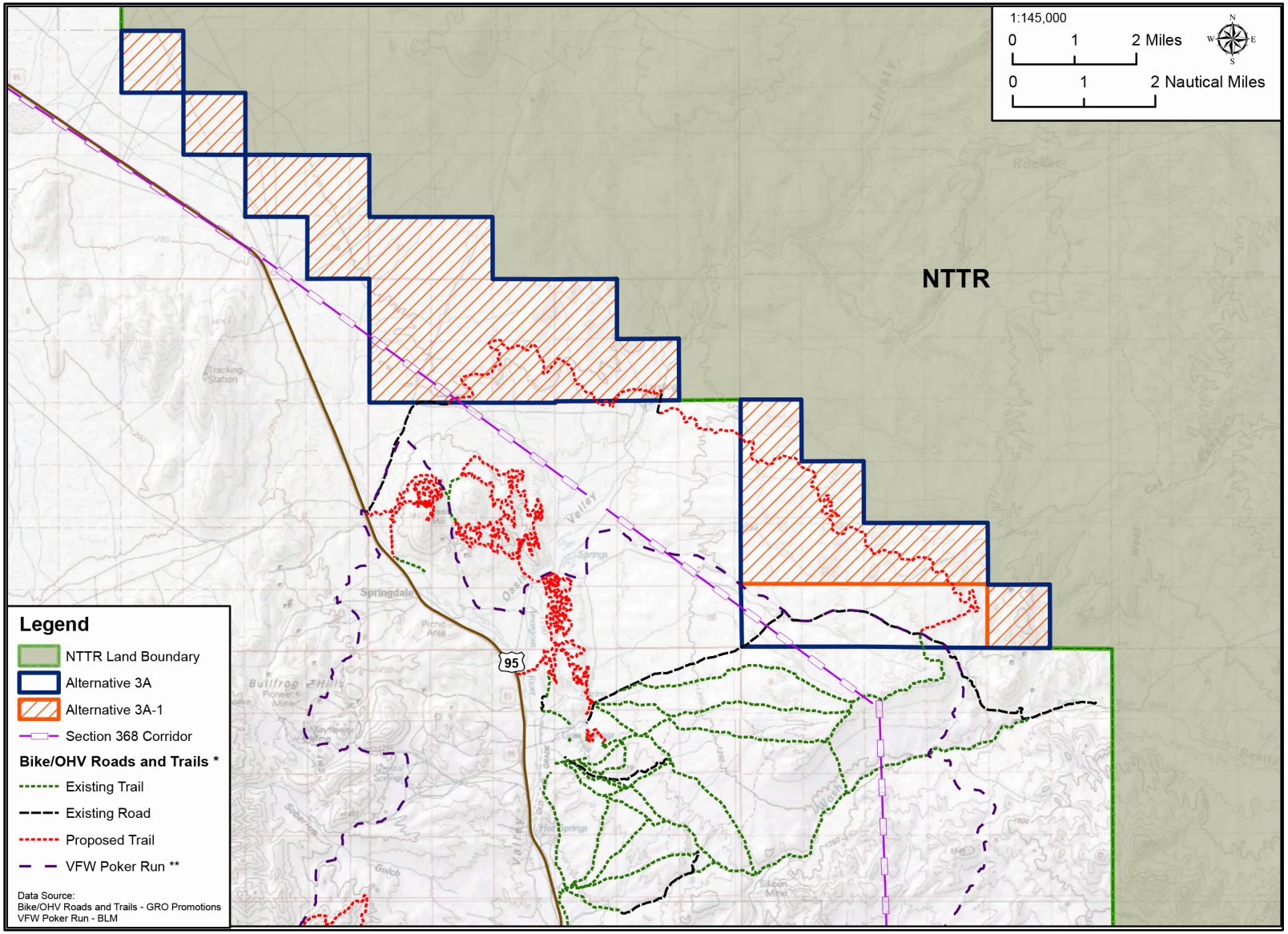

Figure 3-7. Range 77 – EC South Withdrawal Area Bike and OHV Roads and Trails

Alternative 3C – Alamo Withdrawal

The proposed withdrawal area associated with Alternative 3C is entirely within the DNWR. Recreational activities allowed within the proposed withdrawal portion of the DNWR include camping, hunting, backpacking, hiking, horseback riding, wildlife viewing/photography, and traveling on primitive scenic byways.

Operation of OHVs, including but not limited to all-terrain cycles and quads, is not permitted on the DNWR and only street legal vehicles are allowed. There are several roads, parking areas, and trails within the proposed Alternative 3C boundary (Figure 3-8). These include Alamo Road north of Hidden Forest Road, Pine Canyon Road and Pine Canyon Trail, White Rock Road (White Rock Canyon), Dead Horse Road and Dead Horse Trailhead, Saddle Mountain, Sheep Pass, Cabin Springs Road, Desert Lake, and Old Corn Creek Road.

In unrestricted areas (i.e., outside of the NTTR South Range portion of the DNWR), car campers are allowed to set up campsites anywhere that falls within 50 feet of a road. Backcountry camping is also allowed throughout the unrestricted portion of the refuge, but must be at least a quarter mile away from water development or springs (U.S. Air Force, 2017a).

The proposed withdrawal area for Alternative 3C contains portions of NDOW-designated hunting units 282, 283, and 284. These units only allow for the hunting of desert bighorn sheep.

3.4.1.5 Visual Resources

For the Native American perspective on information in this section, please see Section 3.4.4.3 and Appendix K, paragraph 3.4.1.5.1.

Visual resources include both natural and man-made features of the landscape visible from public viewpoints. Topography, water, vegetation, man-made features, as well as the degree of panoramic views available are examples of visual characteristics. Public concern over adverse visual impacts can be a major source of opposition to a project. The level of public concern depends on both viewer exposure and viewer sensitivity. The combination of exposure and sensitivity helps predict how the public might react to visual changes brought about by an action.

Viewer exposure refers to the number of people experiencing potential changes in their visual environment. Exposure also includes the duration of view, the speed at which the viewer is traveling, and the resulting perspective of the viewer relative to proposed changes.

Viewer sensitivity is defined as both the viewers' concern for scenic quality and their response to change in the visual quality. The public is generally concerned about areas possessing a high degree of visual character or quality, and these views typically contain highly visible or memorable landscape elements. Often people specifically seek out publicly accessible views from or within recreational areas. Urbanized locations are usually considered to have less visual sensitivity than recreational areas, since the use of urban locations is primary and their view is not integral to their purpose.

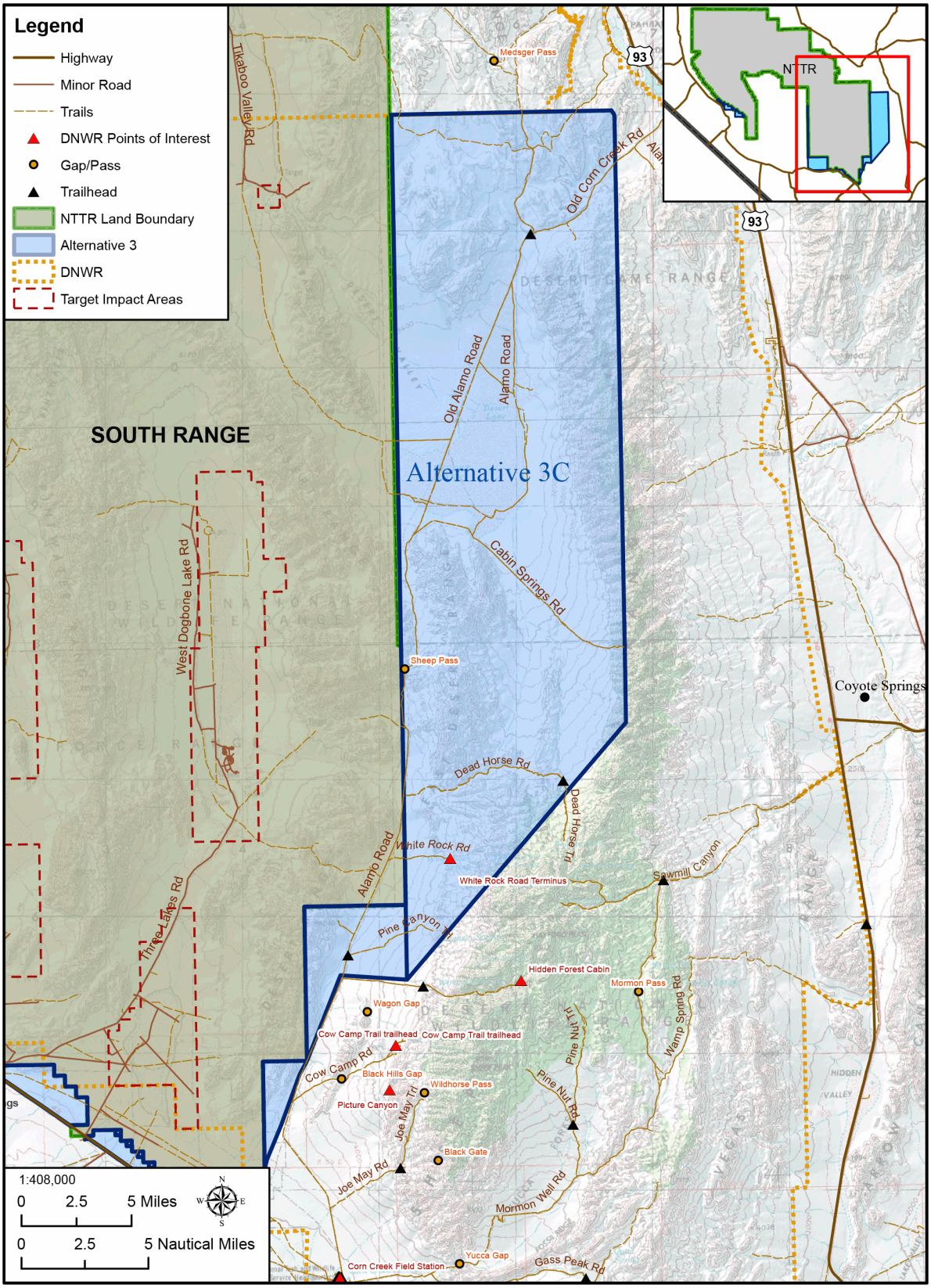

Figure 3-8. Roads, Parking Areas, and Trails Within Alternative 3C Boundary

The mission of the National Wildlife Refuge System, per the *National Wildlife Refuge System Improvement Act of 1997*, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (105th Congress, 1997). The foundation of USFWS policy and management for Congressionally designated wilderness and areas proposed for wilderness is defined in the USFWS's *Part 610: General Overview of Wilderness Stewardship Policy* (USFWS, 2008a).

Part 610 describes "wilderness character" as the natural, scenic condition of the land; natural night skies; and the untrammeled, primeval character of and influence on the land. In the *Wilderness Act of 1964*, the term "untrammeled" refers to the freedom of a landscape from the human intent to permanently intervene, alter, control, or manipulate natural conditions or processes (USFWS, 2008a). These elements of wilderness character are also part of the visual quality of an area.

The BLM manages lands to achieve some level of visual or scenic quality. The BLM uses a visual resource management (VRM) system to identify and manage scenic values on federal lands administered by that agency. BLM Handbook H-8410-1, *Visual Resource Inventory*, explains how the four Visual Resource Inventory (VRI) classifications are determined. BLM VRM classes are determined through the land use planning process. The VRI classes are different from the VRM classes. The VRI assigns a visual value, while VRM directs management through the designation of objectives. VRM classes and their objectives are summarized in Table 3-26.

Table 3-26. BLM Visual Resource Management Classes

Class I	The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
Class II	The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
Class III	The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. New projects can be approved that are not large scale, dominating features (i.e., geothermal power plant or major mining operation would not be approved).
Class IV	The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Source: (BLM, 1986)

Natural darkness (darkness undiminished by artificial light) is recognized as an important and increasingly rare natural resource. While there is light pollution from all

developed areas in Nevada, most famously Las Vegas, the state retains some of the darkest night skies left in the nation (Pesek, 2012).

Federal land management agencies promote the retention of natural night skies through participation in the "Dark Skies Initiative." The BLM has specific guidance related to the mitigation of light pollution, such as its "Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands." Based on the USFWS's 2008 Stewardship Policy as well as legislative language of the *Wilderness Act*, the USFWS manages wilderness areas in its jurisdiction (including areas they proposed for wilderness on the DNWR) to ensure natural night skies. Further information on natural darkness and light pollution can be found in Appendix E, Visual Resources.

Existing NTTR Boundary (Alternatives 1 and 2)

While the NTTR is a tapestry of lands maintained by various federal agencies, over half of the current military withdrawal area is managed by the BLM, which has provided management guidance to NTTR personnel in the *Record of Decision for the Approved Nevada Test and Training Range Resource Management Plan and Final Environmental Impact Statement* (BLM, 2004). The BLM maintains primary jurisdiction over the NTTR lands in the North Range, whereas the USFWS manages a majority of the South Range because the NTTR overlaps with the DNWR (which is managed by the USFWS). Pursuant to P.L. 106-65, the Secretary of the Interior is required to manage the lands during the withdrawal pursuant to FLPMA. This does not apply to areas under the National Wildlife Refuge System, i.e., the DNWR. Lands within the DNWR, such as those in the South Range, shall be managed pursuant to the *National Wildlife Refuge System Improvement Act of 1997.* The USFWS's 2008 Stewardship Policy, as well as legislative language of the *Wilderness Act*, also guides the USFWS to manage areas proposed for wilderness to ensure natural night skies.

The BLM has established two primary visual resource management objectives at the NTTR: (1) to maintain the integrity of visual resources in natural areas by directing that all actions initiated or authorized by the BLM comply with VRM guidelines; (2) to protect the visual resources in the planning area by managing the Groom Mountain Range addition for VRM Class III and IV values, the Timber Mountain Caldera National Natural Landmark as VRM Interim Class II, and the remainder of the planning area as VRM Interim Class IV. The established VRM categories allow the Air Force to develop infrastructure in the planning area and to conduct its training and testing mission, without violating management guidelines (BLM, 2003). A review of the 2016 Land Use Study (U.S. Air Force, 2017a) indicates that no changes to the baseline visual resource conditions have occurred since the previous LEIS or the *Record of Decision for the Approved Nevada Test and Training Range Resource Management Plan and Final Environmental Impact Statement* (BLM, 2004).

Figure 3-9 depicts the persistent sources of light pollution on the NTTR, primarily from runways and towers (National Oceanic and Atmospheric Administration [NOAA], 2013). Some sky glow persists around these sources, while towns in the vicinity (such as Beatty), Creech AFB, and High Desert Prison contribute to sky glow in the southern

portion of the NTTR (Falchi et al., 2016). Sky glow from Las Vegas affects the southeast region.

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

The areas proposed for withdrawal under Alternatives 3A and 3A-1 are within the BLM Tonopah Field Office, Battle Mountain District Office. Objectives for this District Office planning area were established in the 1997 *Tonopah Resource Management Plan,* which established VRM Class IV values for the land within these parcels. The area is of moderate sensitivity, due to viewer traffic along U.S. Route 95, ranching and recreation use, and proximity to the town of Beatty.

The areas proposed for withdrawal are north of Sarcobatus Flat, which is a long, wide valley that runs from Slate Ridge south to the Bullfrog Mountains. In profile, the valley appears flat, sloping upward to the Amargosa Range (locally known as the Grapevine Mountains) to the west. The adjacent mountains have a minor influence on the visual quality. Human uses, such as OHV roads, and developments are present in this area at Springdale and U.S. Route 95. The westernmost parcel is on the flat slope of the valley, with small shrubs clustered on the valley floor in the foreground and midground. In the background, Tolicha Peak, Quartz Mountain, and Black Mountain are notable geographic features.

The mouth of Thirsty Canyon, which empties southward into Oasis Valley, runs between the two areas proposed for withdrawal. The eastern areas proposed for withdrawal includes features such as abandoned mines and OHV roads. Low-profile, rolling hills of low contrast, which are common in this region, display indistinct vegetation in the foreground and midground of this area proposed for withdrawal. Timber Mountain is visible to the east in the background (BLM, 2011).

NOAA satellite data of average annual night-time radiance from persistent lighting exhibits no sources of light pollution within the areas proposed for withdrawal (Figure 3-9), and the naturally dark skies are only subjected to low amounts of sky glow from the town of Beatty.

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

The USFWS-managed DNWR land that is part of the proposed withdrawal expansion area for Alternative 3B is a portion of the Spotted Range Proposed Wilderness Unit and is currently restricted access (USFWS, 2009). Parts of the northern and eastern borders of the area considered for withdrawal abut to DoD impact areas.

The BLM-managed land in the proposed withdrawal for Alternative 3B offers public access and has been designated VRM Class III by the BLM Pahrump and Las Vegas Field Offices (BLM, 2014). Scenic quality in the area is classified as nearly equally medium and low.

The region is composed of four small mountain ranges that vary from common landforms of foothills, to higher and more complex areas with pyramidal peaks, color contrast in rock banding, bold blocks, and escarpments. Smaller enclosed valleys are not remarkable, characterized by flat bajada-type desert country with creosote bush communities (BLM, 2014).

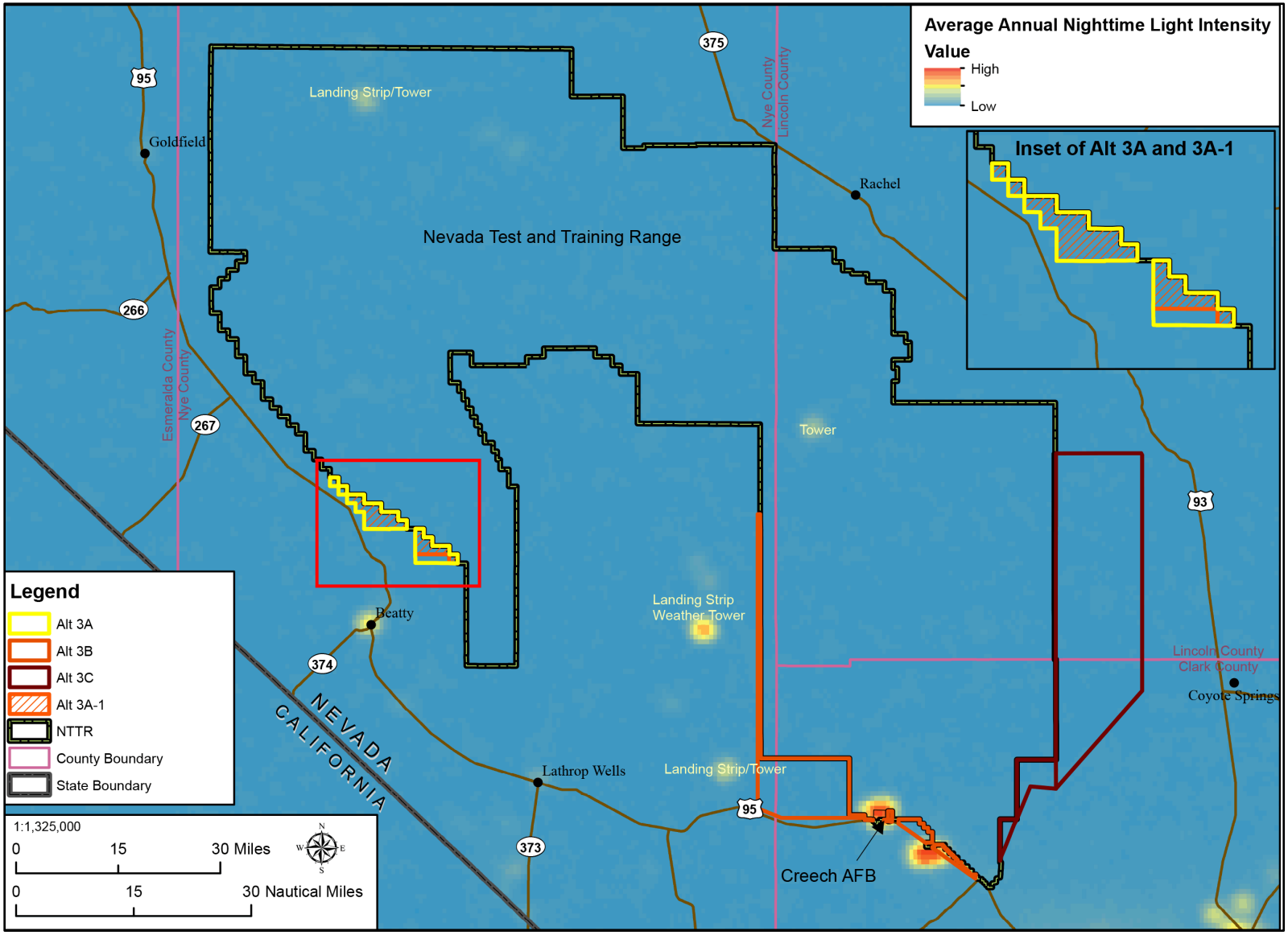

Figure 3-9. Average Annual Night-time Light Intensity

The South Ridge of the Spotted Range runs east-west in the mid-ground northern view from U.S. Route 95 in the westernmost area proposed for withdrawal. The broad valley between the highway and the South Ridge is dotted uniformly by small shrubs. Where Niavi Wash bisects the valley, some larger vegetation and erosional features add variety to the landforms.

The smallest area proposed for withdrawal associated with Alternative 3B is adjacent to the town of Indian Springs and Creech AFB. Infrastructure such as transmissions lines, ground clearing, and a variety of facilities dominate the midground and foreground views. This parcel lies within the Three Lakes Valley, and extends northward into the background view. The valley is bordered on the west by the Spotted Range and on the east by the Pintwater Range, which are distantly visible in the background.

The eastern two areas proposed for withdrawal lie within the Three Lakes Valley, and the areas themselves are in the unconsolidated fill of the alluvial fan, regularly dotted by smaller shrubs and occasionally punctuated by larger Joshua trees or agaves. In the midground, the hard white pan of the valley floor is of limited visibility, while the Desert Range mountains are in the background.

Cultural modifications to the area landscape include the mines, OHV routes, power lines, transmission lines, fence, an abandoned railroad grade, and a man-made water catchment. U.S. Route 95 runs along the southern edge of these parcels. The towns of Cactus Springs and Indian Springs, Creech AFB, and High Desert State Prison are major features adjacent to the parcels.

Sensitivity in the areas proposed for withdrawal is moderate, due to OHV recreation and scenic values, presence of small rural communities, major transportation and infrastructure corridors with infrastructure along the length, sightseers, private mines, adjacent NNSS, and the NTTR.

NOAA satellite data exhibits no sources of light pollution within the parcels (Figure 3-9); however, high levels of sky glow are present due to proximity to Creech AFB, High Desert State Prison, and the city of Las Vegas. The presence of skyglow in these areas proposed for withdrawal is substantially greater than the light pollution in parcels considered under other alternatives.

Alternative 3C – Alamo Withdrawal

The Desert National Wildlife Refuge is located immediately north of the city boundaries of North Las Vegas and Las Vegas and encompasses 1.6 million acres of rugged mountain ranges and panoramic valleys in Clark and Lincoln Counties. It is the largest refuge in the continental United States and the largest protected area in Nevada. Over 80 percent of the land area was proposed for wilderness designation in 1971, and while Congress has yet to act on the proposal, the area is managed to protect its wilderness values. As indicated in Chapter 1, the Desert National Wildlife Refuge Complex is made up of three geographically separated refuges and the Desert National Wildlife Range (i.e., the DNWR). The three separated refuges are Ash Meadows NWR, Moapa Valley NWR, and Pahranagat NWR. About half of the DNWR (approximately

826,000 acres) is overlapped by the lands withdrawn for military purposes on the South Range of the NTTR.

Based on the USFWS's 2008 Stewardship Policy as well as legislative language of the *Wilderness Act*, development and uses such as motor vehicles, motorized equipment, mechanical transport, structures, and installations are generally prohibited uses for protected wilderness areas. Visitors and visitor use structures are not excluded, but their presence is managed to maintain the biological integrity and provide high-quality wildlife-dependent recreational uses (USFWS, 2009). It is important to note that the DNWR is an area that was proposed for wilderness designation and is currently managed in a manner similar to designated wilderness as a matter of agency policy. The DNWR is substantively different than parcels considered under other alternatives because, as a whole, it has a high scenic quality due to a wide swath of largely undisturbed terrain, impressive natural vistas, and a high sensitivity due to a large volume of visitors attracted to recreational opportunities and the diversity of wildlife and vegetation.

The rugged and rapidly varying topography in the areas proposed for withdrawal for Alternative 3C contributes to diverse vegetation types, as barren playas give way to scrub covered bajadas that are bounded by color-banded mountains with high jagged peaks.

Alamo Road runs north-south through the area proposed for withdrawal, with several other public access roads and trails branching throughout. The rugged western foothills of Sheep Range form the east border, where barren cliffs and outcrops gradually give way to conifer woodlands near the upper elevations. The peaks of Sheep Range form the midground view, averaging 5,000 feet elevation in the northern range to over 9,000 feet elevation in the southern range, and over 4,000 feet above Tikaboo Valley to the west. A large closed-basin playa named Desert Lake, in Desert Valley, is in the north of the area proposed for withdrawal, and sand dunes are located nearby. Tikaboo Valley widens to over 8 miles across, offering panoramic views of the Sheep Range, the Desert Range to the west on the NTTR, and the East Desert Range south of Desert Lake. East Desert Range is barren on the exposed faces on the west side, but otherwise mixed desert scrub with an overstory of Joshua trees and Mojave yucca predominate. Some pinyon-juniper woodlands are found here, particularly on the east side of Saddle Mountain.

Natural springs, including Sheep Spring and White Rock Spring, can be found in this area, along with several man-made water catchments constructed to provide valuable water to sheep and other wildlife (see Section 3.11, Water Resources). Human uses and development in the area are restricted to the backcountry roads and trails, as well as the water catchments. Due to the limited development and infrastructure, there are few sources of light pollution in the areas proposed for withdrawal; however, sky glow from the Las Vegas urban area is especially present towards the south of the proposed withdrawal area and affects the night sky over nearly all of the area.

3.4.2 Environmental Consequences

3.4.2.1 Analysis Methodology

The methodology to assess impacts on individual land uses requires identifying the uses and determining the degree to which they would be affected by each alternative. Potential impacts on land use can result from actions that (1) change the suitability of a location for its current or planned use (e.g., noise exposure in residential areas); (2) cause conditions that are unsafe for the public welfare; (3) conflict with the current and planned use of the area based on current zoning, amendments, agreements, regulatory restrictions, management, and land use plans; or (4) displace a current use with a use that does not meet the goals, objectives, and desired use for an area based on public plans or resolutions. The degree of land use effects (negligible, minor, moderate, or significant) is based on the level of land use sensitivity in areas affected by the alternatives, the magnitude of change, and the compatibility of a proposed action with existing or planned land uses. The assessment considers multiple contextual factors that are both quantitative and qualitative.

Evaluation of recreational resources considers whether proposed changes would preclude, displace, or alter the suitability of an area or facility for ongoing or planned recreational uses. This could be triggered by changes in noise, access, visual context, availability of recreational sites, or change in desired qualities of an area that contribute to recreational opportunity. The analysis also considers the relative importance of the affected resource. This is a qualitative assessment of its value based on popularity/visitation, management goals, and availability of similar recreational opportunities.

The analysis of visual resources is largely subjective and depends upon the visual character of the surroundings, the individual viewer's perception and experiences, the public value or role of the affected landscape, as well as a variety of other contextual factors (such as angle of observation, distance, time of day, cloud cover, etc.). Land management agencies (such as the BLM) use a systematic process to evaluate landscapes and to describe and estimate visual impacts of proposed projects. The basic principle of the process is to assess the visual contrast created between a proposed project and the existing landscape (BLM, 1986). The basic design elements of form, line, color, and texture are used to make the comparison and to describe the visual contrast created by the project (BLM, 1986). Other key physical factors include the distance of the changes from viewers, frequency of viewing (such as viewers on roadways commuting to work), unobstructed line of sight to the site from specific locations (visual access), and the value of the altered landscape or viewshed.

The methodology to assess impacts on visual resources requires identifying the affected resources and determining the degree to which they would be affected by each alternative. The analysis:

- Assesses the noticeability (degree of change) of these elements at the selected locations based on contrast with the existing visual context (considering size, forms, color, texture of the new feature and the surrounding visual resources and/or visual character in the study area).
- Considers and identifies applicable state and local regulations, policies, and zoning ordinances that protect against light and visual annoyances.
- Identifies areas with designated or locally recognized visual resource value (based on public input) and the overlap with the visually impacted areas.
- Determines the significance of visual effects based on the degree of change and the value of the affected visual resource. *Visual value* considers the sensitivity of representative viewsheds based on the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources; ecological and cultural sensitivity; regulatory directive and management plans (such as ordinances, special land designations, and resource management goals); agency-designated visual resource values; and agency and public input expressed during scoping and comment periods.
- Evaluates the effect of light emissions from the project on "dark skies" and sky glow in the affected region. This evaluation focuses on current conditions of dark skies in the surrounding region. It identifies any specific dark sky initiatives, and management policies and objectives of federal, state, and local agencies to manage and maintain dark skies in the region.

If an impact is identified by the analysis, the assessment considers the level of significance using a subjective scale based on the value of the resource and degree of change and degree of interference with current activities and management standards.

Analysis considers the extent to which a proposed action may affect visual character based on importance, uniqueness, and value, as well as contrast with the existing visual character or resources. Input from agencies and the public during scoping is considered in evaluating the value of visual resources and light impact. Loss of wilderness characteristics due to permanent development was the primary issue of concern for the public. Both the BLM and the National Park Service (NPS) noted the potential effect of light pollution associated with new development in areas with natural dark skies.

3.4.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

Land use, land status, and existing land management plans would remain unchanged under Alternative 1, and existing military activities would continue on the withdrawn lands. Overlapping withdrawals of the NTTR and DNWR lands would remain, and special use areas would continue to be managed under the appropriate land management plan. Access to the NTTR would also continue at or near current levels.

The BLM visual resource management designations would remain unchanged. The established VRM categories allow the Air Force to develop infrastructure in the planning

area and conduct its training and testing mission (including munitions uses and ground-disturbance from construction, troop movement, or threat emitter use) without violating management guidelines. These activities align with the expectations of viewers and with the existing landscape character, and, therefore, are of low sensitivity and impact. Aircraft operations, projectile firings, and rocket launches are transient visual intrusions, and consequently cause no permanent visual impacts. Any infrastructure development has the potential to introduce new lighting sources that could create lasting light pollution and contribute to sky glow.

3.4.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

Some portions of the South Range that overlap with the DNWR are not currently used to support military activities. These areas do not provide unrestricted public access, as public access is restricted for safety and security. As a result, when considering the context of allowing ready access within the South Range, the programmatic analysis, and public, tribal, and agency comments, the Air Force recognizes that it is difficult to determine significance at the programmatic level. In consideration of any potential for significant impacts to land use, the Air Force has committed to mitigations to minimize the potential for significant impacts evaluated at a programmatic level (see Section 1.1, Introduction, and Section 2.9, Mitigation) and determined these mitigations would reduce impacts programmatically to a less than significant level. Should ready access in the South Range be allowed, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made.

Land use under Alternative 2 would remain relatively unchanged in the North Range, but would change significantly in the South Range as the Air Force would have ready access. Ready access in the South Range would mean that the areas proposed for wilderness may no longer be managed as wilderness per Congressionally directed changes in land management and the Air Force may have primary jurisdiction as a result of reallocation (see Section 2.3.2, Alternative 2).

Ready access in the South Range would provide greater flexibility for placement of potential IADS locations. For example, this could include the movement of threat emitters into previously unavailable areas as well as the placement of new threat emitter locations to enhance MCO operations. It could also include enhanced IW test/training capabilities such as new landing zones and IW objectives (see Figure 2-10, Composite of the Urban Operations Complex and the Conceptual Insertion Sites). Due to the existing DNWR MOU, the MLWA of 1999 and NDOW regulations, desert bighorn sheep hunting is the only recreational use allowed within the DNWR/NTTR shared use area in the South Range (see Section 3.4.1.4, Recreation and Special Use Areas). The Air Force plans to continue to allow limited bighorn sheep hunting within the affected units 280, 281, and 282 during the currently designated hunting season (December 17 through January 1).

Ready access in the North Range would not impact existing grazing rights within the Bald Mountain Allotment (see Section 3.4.1.3, General Land Use, Ownership, and Management Plans).

Changing land management in the South Range under Alternative 2 to provide ready access would mean that the South Range may no longer be managed to provide an "untrammeled landscape," and that human development could occur in such a way to attract attention and alter the existing natural character of the landscape. The ready access provided under this alternative has the potential to introduce the movement of threat emitters into previously unavailable areas and the placement of new threat emitter locations to enhance MCO operations and enhanced IW test/training capabilities such as new landing zones and IW objectives. Depending on the scope of any infrastructure development, munitions use, or ground disturbance associated with construction or troop movement, these activities may significantly depart from the existing visual context of an "untrammeled" natural environment free of human modification, as well as introduce new lighting sources that could permanently affect the natural night skies through the creation of light pollution and sky glow.

3.4.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

As with Alternative 2, the Air Force acknowledges that it is challenging to determine significance at the programmatic level. Should the areas associated with Alternative 3 be withdrawn for military use, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts, and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made. Specifically, the Alternative 3C area is currently accessible to the public and is not currently used to support military activities. As a result, when considering the context of implementing Alternative 3C within the DNWR, the programmatic analysis, and public, tribal and agency comments, the Air Force recognizes that there is a potential for significant impacts associated with restricted access. The Air Force has committed to mitigations to minimize the potential for significant impacts evaluated at a programmatic level (see Sections 1.1, Introduction, and 2.9, Mitigation).

Potential land use impacts associated with Alternatives 3A, 3A-1, 3B, and 3C include those discussed under Alternative 2 associated with ready access in the North and South Ranges and additional impacts specific to the proposed Range 77 – EC South expansion area, Range 64C/D and 65D expansion area, and the Alamo expansion area, respectively.

Specific land use impacts associated with Alternative 3A or 3A-1 would result from the need to restrict access in order to provide an additional safety buffer for live weapons deployment on the interior of Range 77 and to enhance operational security and safety buffers for Range 64C/D and Range 65D. With the exception of installation of fencing, there would be no construction disturbance in the proposed expansion area for Alternatives 3A, 3A-1, and 3B, and no munitions use in the proposed expansion areas for Alternatives 3A, 3A-1, or 3B.

Specific land use impacts associated with Alternative 3C could be considered to be significant because of the major changes that would occur within the proposed expansion area. The primary change to the existing land use would be that the area would go from an area used by the visiting public to a military training area and jurisdiction would pass from the USFWS to the Air Force. The areas proposed for wilderness may also no longer be managed as wilderness (see Section 2.3.2, Alternative 2). Additional safety buffers would be created for the target areas in the South Range (Range 62A), but no new target impact areas are proposed for the proposed expansion area for Alternative 3C under this withdrawal proposal. Potential future uses also include the establishment of radar emitter sites, unimproved runways, and use of the area for ground training to enhance and support additional MCO and IW activities within the NTTR. Perimeter fencing would also be constructed under Alternative 3C.

Limited access to the proposed Alternative 3 withdrawal areas would continue. Access would include but not be limited to service personnel (e.g., BLM, USFWS, and NDOW) for the purpose of wildlife inventory, law enforcement, cultural resource inventory and management, water development, and facility maintenance; individuals or representatives of associations for any purpose related to the protection, management, and control of wild free-roaming horses and burros; hunters, researchers, and Native American visits to cultural resources (i.e., religious and sacred sites). In order to mitigate these concerns, an Access Management Plan would be developed as outlined in Sections 2.9.2 and 3.4.3 (Proposed Resource-Specific Mitigations and Management Actions).

Mining and Grazing

For Alternatives 3A and 3A-1, there is one active mining claim (see Section 3.4.1.3, General Land Use, Ownership, and Management Plans). To address access to the mining claim, the Air Force would develop an agreement with the claimant to allow continued access. No mineral leases or oil and gas leases are located within the proposed expansion areas for Alternative 3A or 3A-1.

For Alternative 3A, two BLM grazing allotments would be affected by the proposed expansion area, one of which is unallocated or closed to grazing, and the other is active. The unallocated grazing unit is 49,356 acres in size, and 3,244 acres would be affected by the proposed expansion area (approximately 7 percent). The active grazing allotment (Razorback) is 266,329 acres in size, and only 14,650 acres (approximately 6 percent) are within the proposed expansion area (U.S. Air Force, 2017a).

The affected acreage of the unallocated grazing area and Razorback grazing allotment would be reduced by a total of approximately 2,600 acres with Alternative 3A-1.

Recreational Use

The proposed withdrawal for Alternative 3A would eliminate existing recreational uses within the proposed expansion area (see Section 3.4.1.4, Recreation and Special Use Areas) due to the need to restrict access because of Range 77 safety issues. This would be a minor adverse impact on dispersed recreational uses such as hiking since it would only restrict a relatively small portion of the surrounding BLM land, which would remain open.

The Oasis Valley area northeast of Beatty is heavily used for OHV and mountain biking activities. The proposed expansion area for Alternative 3A would restrict access to a 4.2-mile section of the Trails-OV Transvaal Flats Trail system (Windmill Road), 0.24-mile of the Ridgeline Trail, and about 4 miles of the road/trail system that is used for the Beatty VFW Bullfrog Poker Run, Best in the Desert Vegas to Reno off-road race, and other OHV activities. Trails-OV has also proposed a future section of the Transvaal Trail System, a 14.7-mile section of which is located within the proposed expansion area (Figure 3-7) for Alternative 3A.

Alternative 3A-1 would eliminate the impact to the existing 4.2-mile section of the Trails-OV Transvaal Flats Trail System (Windmill Road) and 0.24-mile of the Ridgeline Trail. It would also eliminate the impact to about 4 miles of the road/trail system that is used for the Beatty VFW Bullfrog Poker Run, Best in the Desert Vegas to Reno off-road race, and other OHV events.

The proposed expansion area for Alternative 3A also includes approximately 17,900 acres located within NDOW hunting units, including 5,700 acres in Unit 252 and 12,200 acres in Unit 253. These units allow for hunting of mule deer and desert bighorn sheep (U.S. Air Force, 2017a). For Alternative 3A-1, less acreage would also be affected in the NDOW hunting unit 253. The Air Force plans to continue to allow limited hunting within the affected units during the currently designated hunting season (December 17 through January 1).

Although recreational activities are allowed within the BLM-managed portion of the proposed expansion area for Alternative 3B (see Section 3.4.1.4, Recreation and Special Use Areas), use is relatively limited because of the lack of designated roads and trails. Within the administrative incorporation area (eastern edge of range areas 63B and 63C) no off-road vehicle use is allowed per the BLM Las Vegas Field Office. The portion of the proposed expansion area for Alternative 3B that overlaps the DNWR is shown as a restricted area by the USFWS and public access is not allowed, except for limited bighorn sheep hunting.

The proposed expansion area for Alternative 3B includes approximately 54,400 acres located within NDOW hunting units, including 47,200 acres in Unit 280, 200 acres in Unit 281, and 7,000 acres in Unit 282 (U.S. Air Force, 2017a). These units only allow for the hunting of desert bighorn sheep. The Air Force plans to continue to allow limited bighorn sheep hunting within the affected units during the currently designated hunting

season (December 17 through January 1). However, the current NDOW MOU would be modified and new language will be incorporated into the MOU to address continued hunting while avoiding potential conflicts with hunting activities during certain military training activities.

The proposed expansion area for Alternative 3C is currently within the DNWR; as a result, the greatest adverse impacts would be on the existing recreational activities that occur within the area because it would become closed to the public for safety and security reasons. Existing recreational activities on the DNWR include wildlife observation, photography, hiking, camping, bird-watching, backpacking, horseback riding, hunting, and traveling on primitive scenic byways (see Section 3.4.1.4, Recreation and Special Use Areas). Although the DNWR is closed to OHV activities, there are several roads that lead to undeveloped backcountry campsites and trailheads. Alamo Road is the primary access road within the proposed expansion area for Alternative 3C. Alamo Road is a connector road from Corn Creek in the south to Pahranagat NWR and the town of Alamo to the north. The road provides access to the west side of the Sheep Range for the length of the refuge. Side roads off of Alamo Road run to the east to various trailheads and provide recreational users and hunters access to additional backcountry areas within the Sheep Range (Figure 3-8).

The affected roads and trails within the proposed expansion area for Alternative 3C include:

- Alamo Road north of Hidden Forest Road
- Pine Canyon Road
- White Rock Road (White Rock Canyon)
- Dead Horse Road and Dead Horse Trailhead
- Saddle Mountain and Sheep Pass
- Cabin Springs Road
- Desert Dry Lake, Dunes South and Dunes North
- Section of Old Corn Creek Road from intersection with Alamo Road

However, many of the recreation areas and trails within the eastern portion of the DNWR would remain open and would not be affected by the proposed Alternative 3C withdrawal area. These include but are not limited to the Corn Creek Field Station area, Cow Camp Road and Wagon Wheel Trail, Joe May Road and trail, Gass Peak Road and trail, Mormon Well Road and Desert Pass Campground, Hidden Forest Road and trail, Sawmill Canyon Trail, and Hayford Peak.

Although these areas would not be directly affected, the closure of the proposed Alternative 3C withdrawal area to public access could have indirect impacts. Indirect impacts could occur if closure of roads and trails in the affected area results in greater visitation and use of the unaffected recreation sites than presently occurs. This could negatively affect user experience and satisfaction and result in overuse of certain areas. However, the extent of potential impact on adjacent recreational areas from any shift of recreational activity is indeterminable at this time and would be highly speculative

without a thorough understanding of the seasonal usage of the Alamo portion of the DNWR.

The proposed expansion area for Alternative 3C is located entirely within the DNWR and also falls entirely within NDOW-designated bighorn sheep hunting units. This includes approximately 11,400 acres in Unit 282, 132,400 acres in Unit 283, and 83,100 acres in Unit 284. The Air Force plans to continue to allow limited bighorn sheep hunting within these affected units during the currently designated hunting season. However, the current 30-day hunting season would be reduced by two weeks. As would be the case with Alternative 3B, the current NDOW MOU would be revised and language will be incorporated into a new MOU to address continued hunting while averting potential conflicts between hunting activities and military training activities.

Herd Management Areas

A small portion of the proposed expansion area (2,877 acres) for Alternative 3A overlaps with the Bullfrog HMA, managed by the BLM. This HMA provides suitable habitat for wild burros, but not for wild horses. A smaller portion of the Bullfrog HMA would be impacted with Alternative 3A-1. With the exception of fencing installation there would be no construction, nor would there be munition use within the area. As a result, no adverse impacts would be expected.

For Alternative 3B, there would be no adverse impacts to the Wheeler Pass HMA because only a very small portion (114 acres) overlaps with the proposed expansion area.

Because fencing locations are not known at this time the Air Force will need to perform site-specific NEPA in situations where fencing might overlap an HMA for Alternative 3A, 3A-1, or 3B to ensure that segmentation issues are addressed.

Visual Resources

Potential impacts to visual resources associated with Alternatives 3A, 3A-1, 3B, and 3C include those discussed under Alternative 2 associated with ready access in the North and South Ranges and additional impacts specific to the proposed Range 77 – EC South expansion area, Range 64C/D and 65D expansion area, and Alamo expansion areas, respectively.

For Alternative 3A or 3A-1, the need to restrict access in order to provide an additional safety buffer for live weapons deployment on the interior of Range 77 may cause additional fencing to be installed (approximately 25 miles). The fence itself uses materials, described in Section 2.3.3 (Alternative 3), that are designed to create low visual contrast with the surrounding landscape, but would nonetheless add long-term human development in a previously undisturbed area. In the areas managed by the BLM, the fencing is consistent with the established visual resources objectives. There would be no other construction disturbance, munitions use, or emitter use in the proposed expansion area for Alternatives 3A or 3A-1.

For Alternative 3B, there would be no munitions use or emitter use in the proposed expansion area. The need to restrict access will cause approximately 30 miles of

additional fencing to be installed, which would contribute a minor, weakly-contrasting, but long-term human development on previously undisturbed areas. In the areas managed by the BLM, the fencing is consistent with the established visual resources objectives. Permanent human development already characterizes the area for Alternative 3B, so limited additional disturbance would be consistent with the visual landscape. The introduction of fencing and restriction of munitions and emitter uses would create similar impacts to visual resources as discussed under Alternative 3A.

Visual resource impacts associated with Alternative 3C could be considered to be significant because of the major changes that would occur within the proposed expansion area due to changing the land management status (as discussed in Section 2.3.2, Alternative 2) and the subsequent change to military training activities that would be allowed in the area. Permanent alterations such as establishment of radar emitter sites, unimproved runways, and surface disturbance caused by ground training to enhance and support additional MCO and IW activities would modify the natural landscape from untrammeled (as described in the *Wilderness Act of 1964*) with limited development to one with extensive human intervention. The need to restrict access will cause approximately 65 miles of additional fencing to be installed, which would contribute a long-term but visually low-contrast human development on previously undisturbed areas. Infrastructure development associated with military training and support would introduce light sources into an area where none had existed, therefore generating light emissions in an area with natural night skies and very low nighttime radiance. New development would create illuminated surfaces reflecting up into the atmosphere, generating additional sky glow in an area already affected by the Las Vegas urban area.

3.4.2.5 Alternative 4 – Establish the Period of Withdrawal

The proposed withdrawal periods associated with Alternative 4—Alternative 4A (20-year withdrawal period), Alternative 4B (50-year withdrawal period), and Alternative 4C (indefinite)—must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect land use, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen alternatives may end. Thus, there are no specific land use, recreational, or visual impacts associated with Alternative 4.

3.4.2.6 No Action Alternative

Under the No Action Alternative, military activities on the NTTR and prohibitions previously placed in effect by P.L. 106-65 would expire. With the expiration of these prohibitions, land uses such as mining, mineral leasing, or livestock grazing could potentially be reintroduced into previously restricted areas. It is expected that many areas will continue to have restricted access due to the nature of historical activities and for the safety and security of current operations. Management of the former NTTR

lands would continue as currently directed until new management planning under FLPMA and NEPA regulations could be completed. Not extending the land withdrawal would not affect the existing airspace; however, without control of ground areas, the airspace could not be used to support live-fire exercises and related military high-hazard activities.

BLM-administered public land would be subject to the multiple resource management objectives of the FLPMA. Surface management of the DNWR would continue to reside with the USFWS. Current land use management objectives of BLM lands on the perimeter or the vicinity of the NTTR would continue and no changes in the land status of these adjacent lands would be expected.

Visual Resources

Efforts to remediate potential contamination hazards and minimize the extent of past military activities could result in additional ground disturbance in the affected areas; however, this would be consistent with the visual character of the military activities, resulting in little to no change in the visual character of the affected areas. Remediation could have a positive effect on visual resources if a more "natural" appearance is obtained through the removal of anthropogenic elements such as buildings, the restoration of disturbed ground with native vegetation, or the elimination of light-pollution sources. BLM-administered public land would be subject to the visual resource management objectives of the *Record of Decision for the Approved Nevada Test and Training Range Resource Management Plan and Final Environmental Impact Statement* (BLM, 2004). Surface management of the DNWR would continue to reside with the USFWS, and therefore the visual resource management would be consistent with refuge management.

3.4.3 Proposed Resource-Specific Mitigations and Management Actions

Identified resource-specific mitigations and/or management actions for land use, recreation, and visual resources that would be implemented across all action alternatives unless stated otherwise include the following:

- Measures to minimize visual impacts and light emissions, as practical, include the following (see Sections 3.4.2.3 and 3.4.2.4):
    - The Air Force would continue to site and design future facilities as described in UFC 3-530-01, *Interior and Exterior Lighting Systems and Controls*, in order to minimize night-sky effects and reduce light trespass and glare. Examples include: design all lighting to provide the minimum illumination of an appropriate color needed to achieve safety and security objectives; be directed downward and shielded to focus illumination on the desired areas; be controlled with timers, sensors, and dimmers; be vehicle-mounted for nighttime maintenance work rather than permanently mounted; and use anti-glare light fixtures.

- In order to minimize landscape scarring where surface disturbance may occur by such actions as construction, troop movement, or training structure emplacement, the Air Force would evaluate the following: treatments such as thinning and feathering vegetation at project edges to smooth the transition between natural and built areas; salvaging landscape materials such as rock, soil, and vegetation for reuse; contouring soil borrow areas and other features to approximate natural slopes; using native vegetation to establish form, line, color, and texture consistent with the surrounding undisturbed landscape; distributing stockpiled topsoil to disturbed areas and replanting; removing or burying gravel or other surface treatments; and controlling noxious and invasive weeds.
- The Air Force will consider developing a Facilities Design Plan for Reduced Visual Dominance. This may increase the visual harmony of new facilities with the natural landscape through:
  - Selecting appropriate materials and surface treatments for structures to reduce visual contrast, such as coloring the concrete to match the predominant color in the surrounding landform and using nonreflective materials.
  - Painting facilities a suitable color to reduce the contrast of the structures on the landscape.
  - Selecting the most appropriate color to as closely as possible match the predominant background colors of the immediate area for natural shadows, normal fading, and weathering.
  - Using topography and vegetation on the landscape to screen the view of new development and avoiding locating facilities near visually prominent landscape features.

- Under Alternatives 2 and 3, in order to address access issues for the South Range and the proposed expansion areas, the Air Force will develop an Access Management Plan, in coordination with stakeholders determined by the Intergovernmental Executive Committee (stakeholders could consist of the USFWS, USGS, tribes, etc.). The Access Management Plan would evaluate and establish mechanisms and procedures for allowing access to withdrawn areas in support of scientific research, natural and cultural resources management programs (including the INRMP and ICRMP, respectively), and public affairs programs. Many of these mechanisms and procedures are currently in place, but the Access Management Plan would formalize the process so individual access requests would be submitted as outlined in the NTTR AFI 13-212 Supplement and evaluated based on each request's purpose and need. Criteria for legitimate purpose and need(s) would be developed and codified within the Access Management Plan. The

Plan would be periodically reviewed by the Intergovernmental Executive Committee and associated Plan stakeholders to determine the efficacy of the Plan and identify any access-related issues and revisions/adjustments to established procedures and mechanisms for access.

- Examples of criteria for access could include but not be limited to:
    - Scientific Research Purposes – Access for purposes of natural or cultural resources studies. Examples of scientific research access could include gathering of sensitive species and migratory bird data, habitat data, archaeological and historic resource data, and other science-based data collection efforts.
    - Cultural/Religious Need – Access associated with cultural or religious need. As an example, some areas within the proposed withdrawal areas hold cultural and religious significance to Native American tribes and some members of the public who have historical ties to land areas and features (e.g., homesteads, mines, and gravesites). Tribes and other stakeholders need access to these sites in some fashion to support their cultural and religious heritage. For example, tribes will continue to conduct traditional ceremonies associated with pine nut gathering.
    - Natural Resource Management – Access for purposes of natural resources management activities conducted by groups not affiliated with the Air Force. The USFWS, USGS, NDOW, Fraternity of the Desert Bighorn, and others require access to land areas in support of natural resource management activities (e.g., maintenance of guzzlers, habitat restoration, etc.).
    - Public Affairs – Access in support of public and community relations. Examples include tours to ecologically or culturally significant areas, demonstrations of training activities on the withdrawal areas, and production of public communication materials such as videos.
- If the request for access is approved, the appropriate level of access would be determined based on the purpose and need for the request and access allowances would be based on the following “access tiers,” or combination of access tiers, as appropriate:
    - Direct Physical Access – Direct physical access means actual access to the land areas in question. Direct access is currently granted on a case-by-case basis in accordance with the NTTR AFI 13-212 Supplement. This would continue under withdrawal renewal and/or expansion, with consideration of purpose and need of the individual request as described above and as the mission schedule allows. Examples of opportunities for direct physical access may include conducting bird surveys, vegetation/habitat surveys, access to

culturally significant sites, access to guzzlers, access for hunting (e.g., annual bighorn sheep hunt), and access for cultural representative tours. The Access Management Plan would further identify and codify duration and frequency of opportunities for direct access. As an example, potential training downtimes (e.g., range decontamination and holidays, where bombing ranges are closed for a period of time) could be leveraged to provide opportunities for direct access.

- Virtual Access – Virtual access includes access to data, imagery, and other information-related aspects associated with the land areas in question. As an example, virtual access could include game camera shots available online, reports and data derived from NTTR natural resource management efforts, and other data/information useful in informing the aforementioned criteria.
- Compensatory Access – Compensatory access includes compensating the loss of access to one area by establishing mechanisms for access to other areas that are currently difficult to access or inaccessible. As an example, because the withdrawal may result in loss of access to existing recreational areas in the DNWR such as the Sheep Mountain Range due to closure of Alamo Road, the Air Force could provide resources for road improvements or trail development/improvements in other areas of the DNWR Complex where access is currently difficult or non-existent due to existing conditions. For example, this could include improvements to Mormon Well Road, the area around Moapa Wildlife Refuge, or opportunities on other federal lands. This may require additional Congressional appropriations.

3.4.4 Native American Perspective on Land Use, Recreation, and Visual Resources

3.4.4.1 Native American Perspective: Land Use, Recreation, and Visual Resources Description of Resource

The CGTO considers access issues (including the ability to visit, view or recreate) to have two key aspects that have significant cultural implications:

- Increased access to cultural resource locations may increase for contractors and/or military personnel identified under all of the proposed Alternatives. These individuals have the potential to disturb cultural resources or intrude on ceremonies without proper coordination/consultation.
- Access by Indian people to culturally important locations when requested will be limited under any action alternative.

The CGTO recognizes there are conflicting aspects with this issue; the desire for unlimited access by Indian people and the protection that is provided by restricting access for recreationalists.

Under each alternative, visual intrusions or scheduling will adversely impact resources important to Native Americans. According to the CGTO all landforms, mountain ranges and playas within the NTTR have high cultural sensitivity levels for Native Americans. The ability to see the land without obstruction or the distraction of aircraft, buildings, towers, cables, roads, and other objects related to military activities is essential for sustaining the spiritual connection between Indian people and their traditional homelands. Landscape modifications should be done in consultation with Native Americans.

3.4.4.2 Native American Perspective: Land Use

The Nevada Test and Training Range is within the traditional Holy Lands of the Western Shoshone, Southern Paiute, and Owens Valley Paiute/Shoshone and Mojave people. These ethnic groups rely on these lands for medicinal purposes, religious activities and ceremonies, food, recreational use, and other integral places described in traditional narratives and religious ceremonies.

Indian people know these lands not only contain important archaeological remains left by our ancestors but natural resources and geologic formations, such as plants, animals, water sources and minerals; Natural landforms that mark or identify important locations necessary for keeping our history alive and are necessary for teaching our children about our culture. We use traditional knowledge about sites in the NTTR region that are embedded in tribal stories and songs. Many locations or resources on the NTTR are needed for making tools, stone artifacts, and creating ceremonial objects associated with traditional healing ceremonies and power places.

For thousands of years throughout contemporary times, the area that encompasses the NTTR and the surrounding region has been a central place in the lives of American Indian tribes. NTTR has been continuously used by our people until encroachment occurred in the late 1800s up until the mid-1900s when Indian people were not permitted to access the area. In 1863, the United States entered into the Treaty of Ruby Valley of 1863 with the Western Shoshone giving certain rights to the United States in the Nevada Territory. The Western Shoshone did not cede land under this treaty but agreed to allow the US the "right to traverse the area, maintain existing telegraph and stage lines, construct one railroad and engage in specified economic activities. The Treaty would continue to be contested for decades and remaining unresolved by many Western Shoshone. (See Treaty of Ruby Valley 1863 in Appendix K Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017)

Throughout our existence, traditional festivals involving religious and secular activities attracted American Indian people to the area from as far as northern Nevada and San

Bernardino, California. Similarly, groups came to the area from a broad region during the hunting season and used animal and plant resources that were crucial for their survival and cultural practices.

Several areas within the NTTR region are recognized as traditionally or spiritually important locations including: Black Mountain, Stonewall Mountain, Mount Helen, Pillar Springs, Kawich Range, Belted Range, Airfield Canyon, and Pintwater Cave.

Thirsty Canyon is an equally important crossroad where trails from such distant places as Owens Valley, Death Valley, Ash Meadows, southern Nevada and the Avawatz Mountain come together. Black Cone, located in Crater Flats is a significant religious site that is considered to be a portal to the underworld (AIWS 2005). Due to the religious significance of these culturally sensitive areas, tribal representatives recommend the Air Force avoid affecting this area (Stoffle et al. 1988). Oasis Valley was historically an important area for trade as well as ceremonial use that still continues. Other areas throughout the NTTR are considered important because of the abundance of artifacts, traditional-use plants and animals, rock writings (petroglyphs/pictographs), and possible burial sites. Despite the current physical separation of tribes from the NTTR and neighboring lands, we continue to recognize the meaningful role of these lands in our culture and continued survival.

The CGTO maintains we have Creation-based rights to protect, use, and have access to lands within the NTTR and the immediate area. These rights were established at Creation and persist forever. Despite the loss of many traditional lands on the NTTR to cultural pollution and reduced access, Indian people have neither lost our ancestral ties nor have we forgotten our responsibilities to care for it. As one elder noted, "*Land is to be respected. It sustains us economically, spiritually, and socially.*"

During the past two decades, CGTO representatives have visited selected portions of the NTTR and continue to identify places, spiritual trails, and cultural landscapes of traditional and contemporary cultural significance. Because this is a public document, the exact locations of these areas will not be revealed; however, they do include culturally significant and sensitive resources that are addressed in the American Indian Religious Freedom Act (AIRFA); Native American Graves Protection and Repatriation Act (NAGPRA); Access to Sacred Sites; and Air Force Instruction 90-2002 Air Force Interactions with Federally Recognized Tribes. The Air Force continues to take positive steps towards facilitating co-stewardship arrangements with the CGTO to help co-manage important tribal resources found on the NTTR and regain cultural, ecological and spiritual balance

One elder from Nevada responded to the potential impacts of his traditional land as follows: "Non-Indians can move if you pollute or change the land on which you live, but we were created for this place, so we must face whatever happens here. We cannot move and continue to be tribal people-this is our land-we are this land" (Stoffle and Arnold 2003). This view is shared by other culturally affiliated tribes within the CGTO who believe we have Creation-based rights to protect, use, and have access to land.

3.4.4.3 Native American Perspective: Visual Resources

Unobstructed views from locations to and from the NTTR are an important cultural resource that contributes to the significance and performance of traditional ceremonialism. Views combined with other cultural resources produce special places where power is sought for medicine and other types of ceremony. Views can be of or from any landscape, but more central viewscapes are experienced from high places, which are often the tops of mountains and the edges of mesas. Indian viewscapes tend to be panoramic and are made special when they contain highly diverse topography. These viewscapes or panoramas are further enhanced by the presence of volcanic cones and lava flows.

Viewscapes are tied with songscapes and storyscapes especially when the vantage point has a panorama composed of multiple locations described by traditional songs or stories. Our traditional songscapes and storyscapes can be compromised if projects like geothermal or solar energy development are pursued. If geothermal resources are altered on or near NTTR, our songs and stories will be impacted and will no longer accurately reflect key traditional aspects of the viewscape.

Central to the Indian experience of viewscapes is isolation and serenity in an uncompromised landscape. If construction and operation of the proposed activities proceed in a culturally inappropriate manner, then visual resources within the NTTR will be adversely impacted, further perpetuating an unbalanced environment. To restore balance to the environment and its visual resources, the Air Force must provide access for Native Americans to conduct religious and cultural ceremonies to fulfill traditional obligations. In this manner, we can restore and preserve our spiritual harmony as a whole.

The CGTO recognizes the cultural significance of viewscapes and has identified a number of these associated with the NTTR. The Kawich, Belted, Spotted, Desert, and Pahranagat Ranges along with Black Mountain and Mount Helen contain a number of significant vantage points with different panoramas including other nearby areas but not limited to Mount Charleston, Scrugham Peak, White Mountains, Telescope Peak and Buckboard and Pahute Mesas. The CGTO feels revisiting sites within the viewscapes are essential for Indian people to interact with the land, communicate with the spirits who watch over the land, conduct religious ceremonies with prayers and songs, and monitor the condition of each site. Special considerations should be given to tribal elders and youth to provide an educational experience and reinforce positive connections with our culture.

The CGTO knows many of the activities described in this LEIS including facility construction and environmental restoration, will adversely impact visual resources. For Native Americans, the adverse impact to visual resources will most certainly impact the spiritual harmony of the environment as a whole. Facility construction and operation will impede visual resources and affect the solitude and cultural integrity of the land.

In particular, visual resources may be negatively impacted if proposed solar and geothermal projects are pursued on or near the NTTR. The CGTO must be part of any additional future discussions of these projects at a minimum as these may impact visual resources and may degrade traditional and cultural ceremonies.

Although the Air Force proposes to mitigate visual resource impacts by painting structures to reduce visibility, the CGTO knows additional mitigation measures are necessary. The CGTO recommends that landscape modifications, including those associated with environmental restoration activities, be done in consultation with tribal representatives. Specifically, Air Force should make provisions for Indian people to participate in regular monitoring of land-disturbing activities through the duration of the project. Finally, the CGTO recommends that the Air Force make provisions for Indian people to conduct ceremonies and offer prayers and songs in an effort to re-balance this adversely impacted resource.

3.5 WILDERNESS AND WILDERNESS STUDY AREAS

This section addresses Wilderness Areas and WSAs that occur in the NTTR study area. The subsections below describe characteristics of these areas, summarize management practices, and analyze potential impacts from the Proposed Action.

3.5.1 Affected Environment

For the Native American perspective on information in this section, please see Section 3.5.4 and Appendix K, paragraph 3.5.1.1.1.

3.5.1.1 Description of Resource

The *Wilderness Act of 1964* (P.L. 88-57) was passed "to assure that an increasing population accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition." Through this act, the National Wilderness Preservation System (NWPS) was established to be composed of federally owned areas that are identified and potentially designated as Wilderness Areas based on specific criteria. The NWPS also provides guidance on managing and preserving Wilderness Areas. The *Wilderness Act* also mandated that the U.S. Forest Service (USFS), NPS, BLM, and USFWS review their lands against the criteria described below to determine their suitability as wilderness, then manage those areas in accordance with the NWPS guidance. There are currently 762 designated Wilderness Areas in the United States, totaling approximately 109 million acres.

Wilderness Area is defined in P.L. 88-57 (16 USC 1131–1136) as "an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain" and "an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habituation, which is protected and managed so as to preserve its natural conditions." Based on this legal definition, five qualities of wilderness character have been identified and defined as:

- Untrammeled – Wilderness is essentially unhindered and free from the actions of modern human control or manipulation.
- Natural – Wilderness ecological systems are substantially free from the effects of modern civilization.
- Undeveloped – Wilderness is essentially without permanent improvements or the sights and sounds of modern human occupation.
- Solitude or primitive and unconfined recreation – Wilderness provides opportunities for people to experience natural sights and sounds, solitude, freedom, risk, and physical and emotional challenges of self-discovery and self-reliance. This quality focuses on the tangible aspects of the setting that affect the opportunity for people to directly experience wilderness.
- Other features of value – This quality captures ecological, geological, or other features of scientific, educational, scenic, or historical value that are not covered by the other four qualities but may not occur in all wilderness areas (Landres et al., 2015).

All five of these qualities are equally important, and none is held in higher or lower regard than the others. Therefore, the following conditions that satisfy these quality criteria must be present for an area to be considered for wilderness designation:

- The land is under federal ownership and management.
- The area consists of at least 5,000 acres of land.
- Human influence is substantially unnoticeable.
- There are outstanding opportunities for solitude or a primitive and unconfined type of recreation.
- The area may possess ecological, geological, or other features of scientific, educational, scenic, or historical value. Though these values are not required of any wilderness, if they are present they are considered part of that area's wilderness character and must be protected accordingly.

Considering the range of factors identified above, the *Wilderness Act* lends to both a quantitative and qualitative assessment of wilderness characteristics of an area (Dawson & Hendee, 2009). The land area, human influence, and ecological, geological, or other features requirements are features that can be quantified with field surveys and other data-gathering techniques. However, determining whether an area provides outstanding opportunities for solitude or primitive and unconfined recreation relies on a qualitative analysis. The *Wilderness Act* does not provide a definition of key terms, such as "outstanding opportunities" or "unconfined types of recreation," and agency policies do not provide clear guidance on what conditions are necessary to provide outstanding opportunities for wilderness experiences (Carlson et al., 2010). Therefore, the responsible agency must use its expertise to define criteria and assess these characteristics qualitatively.

If a land area meets all requirements based on a quantitative and qualitative analysis, the requesting agency (the USFWS, USFS, or NPS) submits a recommendation to the President for review. The President may then make a recommendation to Congress to designate the area as wilderness. A wilderness designation can only become effective through an act of Congress. Once the Secretary of the Interior transmits the recommendation to the President, the area is considered "proposed for wilderness." Lands included within areas that are proposed for wilderness are managed as a matter of USFWS policy as de facto wilderness and provided with the same level of protection as Congressionally designated wilderness, until Congress acts on the request.

The FLPMA of 1976 (P.L. 94-579) governs the way in which public lands administered by BLM are managed and, among other objectives, mandates that the BLM conduct studies of areas under their jurisdiction to determine suitability for wilderness designation. If the area contains sufficient wilderness characteristics, BLM inventories and classifies these areas as WSAs. These recommendations are submitted to Congress for potential designation as Wilderness Areas. Even though WSAs are not official Wilderness Areas, similar to areas proposed for wilderness, they are managed as de facto wilderness to protect their wilderness values until Congress decides to either designate the area as wilderness or release the area for nonwilderness uses. WSAs that are released for nonwilderness uses are managed in accordance with land management plans adopted under Section 202 of the FLPMA.

Management of Wilderness Areas, areas proposed for wilderness, and WSAs within the NTTR study area is discussed in Section 3.5.1.4 (Management Practices).

3.5.1.2 Region of Influence

The ROI includes Wilderness Areas, areas proposed for wilderness, and WSAs that occur within the NTTR airspace boundaries, as shown in Figure 3-10.

3.5.1.3 Wilderness and Wilderness Study Areas

Existing NTTR Boundary (Alternatives 1 and 2)

There are 14 Wilderness Areas and four WSAs that underlie the NTTR airspace boundaries. In addition, there are six Wilderness Areas and five WSAs that are located in close proximity to NTTR airspace boundaries. These areas are listed in Table 3-27 and Table 3-28. Refer to Appendix F (Wilderness and Wilderness Study Areas) for more detailed information.

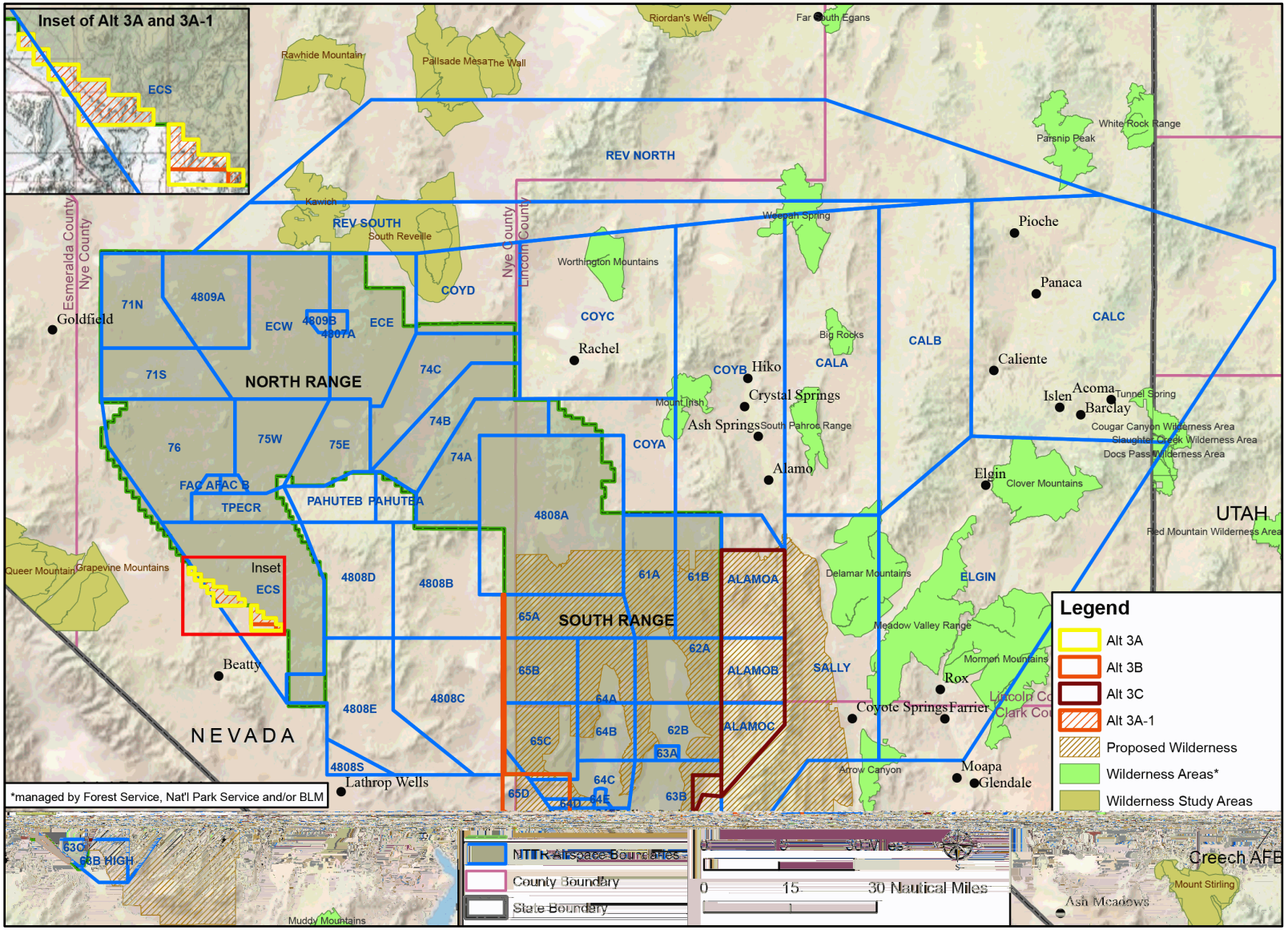

Figure 3-10. Wilderness Areas, Wilderness Study Areas, and Proposed Wilderness Areas in the Region of Influence

Table 3-27. Wilderness Areas and WSAs Within NTTR Airspace Boundaries

Wilderness Areas	Airspace Unit	Legislation
Parsnip Peak	Reveille	P.L. 108-424[a]
Weepah Springs	Coyote	P.L. 107-282[b]
Worthington Mountains	Coyote	P.L. 107-282
Big Rocks	Coyote	P.L. 108-424
Mount Irish	Coyote	P.L. 108-424
South Pahroc Range	Coyote	P.L. 107-282
Tunnel Springs (Cougar Canyon)	Caliente	P.L. 107-282
Slaughter Creek	Caliente	P.L. 111-11[c]
Docs Pass	Caliente	P.L. 111-11
Delamar Mountains	Elgin	P.L. 107-282
Clover Mountains	Elgin	P.L. 107-282
Meadow Valley Range	Elgin	P.L. 107-282
Mormon Mountains	Elgin	P.L. 107-282
Arrow Canyon	Sally	P.L. 107-282

Wilderness Study Areas[d]	Airspace Unit	Total Acres	Acres Recommended for Wilderness	Acres Recommended for Nonwilderness
The Wall[e]	Reveille	38,000	30,320	7,680
Palisade Mesa[f]	Reveille	99,550	66,110	33,440
Kawich[g]	Reveille	54,320	0	54,320
South Reveille[h]	Reveille	106,200	33,000	73,200

P.L. = Public Law; WSA = Wilderness Study Area
a. *Lincoln County Conservation, Recreation, and Development Act of 2004*
b. P.L. 107-282 = *Clark County Conservation of Public Land and Natural Resources Act of 2002*
c. P.L. 111-11 = *Omnibus Public Land Management Act of 2009*
d. (BLM, 2016a); e. (BLM, 2016b); f. (BLM, 2016c); g. (BLM, 2016d); h. (BLM, 2016e)

Table 3-28. Wilderness Areas and WSAs in Close Proximity to NTTR Airspace Boundaries

Wilderness Areas	Legislation
White Rock Range	P.L. 108-424[a]
Red Mountain	P.L. 111-11[b]
Beaver Dam Mountain	P.L. 98-406[c]
Lime Canyon	P.L. 107-282[d]
Muddy Mountain	P.L. 107-282
La Madre Mountains	P.L. 107-282

Wilderness Study Areas	Total Acres	Acres Recommended for Wilderness	Acres Recommended for Nonwilderness
Riordan's Well[e]	57,002	Not available	Not available
Rawhide Mountain[f]	64,360	0	64,360
Grapevine Mountains[g]	66,800	23,150	43,650
Mount Stirling[h]	9,650	50,682	19,050
Resting Springs[i]	3,850	0	3,850

P.L. = Public Law; WSA = Wilderness Study Area
a. *Lincoln County Conservation, Recreation, and Development Act of 2004*
b. *Omnibus Public Land Management Act of 2009*
c. *Arizona Wilderness Act of 1984*
d. *Clark County Conservation of Public Land and Natural Resources Act of 2002*
e. (BLM, 2016a); f. (BLM, 2016f); g. (BLM, 2016g); h. (BLM, 2016h); i. (BLM, 2016i)

The 1991 Nevada BLM *Statewide Wilderness Report* (BLM, 1991) evaluated 110 WSAs identified in Nevada by BLM, provided descriptions of each area, and recommended areas for either wilderness designation or nonwilderness uses. The WSAs listed in this report were presented to Congress for consideration to either be included in the NWPS or released for uses other than wilderness. For example, P.L. 107-282 designated 18 Wilderness Areas to be included in the NWPS and released three WSAs and portions of six WSAs for nonwilderness uses. Comparing current WSAs identified by BLM (BLM, 2016a) with WSAs identified in the 1991 BLM report and those areas released by legislation passed by Congress, a total of eight WSAs have been released for uses other than wilderness. It is assumed the recommendations in the 1991 BLM report provided Congress with the rationale for not designating these areas as wilderness. Reasons for areas not being recommended for wilderness include the following:

- Area was less than 5,000 acres
- Conflicts with ongoing or projected uses of the area such as off-road vehicle use, utility/energy corridors, and rights-of-way
- Little to no outstanding opportunities for solitude resulting from:
    - Minimal topographic screening
    - Lack of vegetative screening
    - Narrow configuration of the land
    - Proximity to and influence of outside sights and sounds associated with nonwilderness-related activities
- Lack of unique intrinsic values or focal points of interest for primitive recreation
- Wilderness values not considered high enough quality in comparison with:
    - Wilderness values of other wilderness areas in the vicinity
    - Resource values from potential development of future activities, such as mining

Appendix F, Wilderness and Wilderness Study Areas, contains a list of WSAs released for uses other than wilderness, along with the rationale based on the 1991 Nevada BLM *Statewide Wilderness Report* (BLM, 1991).

In addition to Wilderness Areas and WSAs discussed above, about half (826,000 acres) of the DNWR overlaps the South Range of the NTTR. Approximately 90 percent of the DNWR (1.4 million acres) comprise areas proposed for wilderness. The area proposed for wilderness consists of seven separate units: Spotted Range, Desert-Pintwater Range, Hole-in-the-Rock, East Desert Range, Sheep Range, Gass Peak, and Las Vegas Range. Within the total acreage of areas proposed for wilderness in the DNWR, 590,000 acres occur in the South Range, including the Spotted Range, Desert-Pintwater Range, and Hole-in-the-Rock. Refer to Figure 1-5 (South Range Overlap with DNWR). All discussion in this document of areas proposed for wilderness in the DNWR includes these sub-units. Elevations in the areas proposed for wilderness range from

2,600 feet to nearly 10,000 feet, with the highest peaks occurring in the Sheep Range (USFWS, 1971). This wide range of elevation, topography, and climate conditions creates a diverse setting for plant communities, habitat areas that support a variety of wildlife species, and other physical resources. Refer to Sections 3.8.1 (Biological Resources) for a discussion of vegetation and wildlife that occur in the area. In addition, Sections 3.4.1 (Land Use, Recreation, and Visual Resources), 3.9.1 (Cultural Resources), 3.10.1 (Earth Resources), and 3.11.1 (Water Resources) describe the associated resources that are found within the areas that are proposed for wilderness in the DNWR.

As previously stated, an assessment of wilderness characteristics of an area incorporates both a quantitative and qualitative approach. To address the quantitative approach, in accordance with Section 603(a) of the FLPMA, a special study was conducted to identify roadless areas in the existing NTTR withdrawal area and the proposed expansion areas that may support wilderness characteristics consistent with the requirements stated in Section 3.5.1.1 (Description of Resource) (U.S. Air Force, 2017b). During the study, an inventory of roadless areas was developed based on guidelines provided in BLM Manual 6310, *Conducting Wilderness Characteristic Inventory on BLM Lands* (BLM, 2012a). In addition, multiple sources of high-resolution satellite imagery and GIS layers from various databases were used to characterize the existing road networks and determine whether the land areas around the roads would meet the minimum size criteria of 5,000 acres for Wilderness Areas. The study also identified areas with visible human impacts, which were included in the area calculations. Visible evidence of human impacts by definition would not satisfy untrammeled, natural, and undeveloped qualities of wilderness. The results of the study are summarized in Table 3-29. Figure 3-11 shows roadless areas identified in the study.

Table 3-29. Areas of Land Categories Identified in the Roadless Areas Special Study

Category	Area (acres)	Percent of Mapped Area
Roadless areas greater than 5,000 acres	2,230,191	79.86%
Roadless areas less than 5,000 acres	59,679	2.14%
Areas impacted by humans	491,475	17.60%
Roads or road networks	13,895	0.50%

*Total area of the report study area includes only the area mapped for roads (2,792,681 acres)
Source: (U.S. Air Force, 2017b)

While the roadless areas special study identified large contiguous land areas that are absent of roads, road networks, or visible human impacts, it did not fully characterize all wilderness qualities, specifically, outstanding opportunities for solitude or primitive and unconfined types of recreation. For example, Figure 3-11 depicts roadless areas that meet the size requirement within the North Range; however, no Wilderness Areas have been designated in this part of the NTTR land withdrawal. On the other hand, roadless areas identified by the Air Force consistently overlap with areas proposed for wilderness in the South Range (U.S. Air Force, 2017b). For both the North and South Ranges, untrammeled, natural, and undeveloped wilderness qualities are inferred in the "roadless areas" category based on the assumptions made in the GIS analysis; however, a more detailed ground-truthing analysis would need to be conducted to confirm this information.

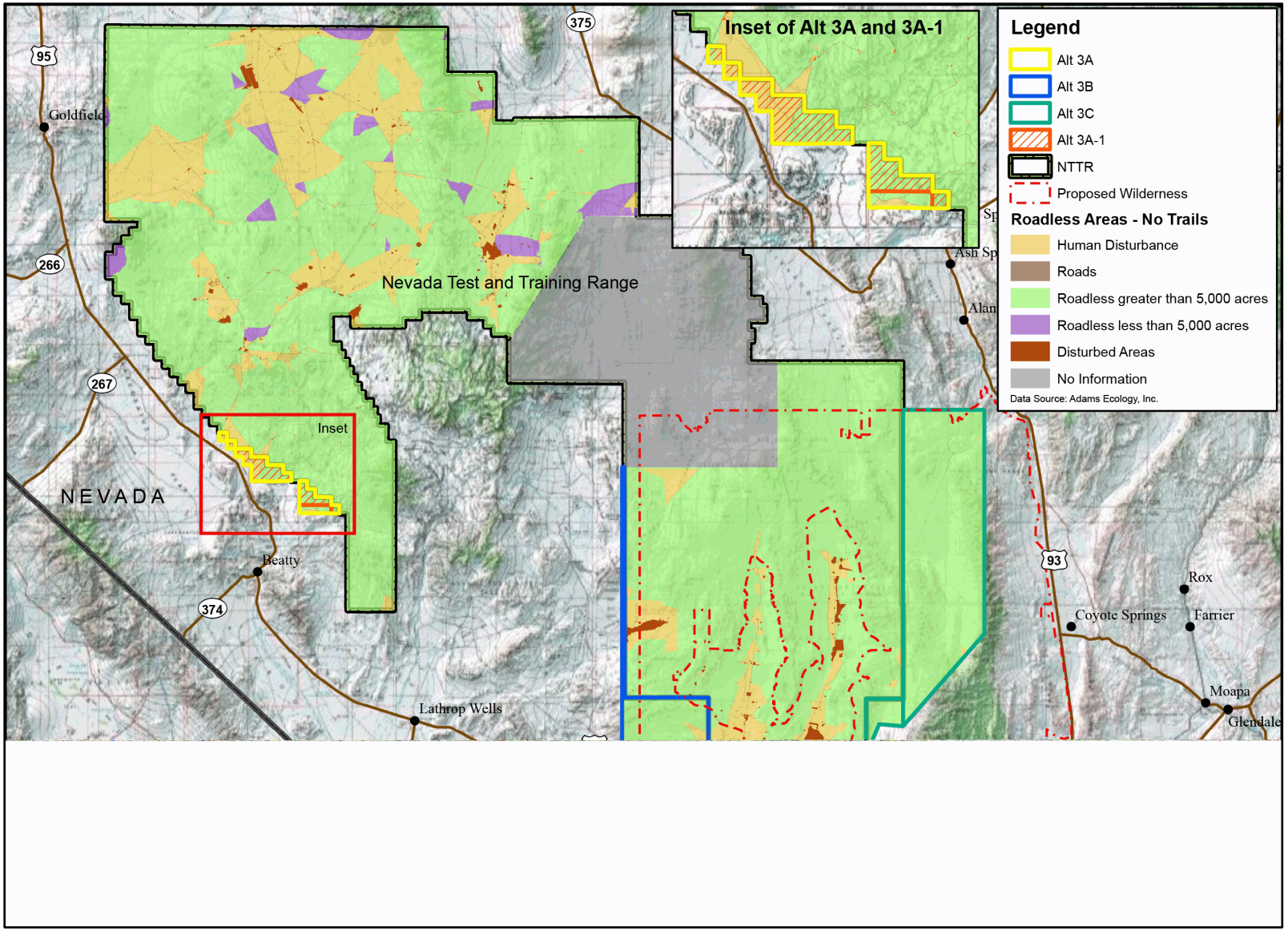

Figure 3-11. Roadless Areas Identified in the Existing NTTR Land Withdrawal and Proposed Expansion Areas

Outstanding opportunities for solitude or primitive and unconfined recreation cannot be adequately assessed using GIS and satellite imagery because, as previously indicated, these characteristics require a qualitative assessment. There is no record in the legislative history of the *Wilderness Act* as to what the framers meant by the phrase "outstanding opportunities for solitude or a primitive and unconfined type of recreation" (Landres et al., 2008). Meanings for the term "solitude" range from a lack of seeing other people to freedom from societal constraints and management regulations. Holistic views of "solitude" involve providing inspiration for an awakening of the senses, connection with the beauty of nature, and allowing one to let go of everyday obligations and to go at one's own pace (Landres et al., 2015). Similarly, meanings for "primitive" and "unconfined" recreation are wide-ranging.

The term *primitive recreation* implies traveling by nonmotorized and nonmechanical means and relying on personal skills rather than facilities or outside help (Roggenbuck, 2004). "Unconfined" refers to attributes including self-discovery, exploration, and freedom from societal or managerial controls (Dawson & Hendee, 2009). Combined together, this wilderness quality provides opportunities for physical and mental challenges associated with adventure, real consequences of mistakes, and personal growth resulting from encountering and overcoming obstacles (Landres et al., 2015).

Agencies do not provide specific policies on how to assess whether opportunities for solitude or primitive and unconfined recreation are considered "outstanding," nor is there consensus on thresholds between acceptable and unacceptable wilderness experience opportunities (Carlson et al., 2010). Researchers and managers have discussed and debated the meanings of these concepts, however, no national standards for what is an acceptable degree of solitude or primitive and unconfined recreation have been developed, because each wilderness is unique in its legislative, administrative, social, and biophysical setting (Landres et al., 2005). As discussed in Section 3.5.1.4 (Management Practices), the USFWS provides some guidance in *610 FW 4 Wilderness Review and Evaluation* (USFWS, 2008b) on how outstanding opportunities are assessed; however, the policy only suggests evaluating each area based on its own merits, without comparison to other areas, and does not use any type of rating system or scale in making the assessment. Therefore, characterizing an opportunity as "outstanding" appears to require a subjective interpretation.

Dawson (2004) suggests that outstanding opportunities for solitude require some degree of separation in sight, sound, and distance between visitors in the wilderness from people and activities occurring outside the wilderness. In fact, one indicator used in monitoring solitude or primitive and unconfined recreation is remoteness of wilderness from sights and sounds of human activities originating from outside the wilderness. Signs of human activity and development outside wilderness include (1) automobile and off-road vehicles, (2) aircraft overflights, (3) development and use of inholdings, (4) air and light pollution, and (5) urbanization from high ridges and peaks (Landres et al., 2015).

Aircraft overflights have been found to degrade the solitude and primitive recreation aspects of wilderness, based on an examination of wilderness visitor experiences when

exposed to aircraft overflights (Tarrant, Haas, & Manfredo, 1995). Kelson and Lilieholm (1997) surveyed wilderness managers representing USFS, the USFWS, NPS, and BLM across 30 states on the perceived impacts of land activities adjacent to wilderness resources. Military overflights received the second-highest impact rating based on manager consensus, preceded by fire management activities (Kelson & Lilieholm, 1997). In addition, three WSAs within the NTTR ROI were not recommended for wilderness designation, due in part to the proximity and influence of outside sights and sounds associated with utility corridors, abandoned sand and gravel operations, and Highway 93 (BLM, 1991).

Noise produced within the NTTR ROI is primarily dominated by aircraft use and munitions activities. Aircraft are authorized to operate in airspace units above Wilderness Areas, and supersonic flight is authorized above 5,000 feet mean sea level. In 2015, there were a total of 59,347 aircraft operations in the R-4809 and R-4807 airspace units that overlie the North Range, and there were 23,109 aircraft operations in the R-4806 airspace that overlies nearly the entire South Range. These would average approximately 162 and 63 operations each day in the North Range and South Range, respectively. As described in Section 3.2 (Noise), subsonic noise generated from this level of aircraft operations ranges between 61 dBA (A-weighted decibels) in the South Range up to 69 dBA in the North Range, measured as the onset-rate adjusted monthly day-night average sound level (i.e., L_{dnmr}). Section 3.2 (Noise) also analyzed supersonic noise generated from sonic booms and blast noise from munitions use in the ROI. For airspace units R-4809, R-4807, and R-4806, baseline numbers of sonic booms per day are one, two, and one, respectively. Noise generated from baseline levels of sonic booms measured as L_{dnmr} ranges between 58 dBC in the South Range and up to 60 dBC in the North Range. As a comparison, noise levels just above 50 dBA would be considered “quiet urban daytime” levels, and noise levels between 60 dBA and 70 dBA would be equivalent to a vacuum cleaner operating 10 feet away or an automobile driving by a person standing 100 feet away (refer to Appendix C, Noise, for more detailed information). Even for indoor noise receptors, if an aircraft noise event’s loudest noise level (expressed as L_{max}) exceeds 50 dB, then disruption to activity/speech is expected.

No noise thresholds have been established for wilderness. However, provided that Wilderness Areas should be free from human presence in both sight and sound, it is possible that even “quiet urban daytime” noise levels may be too loud and would detract from solitude. Based on the baseline NTTR operations and associated noise levels, the higher frequency and intensity of military operations in the North Range may contribute to factors preventing the roadless areas from ever becoming wilderness. Similarly, baseline aircraft operations and associated noise in the South Range may impact the solitude quality in areas proposed for wilderness. Figure 3-12 shows the composite baseline noise levels from all noise sources associated with baseline NTTR operations.

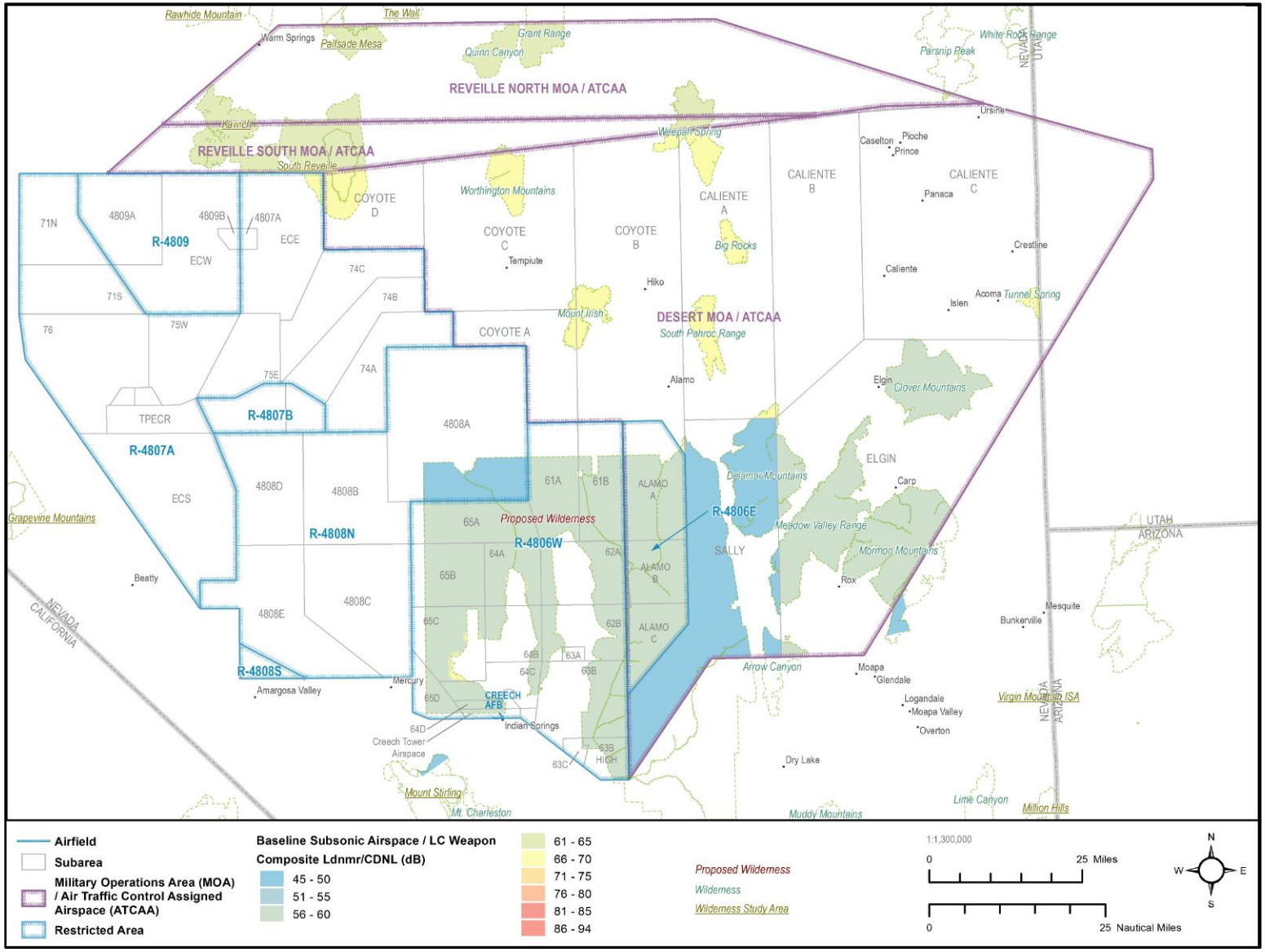

Figure 3-12. Composite Noise Levels in Wilderness Under Baseline Conditions

The entire NTTR land area, including areas that were proposed for wilderness in the South Range, is generally closed to the public due to ongoing military operations. The Air Force provides hunting opportunities for bighorn sheep, but these events are limited to certain times of the year. When public access to an area is restricted, the primitive quality of an area is reduced, and these types of controlled activities may not be considered unconfined. This access restriction, combined with baseline military operation considerations mentioned above, adds to the unsuitability of the roadless areas in the North Range as wilderness. Specifically for the DNWR and areas proposed for wilderness in the South Range, the opportunity for a "truly unique desert wilderness experience" was considered to be one of the "very special values of the area," as stated in the 1971 DNWR Wilderness Proposal (USFWS, 1971). While the public can enjoy this type of wilderness experience in the DNWR outside the NTTR boundaries, public access to areas that were proposed for wilderness within the NTTR boundaries was already restricted when it was proposed for wilderness in 1971 because the area was being used since the 1940s as an aerial bombing and gunnery range for Air Force training activities (USFWS, 1971). Therefore, areas that were proposed for wilderness in the South Range currently provide limited opportunities for primitive recreation, but these opportunities may not qualify as unconfined recreation.

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

As shown in Figure 3-10, there are no Wilderness Areas or WSAs in the 18,000 acres or 15,000 acres of the proposed expansion area for Alternative 3A or Alternative 3A-1, respectively.

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

The proposed 64C/D and 65D expansion area is approximately 61,000 acres; areas proposed for wilderness (approximately 33,000 acres) overlap approximately 54 percent of the area, primarily within Ranges 64C/D and 65D. Results from the roadless areas special study confirm that the majority of this portion of the proposed expansion area is categorized as roadless areas greater than 5,000 acres (U.S. Air Force, 2017b). Ranges 64C/D and 65D fall under airspace unit R-4806, where baseline L_{dnmr} noise levels for subsonic and supersonic aircraft operations are measured as 61 dBA and 58 dBC, respectively. Wilderness Areas, WSAs, and areas proposed for wilderness do not occur in the 7,000 acres that encompass the area parallel to the current NTTR boundary and U.S. Route 95 right-of-way and the Administrative Incorporation area.

Alternative 3C – Alamo Withdrawal

Approximately 227,000 acres are included in this proposed expansion for NTTR land withdrawal, with areas that were proposed for wilderness overlapping the entire Alamo area (approximately 99 percent). Aside from the small areas consisting of existing roads (e.g., Alamo Road, Sheep Pass, Cabin Spring Road, Hidden Forrest Road, Cow Camp Road, Joe May Road, and Pine Nut Road) and associated buffer areas, the proposed Alamo expansion areas meet the size requirement and naturalness criterion for wilderness designation (U.S. Air Force, 2017b). However, the proposed Alamo

expansion areas also fall under airspace unit R-4806, where baseline L_{dnmr} noise levels for subsonic and supersonic aircraft operations are measured as 61 dBA and 58 dBC, respectively.

3.5.1.4 Management Practices

This section summarizes current management practices and responsible agencies for Wilderness Areas and WSAs within the ROI. There are multiple management considerations to address due to the overlap of NTTR land and airspace boundaries with Wilderness Areas, WSAs, and areas proposed for wilderness within the DNWR.

Wilderness Areas

Management of Wilderness Areas is implemented through published regulations for Wilderness Preservation and Management (50 CFR 35), agency-specific guides, and national policy for wilderness management (Dawson & Hendee, 2009). There are specific management restrictions associated with all Wilderness Areas. Human activities are limited to nonmotorized recreation, such as backpacking, hunting, fishing, horseback riding, and scientific research. The *Wilderness Act* prohibits commercial activities, mechanized vehicles, including bicycles, road building, aircraft landing and launching, logging, and mining, aside from mining claims and grazing ranges that have been grandfathered into the designation.

An interagency strategy was developed to provide a framework that monitors tangible attributes of wilderness qualities, as defined in Section 3.5.1.1 (Description of Resource), and it provides a foundation for the four federal agencies (BLM, NPS, the USFWS, and USFS) to develop a nationally consistent approach to wilderness character monitoring (Landres et al., 2015; Landres et al., 2008; USFWS, 2012). This framework identifies general guidelines to manage for wilderness quality preservation:

- Untrammeled – This quality is preserved when actions to intentionally control or manipulate the components or processes of ecological systems inside wilderness are not taken.
- Natural – This quality is preserved when there are only indigenous species and natural ecological conditions and processes.
- Undeveloped – This quality is preserved when nonconforming uses are prohibited.
- Solitude or primitive and unconfined recreation – This is preserved by management actions that reduce visitor encounters, reduce signs of modern civilization inside wilderness, remove agency-provided recreation facilities, or reduce management restrictions on visitor behavior.
- Other features of value – This quality is preserved when these “other features of value” are preserved.

The framework also identifies monitoring questions and indicators for wilderness managers to assess during monitoring activities. Full implementation of the interagency strategy across all agencies for all Wilderness Areas is not known, and the

effectiveness of accurately assessing trends in wilderness qualities remains to be seen. However, this approach provides recommendations to resolve issues in quantifying intangible aspects of wilderness character.

The following discussion summarizes agency-specific management practices for Wilderness Areas and WSAs in the NTTR ROI that have been in place before the interagency strategy was developed. It is assumed these management activities are being consistently implemented across all Wilderness Areas and WSAs nationwide.

USFWS-Managed Areas

The USFWS manages Wilderness Areas through two levels of planning: refuge Comprehensive Conservation Plans and individual Wilderness Management Plans. Within the NTTR boundaries, USFWS has primary jurisdiction of the areas proposed for wilderness in the South Range (approximately 590,000 acres). The USFWS Service Manual (Part 610) *USFWS Wilderness Stewardship Policy* is the guidance document for managing Wilderness Areas and areas proposed for wilderness within the National Wildlife Refuge System (USFWS, 2008a). As a hierarchy, the USFWS determines the needs to be accomplished to meet refuge purposes first, then ensures the activities comply with the *Wilderness Act*. In other words, National Wildlife Refuge purposes instruct the USFWS on what needs to be accomplished, but the provisions of the *Wilderness Act* may affect how those objectives are accomplished. In some cases, the guidance does allow for some limited activities that would otherwise be prohibited in Wilderness Areas, strictly for refuge management purposes. The process to approve these activities is called a minimum requirement analysis to determine if proposed refuge management activities conducted in Wilderness Areas are necessary to administer that area as wilderness and accomplish the purposes of the refuge. The minimum requirement analysis also analyzes how to minimize resultant impacts. Additionally, area-specific wilderness legislation could authorize uses that the *Wilderness Act* generally prohibits (USFWS, 2008c).

In *610 FW 4: Wilderness Review and Evaluation* of the USFWS Service Manual (Part 610), the USFWS establishes policy for conducting wilderness reviews and managing WSAs and areas recommended and proposed for wilderness (USFWS, 2008b). Wilderness reviews are conducted to identify and recommend Refuge System lands and waters for congressional designation and inclusion in the NWPS. These lands are evaluated based on the size, naturalness, opportunities for solitude or primitive recreation, and supplemental values. Lands that meet these minimum requirements are then called WSAs. Each WSA is then evaluated to determine whether they are suitable for wilderness designation. The findings of that evaluation are used if the area is recommended as wilderness for approval by the Secretary of the Interior and the President. Approved lands are then considered as areas proposed for wilderness, until official designation by Congress. As an area proposed for wilderness, the USFWS has already completed the wilderness review process and evaluated the area for wilderness suitability and is therefore managed in accordance with *610 FW 1: General Overview of Wilderness Stewardship Policy* (USFWS, 2008a); *610 FW 2: Wilderness Administration*

and Resource Stewardship (USFWS, 2008d); and *610 FW 3: Wilderness Stewardship Planning* (USFWS, 2008e).

In the South Range, the DNWR, with accompanying areas proposed for wilderness, is jointly managed by the Air Force and the USFWS based on an MOU between both agencies. This MOU allows the use of the western portion of the DNWR as part of the military mission and ensures that the INRMP for Nellis AFB is developed to be consistent with management guidelines presented in the USFWS Comprehensive Conservation Plan for the DNWR. Ongoing management activities as part of the natural resources management program on the NTTR promote the preservation of the untrammeled, natural, and other features of value qualities of wilderness, because the goal is to maintain ecosystem integrity by protecting biodiversity while sustaining the mission environment. Restrictions on activities within areas proposed for wilderness—resulting from the requirement to preserve the undeveloped and solitude or primitive and unconfined recreation qualities of wilderness—affect testing and training, range management, and environmental management components of range operations. While low-level overflights, flight testing and evaluation, and designation of special use airspace are allowed over Wilderness Areas, potential operational limitations resulting from land management policies for areas proposed for wilderness that are related to appropriate use and compatibility of uses (as stated in the 2009 NTTR Comprehensive Range Plan) include the following:

- Placement of new communication sites
- Establishment of new rights-of-way for aircraft tracking/scoring systems
- Placement of new mobile threats or targets
- Emergency response to aircraft crashes
- Recovery activities related to dropped objects or aircraft crashes

BLM-Managed Areas

BLM Manual 6340, *Management of Designated Wilderness Areas*, provides the general policies and management of BLM Wilderness Areas (BLM, 2012b). Once a Wilderness Area has been designated, the BLM must develop a Wilderness Management Plan to include implementation-level guidance for either each specific Wilderness Area or for areas in close proximity containing similar wilderness characteristics and issues in accordance with provisions outlined in BLM Manual 8561, *Wilderness Management Plans*. Appendix F, Wilderness and Wilderness Study Areas, contains a list of Wilderness Management Plans for Wilderness Areas within or in proximity to NTTR airspace boundaries. For new activities that may impact a Wilderness Area, the BLM uses a Minimum Requirements Decision Guide and subsequent NEPA analyses to determine whether the proposed activity is the minimum necessary to preserve the wilderness character of the area.

Aircraft are authorized to operate in the airspace above Wilderness Areas at and above 100 feet AGL. Supersonic flight is also authorized in these areas at and above

30,000 feet mean sea level. While there is no specific prohibition of aircraft overflights of wilderness, low-altitude flights are discouraged, except in emergencies, essential military missions, and wildlife operations. Nonemergency military actions may be approved on a case-by-case basis following Minimum Requirements Decision Guide and NEPA analyses and authorization from the managing BLM Field Office Manager. The BLM does not manage overflights conducted by other agencies, but coordination is recommended to minimize disturbance of visitors and wildlife.

Wilderness Study Areas

WSAs are managed under BLM Manual 6330, *Management of Wilderness Study Areas* (BLM, 2012c). The management of WSAs is pursuant to the FLPMA and mandates that the BLM not impair the suitability of areas identified as having wilderness characteristics. Generally, BLM does not allow actions or impacts that would preclude Congress's prerogatives in either designating the areas as wilderness or releasing them for nonwilderness uses. The Interim Management Policy also outlines the implementation process for evaluating proposed actions within a WSA. If Congress designates a WSA as a Wilderness Area, then it will be managed in accordance with BLM Manual 6340, *Management of Designated Wilderness Areas*. If a WSA is not designated as wilderness, the land will then be managed under general BLM management policies and applicable land use plans.

Similar to Wilderness Areas managed by BLM, aircraft are authorized to operate in the airspace above WSAs at and above 100 feet AGL. Supersonic flight is also authorized in these areas at and above 30,000 feet mean sea level. Generally, management of WSAs is less restrictive than Wilderness Areas, in that some activities prohibited in Wilderness Areas may be permitted in a WSA if they are temporary, do not create new surface disturbance, or do not involve placement of permanent structures.

3.5.2 Environmental Consequences

3.5.2.1 Analysis Methodology

Impacts to Wilderness Areas, areas proposed for wilderness (including sub-units that occur within the area), and WSAs are assessed based on how the proposed action will affect wilderness qualities, specifically untrammeled, natural, undeveloped, solitude or primitive and unconfined recreation, and other features of value. No Wilderness Areas or WSAs occur within the North Range; therefore, the analysis primarily focuses on the areas that were proposed for wilderness in the South Range and proposed expansion areas, as well as Wilderness Areas and WSAs that occur under NTTR airspace boundaries (Table 3-27). Each alternative is analyzed based on categories of activities that would potentially occur in the future and are expected to change across all alternatives. These categories include aircraft operations, munitions use, ground disturbance, and emitter operations. As indicated in Section 2.3.3.4 (Alternative 3C), details on specific locations and associated activities included in these categories are not ready for decision or fully developed for site-specific NEPA-related environmental

analysis. Therefore, the analysis for each alternative discusses potential impacts primarily from a conceptual and qualitative perspective. Site-specific NEPA analyses will be completed in the future for specific locations and routes once a decision on withdrawal has been made and plans have been finalized.

Using this approach, categories of activities associated with the Proposed Action would generate four types of impacts, or stressors, to wilderness criteria: noise, physical disturbance of the land, evidence of human activities, and public access restrictions. Noise associated with aircraft operations and munitions use may occur at levels that would harass or annoy potential users of the wilderness and would detract from the solitude or primitive and unconfined recreation quality. Physical disturbance of the land refers to permanent alterations to the landscape resulting primarily from construction activities. Evidence of human activities would be in the form of tracks left from troop and vehicle movements and new construction. Physical disturbance of the land and evidence of human activities would primarily have a negative impact on the undeveloped qualities of an area. Public access restrictions result when areas are closed to the public due to human safety concerns during military operations that involve munitions use or emitter operations. Restricting the public from an area prohibits all recreational opportunities during that time period, which would affect the solitude or primitive and unconfined recreation quality. As stated in Section 3.5.1.4 (Management Practices), it is assumed that the untrammeled, natural, and other features of value qualities of wilderness would be maintained through natural resource management actions currently being implemented as part of the NTTR natural resources management program; therefore, these qualities are not discussed further.

Aside from the definitions of wilderness qualities provided in Section 3.5.1.4 (Management Practices), there is no regulatory consensus on identifying specific thresholds for adverse impacts to each wilderness quality. Interpretation of wilderness terminology has been a subject of debate for many years with no clear resolution. Based on this lack of regulatory guidance, this analysis considers impacts consistent with basic definitions of wilderness qualities.

3.5.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

For Alternative 1, there would be no change to the existing NTTR land boundary. Management responsibilities over areas that were proposed for wilderness in the South Range, including Spotted Range, Desert-Pintwater Range, and Hole-in-the-Rock, would remain with the USFWS, aside from the designated target areas where the Air Force maintains primary jurisdiction. If the areas that were proposed for wilderness in the South Range continue to be managed as wilderness during the next land withdrawal period, there would be no change in management responsibilities or activities in these areas.

For Alternative 1, aircraft operations over the South Range would remain at the same level as described in Section 3.5.1.3 (Wilderness and Wilderness Study Areas). Based

on the noise analysis presented in Section 3.2.2.2 (Alternative 1), aircraft operations for Alternative 1 are expected to continue to generate noise levels that may result in annoyance of potential visitors to areas that were proposed for wilderness, Wilderness Areas, and WSAs within and adjacent to the NTTR. This level of noise would continue to detract from solitude or primitive and unconfined recreation qualities of wilderness, because signs of human activities within and outside these areas would be detectable on a regular basis.

For Alternative 1, munitions use would not change from baseline conditions. Based on the noise analysis presented in Section 3.2.2.2 (Alternative 1), noise levels associated with munitions use would be concentrated around the target areas in the South Range, with noise exposures primarily occurring within areas that were proposed for wilderness. This level of noise would only be detectable in a small portion of the areas proposed for wilderness adjacent to the South Range of the NTTR, and impacts to solitude or primitive and unconfined recreation qualities would be minimal. Other Wilderness Areas and WSAs occurring outside and not adjacent to the NTTR land boundary would not be impacted by noise from munitions use.

There would continue to be public access restrictions associated with munitions use operations, resulting in limited recreational opportunities for the public in areas proposed for wilderness in the South Range. As a result, munitions use for Alternative 1 would continue to have an adverse impact on solitude or primitive and unconfined recreation qualities in areas proposed for wilderness, because public access would continue to be restricted during certain times of the year and visitors would not be able to experience unconfined recreation.

For Alternative 1, there would be no change in ground disturbance activities from baseline conditions, and ground disturbance would continue to be restricted in areas that were proposed for wilderness on the NTTR. As a result, there would be no significant impacts to the undeveloped quality of wilderness.

For Alternative 1, emitter operations would not change from existing conditions. No new areas would be restricted from public access, however, there would continue to be limited opportunities for recreational activities.

Table 3-30 lists wilderness qualities impacted by each activity and associated stressor under Alternative 1. Continuation of baseline conditions would not impact untrammeled, natural, or undeveloped qualities of wilderness, because activities that would affect these qualities would continue to be unauthorized in areas that were proposed for wilderness, Wilderness Areas, and WSAs. Adverse impacts to solitude or primitive and unconfined recreation qualities are anticipated for the areas that were proposed for wilderness in the South Range; however, these impacts would not increase from the baseline conditions described in Section 3.5.1.3 (Wilderness and Wilderness Study Areas).

Table 3-30. Impacts to Wilderness Qualities for Alternative 1

Proposed Activity	Stressor(s)	Wilderness Quality Potentially Impacted			
		Untrammeled	Natural	Undeveloped	Solitude or Primitive & Unconfined Recreation
Aircraft operations	Noise	n/a	n/a	n/a	X
Munitions use	Noise	n/a	n/a	n/a	X
	Public access restrictions	n/a	n/a	n/a	X
Ground disturbance	Physical disturbance of the land	n/a	n/a	n/a	n/a
	Evidence of human activities	n/a	n/a	n/a	n/a
Emitter operations	Public access restrictions	n/a	n/a	n/a	X

3.5.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

Some portions of the South Range that overlap with the DNWR are not currently used to support military activities and are managed as wilderness. While these areas do not provide unrestricted public access, as public access is restricted for safety and security, the areas are currently managed to maintain wilderness qualities as described previously. As a result, when considering the context of allowing ready access within the South Range and associated areas proposed as wilderness, the programmatic analysis, and public, tribal, and agency comments, the Air Force recognizes that it is difficult to determine significance at the programmatic level. Should ready access in the South Range be allowed, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts, and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made.

Under Alternative 2, ready access may be implemented through Congressionally directed changes in land management within overlapping portions of the DNWR. These changes would effectively reduce areas currently managed by USFWS as wilderness. Therefore, the total acreage of areas and sub-units proposed for wilderness that are managed as wilderness would be reduced by different amounts, depending on the combination of alternatives selected. The areas that were proposed for wilderness in the current withdrawal boundary of the South Range total approximately 590,000 acres. Therefore, if Alternative 2 is selected, the total area of lands managed as wilderness within the DNWR would be reduced by 590,000 acres. This would include Spotted Range, Desert-Pintwater Range, and portions of Hole-in-the-Rock. Under this scenario, approximately 42 percent of area proposed as wilderness within the DNWR would no longer be managed as wilderness.

Based on information presented in Appendix F, Wilderness and Wilderness Study Areas, there are over 1.4 million acres of land that contain wilderness qualities within the ROI, consisting of both Wilderness Areas and WSAs. Combining this acreage with the areas proposed as wilderness in the DNWR, there are approximately 2.8 million acres of land in the ROI that contain wilderness qualities (Wilderness Areas, WSAs, and areas proposed as wilderness) and are managed accordingly. Within the state of Nevada, including the ROI and areas proposed for wilderness, there are over 5.3 million acres of land that contain wilderness qualities. Implementing Alternative 2 would reduce the areas managed as wilderness by 21 percent in the ROI and by 11 percent in the state of Nevada. There would still be over 4.7 million acres of land that possess wilderness qualities within the state of Nevada available to the public. Given this large area of land remaining that contains wilderness qualities and would be managed accordingly, combined with the existing access restrictions to areas proposed as wilderness within the current NTTR land boundaries, ceasing to manage proposed wilderness areas as wilderness in the South Range would not significantly reduce the opportunity for people to experience wilderness in southern Nevada.

As previously indicated, ready access may be achieved through a Congressionally directed change in the land management practices within the NTTR withdrawal boundary. Impacts to areas proposed for wilderness are typically assessed on the potential effects to wilderness qualities, which are only affected by the conduct of certain actions or activities taking place within or around an area either designated or managed as wilderness. Under ready access conditions, impacts to the land and associated resources within areas that were proposed for wilderness in the South Range would occur because usage restrictions associated with wilderness management practices would be removed. However, impacts to areas that were proposed for wilderness in the South Range are not assessed within the context of potential effects to wilderness qualities because those standards would no longer apply under Alternative 2. This section, instead, focuses on potential impacts to areas that were proposed for wilderness that would remain outside the withdrawal area and considers the reduction in the amount of land area within the southern Nevada region that would be managed as wilderness. Potential impacts to the land and other resources that occur within the withdrawal area, including areas that were proposed for wilderness in the South Range, are discussed in other sections throughout this LEIS. Refer to Sections 3.4 (Land Use, Recreation, and Visual Resources), 3.8 (Biological Resources), 3.9 (Cultural Resources), 3.10 (Earth Resources), and 3.11 (Water Resources). The discussions in those sections include management actions that could be carried forward under ready access, which are expected to result in the conservation and protection of certain resources. Even though preserving wilderness qualities would no longer be the primary objective, other resources would benefit from implementing the new land management practices because there would be less restriction on the land, providing better opportunities to manage the area. For example, managing areas proposed for wilderness as wilderness restricts some access by motorized vehicles, which affects the ability to conduct timely wildlife monitoring and surveys of key plant, animal, and other species by Nellis AFB biologists (Lachman et al., 2016). In addition, the protection of threatened and endangered species may require mechanical manipulation of the area,

such as man-made water structures. However, implementing these actions in areas managed as wilderness requires managers to use the minimum necessary tools and to justify the potential intrusion on other wilderness values (Hendee & Dawson, 2001). As a result, other resources that occur within areas proposed for wilderness may not be managed in the most efficient and beneficial manner. Therefore, the overall conditions of other resources in the South Range may potentially improve under ready access.

Aircraft operations are proposed to increase by 30 percent for Alternative 2. Based on the noise analysis presented in Section 3.2.2.3 (Alternative 2), noise associated with aircraft operations may result in annoyance of potential visitors to Wilderness Areas, WSAs, and remaining areas proposed for wilderness adjacent to the NTTR. Similar to baseline conditions analyzed for Alternative 1, this level of noise would continue to affect solitude or primitive and unconfined recreation qualities of wilderness, because signs of human activities within and outside these areas would be detectable on a regular basis.

For Alternative 2, live munitions use would increase by 30 percent on the existing target impact areas within the South Range, and blank firing activities may be conducted outside the impact areas. Therefore, impacts would primarily result from noise. Based on the noise analysis presented in Section 3.2.2.3 (Alternative 2), noise levels resulting from weapon firing activities would be concentrated within the South Range, with noise exposures primarily occurring within and adjacent to the NTTR South Range boundary. This level of noise would be similar to baseline noise levels, and, as discussed for Alternative 1, would only be detectable in a small portion of areas proposed for wilderness outside of the NTTR South Range boundary; therefore, impacts to solitude or primitive and unconfined recreation qualities to this small area would be minimal.

Access restrictions associated with munitions use for Alternative 2 would not change over baseline conditions because public access to areas that were proposed for wilderness within the NTTR is currently limited to certain times of year, including bighorn sheep hunts. Under ready access, public access would continue to be restricted during certain times of the year and visitors would not be able to experience unconfined recreation within the NTTR withdrawal boundary. Therefore, opportunities for primitive recreation would not be available year-round, and these controlled activities may not be considered unconfined recreation.

Ready access achieved for Alternative 2 would allow new emitters and insertion points to be constructed and developed throughout the South Range. Ground troop movements would also become available throughout the South Range. No ground disturbance activities would occur in the Wilderness Areas, WSAs, and remaining areas proposed for wilderness outside the NTTR land boundaries; therefore, no impacts to wilderness qualities from ground disturbance would occur in these areas.

Emitter operations may be expanded in the South Range, which would increase area restrictions in the South Range and result in similar impacts as Alternative 1. None of these area restrictions would occur in the Wilderness Areas, WSAs, or remaining areas proposed for wilderness outside the NTTR land boundaries; therefore no impacts to wilderness qualities in these areas would occur.

Table 3-31 lists wilderness qualities impacted by each activity and associated stressor. Direct adverse impacts to the land area are anticipated if usage restrictions associated with the management of areas proposed for wilderness are removed; these potential impacts as they relate to other affected resources are discussed in other sections throughout this LEIS. The remaining areas proposed for wilderness within the DNWR outside the NTTR land boundaries would continue to be affected as described under Alternative 1. Aircraft operations proposed under Alternative 2 would impact solitude or primitive and unconfined recreation qualities in Wilderness Areas, WSAs, and remaining areas proposed for wilderness outside the NTTR land boundary; however, there would be no impacts to the undeveloped quality of these areas.

Table 3-31. Impacts to Wilderness Qualities for Alternative 2

Proposed Activity	Stressor(s)	Wilderness Quality Potentially Impacted			
		Untrammeled	Natural	Undeveloped	Solitude or Primitive & Unconfined Recreation
Aircraft operations	Noise	n/a	n/a	n/a	X[1]
Munitions use	Noise	n/a	n/a	n/a	X
	Public access restrictions	n/a	n/a	n/a	X
Ground disturbance	Physical disturbance of the land	n/a	n/a	X	n/a
	Evidence of human activities	n/a	n/a	X	n/a
Emitter operations	Public access restrictions	n/a	n/a	n/a	X

1. Also applies to Wilderness Areas and WSAs outside the NTTR land boundaries.

3.5.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

As with Alternative 2, the Air Force recognizes that it is difficult to determine significance at the programmatic level; however, direct adverse impacts to the land area are anticipated if usage restrictions associated with the management of areas proposed for wilderness are removed; these potential impacts are discussed in other sections throughout this LEIS. Therefore, this section focuses on potential impacts to areas proposed for wilderness that would remain outside the proposed expansion areas.

There are no Wilderness Areas or WSAs in or adjacent to the proposed Range 77 expansion area for Alternative 3A or 3A-1; therefore, there would be no impacts to wilderness for Alternative 3A or 3A-1.

Aircraft operations for Alternative 3B would increase by 30 percent in restricted airspace above the Range 64C/D and 65D areas. Based on the noise analysis presented for Alternatives 3A, 3A-1, 3B, and 3C in Section 3.2.2.4 (Alternative 3), noise levels associated with aircraft operations for Alternative 3B may result in annoyance and harassment of potential visitors to areas proposed for wilderness outside the NTTR boundary. Similar to baseline conditions analyzed for Alternative 1, this level of noise would continue to affect solitude and/or primitive and unconfined recreation qualities of wilderness, because signs of human activities within and outside these areas would be detectable on a regular basis.

For Alternative 3C, aircraft operations would increase by 30 percent the restricted airspace units above the Alamo areas. Based on the noise analysis presented in Section 3.2.2.4 (Alternative 3), aircraft overflights and associated noise levels generated by NTTR operations proposed for Alternative 3C may result in annoyance and harassment of potential visitors of areas proposed for wilderness within and outside the NTTR land withdrawal boundary. Similar to baseline conditions, this level of noise would continue to affect the solitude quality of Wilderness Areas, WSA, and remaining areas proposed for wilderness outside the NTTR, because signs of human activities within and outside these areas would be detectable on a regular basis.

For Alternative 3B, the proposed Range 64C/D and 65D expansion would support increased safety footprints from munitions use within the current NTTR boundary. (No munitions use would occur within the proposed expansion area.) Based on the noise analysis presented for Alternatives 3A, 3A-1, 3B, and 3C in Section 3.2.2.4 (Alternative 3), noise levels resulting from weapon firing activities would be concentrated within the South Range, with noise exposures primarily occurring within the South Range and to some degree the remaining areas proposed for wilderness bordering the NTTR withdrawal boundary, including the Alamo areas. This level of noise would not be detectable within the proposed Range 64C/D and 65D expansion area. Wilderness Areas and WSAs occurring outside and not adjacent to the NTTR land boundary would not be impacted by noise from munitions use associated with Alternative 3B.

Munitions use within the target impact areas associated with the 60-series ranges that exist within the current NTTR boundary would require expanded safety footprints that would overlap with the Alamo areas associated with Alternative 3C. IW training could conceptually include weapon firing activities (blanks) in these areas. Based on the noise analysis presented for Alternative 3A, 3A-1, 3B, and 3C in Section 3.2.2.4 (Alternative 3), noise levels resulting from use of existing target areas for live firing activities would be concentrated within the existing South Range boundary with noise exposures primarily occurring within the South Range and to a limited extent within the Alamo areas. However, the level of noise associated with Alternative 3C would not be detectable within Wilderness Areas, WSA, and other remaining areas proposed for wilderness areas outside and not adjacent to the NTTR; therefore no impacts to wilderness qualities in these areas would occur.

Public access restrictions resulting from larger safety footprints associated with Alternative 3C would be expanded to the Alamo areas, which would prohibit the public from entering these areas and limit recreational opportunities to select times of year. Some recreational opportunities would be provided, consisting of Air Force-approved activities, such as bighorn sheep hunts. As a result, munitions use within the current NTTR boundary would reduce recreation opportunities within the Alamo areas. As shown in Figure 2-14 and Figure 2-15, specific recreational areas impacted by the access restriction include Lower Lake Spring, Sheep Mountain Spring, Holly Spring, Dry Lake Spring, Cabin Spring, Underground Spring, Deadman Spring, and White Rock Spring. In addition, Section 3.4.2.4 (Alternative 3) lists roads and trails affected under Alternative 3C, which would no longer be readily accessible to the public. It is expected that recreational users would be displaced to other key recreational areas within the remaining areas proposed for wilderness outside the NTTR land boundary containing characteristics similar to those found in the Alamo areas. For example, the public would continue to have access to Hidden Forest Cabin, Corn Creek Field Station, Cow Camp trailhead, and Joe May trailhead, as well as numerous springs, peaks, and other points of interest within the DNWR. These areas could be accessed on foot or horseback.

DNWR visitor records are kept via a non-mandatory guest registration at the Corn Creek visitor center. As a result, there is not a clear understanding on the current usage of the Alamo areas for recreational activities. The actual number of people potentially displaced under Alternative 3C is not known and difficult to predict; however, it is assumed the displaced recreational users would be evenly distributed across these other recreational areas in the NTTR region. Without data on current usage of the Alamo areas, impacts to surrounding recreational areas are indeterminable.

Ground disturbance activities may occur within the proposed expansion areas for Alternative 3B from 30 miles of fencing around the perimeter. Wilderness Areas and WSAs outside the NTTR land expansion boundaries would not be impacted by Alternative 3B. Impacts to remaining areas proposed for wilderness outside the NTTR boundary would include a reduction in the undeveloped qualities of the area, because there would be increased evidence of modern human occupation with the construction of the perimeter fencing. Results from the roadless areas special study indicate that a portion of the areas that were proposed for wilderness in the proposed 64C/D and 65D expansion area is already disturbed (see Figure 3-11) and would not be considered suitable wilderness (U.S. Air Force, 2017b). Impacts from additional ground disturbance activities in the Alternative 3B proposed expansion area would not be significant compared with baseline conditions.

For Alternative 3C, ground disturbance activities may include troop movements, road improvements, and the construction of two runways, emitter sites, and all other supporting infrastructure, such as a refueling station, munitions loading, and equipment storage to facilitate activities, as well as 65 miles of fencing around the perimeter. In addition, training activities would include FARRPs for refueling and munitions loading of aircraft within a dry lake bed area. Potential impacts from ground disturbance activities to the land and other resources that occur within the Alamo areas are discussed in Sections 3.4 (Land Use, Recreation, and Visual Resources), 3.8 (Biological Resources),

3.10 (Earth Resources), and 3.11 (Water Resources). Wilderness Areas and WSAs outside the NTTR land expansion boundaries would not be impacted by ground disturbance associated with Alternative 3C. Impacts to the remaining areas proposed for wilderness outside and adjacent to the NTTR boundary would include a reduction in the undeveloped quality of the area, because there would be increased evidence of modern human occupation with the construction of the fencing and all other infrastructure needed to support the runways, emitter sites, refueling, and munitions loading. Therefore, ground disturbance activities for Alternative 3C would have an adverse impact to the undeveloped quality of areas proposed for wilderness bordering the NTTR withdrawal boundary.

Emitter operations would occur under Alternative 3C, and would have similar impacts to wilderness qualities as discussed previously under Alternative 2. However, emitter operations would not be expected to impact any Wilderness Areas, WSAs, or areas proposed for wilderness areas outside the NTTR boundary.

Summary of Wilderness Impacts Associated with Alternatives 3A, 3A-1, 3B, and 3C

Alternative 3A or 3A-1 would have no impact to Wilderness Areas, WSA, or areas proposed for wilderness areas due to the lack of such lands in or adjacent to the land proposed for withdrawal for Alternative 3A or 3A-1. For Alternative 3B, aircraft operations would impact solitude and/or primitive and unconfined recreation in the remaining areas proposed for wilderness outside NTTR, because these activities adversely impact the potential for solitude. Installation of fencing under Alternative 3B would eliminate unconfined recreation opportunities in this area and would impact the undeveloped quality of surrounding areas proposed for wilderness outside the NTTR boundary because these activities would leave evidence of human occupation. However, portions of Alternative 3B's proposed expansion area already have visible human impacts; therefore, impacts to the undeveloped quality of the area would not substantially increase over baseline conditions. Table 3-32 lists wilderness qualities impacted by each activity and associated stressor for Alternative 3B.

Table 3-32. Impacts to Wilderness Qualities for Alternative 3B

Proposed Activity	Stressor(s)	Wilderness Quality Potentially Impacted			
		Untrammeled	Natural	Undeveloped	Solitude or Primitive & Unconfined Recreation
Aircraft operations	Noise	n/a	n/a	n/a	X
Munitions use	Noise	n/a	n/a	n/a	n/a
	Public access restrictions	n/a	n/a	n/a	X
Ground disturbance	Physical disturbance of the land	n/a	n/a	X	n/a
	Evidence of human activities	n/a	n/a	X	n/a
Emitter operations	Public access restrictions	n/a	n/a	n/a	X

If Alternative 3B is selected, approximately 33,000 acres of areas proposed for wilderness would be impacted by the expansion. When combined with ready access for the entire South Range, approximately 623,000 acres of areas that were proposed for wilderness would no longer be managed as wilderness, which accounts for nearly 45 percent of the entire area that was proposed for wilderness within the DNWR.

Based on information presented in Appendix F, Wilderness and Wilderness Study Areas, there are over 1.4 million acres of land that contain wilderness qualities within and surrounding the NTTR ROI, consisting of both Wilderness Areas and WSAs that occur under or immeadiately adjacent to NTTR airspace units. Combining this acreage with the areas proposed as wilderness in the DNWR, there are approximately 2.8 million acres of land in the ROI that contain wilderness qualities (Wilderness Areas, WSAs, and areas proposed as wilderness) and are managed accordingly. This would include the Spotted Range, Desert-Pintwater Range, and portions of Hole-in-the-Rock units within areas proposed as wilderness. Within the state of Nevada, including the ROI and areas proposed for wilderness, there are over 5.3 million acres of land that contain wilderness qualities. Implementing Alternative 3B would reduce areas managed as wilderness in the region by 22 percent in the ROI and by 12 percent in the state of Nevada. There would still be nearly 4.7 million acres of land managed as wilderness in the state. Therefore, Alternative 3B would not significantly reduce opportunities to experience wilderness in Nevada.

For Alternative 3C, aircraft operations would impact the solitude or primitive and unconfined recreation quality in Wilderness Areas, WSAs, and the remaining areas proposed for wilderness outside the NTTR, because these activities adversely impact the potential for solitude. Munitions use and emitter operations associated with Alternative 3C would impose access restrictions within the Alamo areas, reducing recreation opportunities there. In addition, proposed ground disturbance activities associated with Alternative 3C would impact the undeveloped quality of the remaining areas proposed for wilderness that occur along the NTTR withdrawal boundary and within the Alamo areas because construction of a perimeter fence and additional infrastructure associated with activities would leave evidence of human occupation. Table 3-33 lists wilderness qualities impacted by each activity and associated stressor for Alternative 3C.

If Alternative 3C is selected, approximately 227,000 acres of areas proposed for wilderness would be impacted by the expansion. When combined with ready access for the entire South Range, approximately 817,000 acres of areas proposed for wilderness would no longer be managed as wilderness, which accounts for approximately 58 percent of the total area proposed for wilderness within the DNWR.

Based on information presented in Appendix F, Wilderness and Wilderness Study Areas, there are over 1.4 million acres of land that contain wilderness qualities within the ROI, consisting of both Wilderness Areas and WSAs. Combining this acreage with the areas proposed as wilderness in the DNWR, there are approximately 2.8 million acres of land in the ROI that contain wilderness qualities (Wilderness Areas, WSAs, and areas proposed as wilderness) and are managed accordingly. This would include the

Spotted Range, Desert-Pintwater Range, Hole-in-the-Rock, East Desert Range, and a portion of Sheep Range units within areas proposed as wilderness. Within the state of Nevada, including the ROI and areas proposed for wilderness, there are over 5.3 million acres of land that contain wilderness qualities. Implementing Alternative 3C would reduce areas managed as wilderness in the region by 29 percent in the ROI and 15 percent in the state of Nevada. There would still be nearly 4.5 million acres of land containing wilderness qualities, and managed as such, remaining in the state. Therefore, Alternative 3C would not significantly reduce opportunities to experience wilderness in Nevada.

Table 3-33. Impacts to Wilderness Qualities for Alternative 3C

Proposed Activity	Stressor(s)	Wilderness Quality Potentially Impacted			
		Untrammeled	Natural	Undeveloped	Solitude or Primitive & Unconfined Recreation
Aircraft operations	Noise	n/a	n/a	n/a	X
Munitions use	Noise	n/a	n/a	n/a	n/a
	Public access restrictions	n/a	n/a	n/a	X
Ground disturbance	Physical disturbance of the land	n/a	n/a	X	n/a
	Evidence of human activities	n/a	n/a	X	n/a
Emitter operations	Public access restrictions	n/a	n/a	n/a	X

As previously indicated, subalternatives proposed under Alternative 3 may be selected individually, or as a combination of one or more. Alternative 3A or 3A-1 would have no potential impacts to wilderness qualities within Wilderness Areas, WSAs, and areas proposed for wilderness that occur outside the NTTR withdrawal boundary. Potential impacts associated with Alternative 3B and Alternative 3C would be similar regardless of which subalternative or combination thereof that is selected. However, the total acreage of areas proposed for wilderness potentially impacted by expanding the withdrawal boundary would vary depending on the subalternative that is selected. As previously stated, approximately 33,000 acres of areas proposed for wilderness occur in the Alternative 3B expansion area and approximately 227,000 acres of areas proposed for wilderness occur in the Alternative 3C expansion area. If both of these subalternatives are selected, the NTTR withdrawal expansion would impact 260,000 acres of areas proposed for wilderness. When combined with ready access for the entire South Range, approximately 850,000 acres (61 percent) of areas proposed as wilderness within the DNWR would no longer be managed as wilderness. Implementing Alternative 3B and 3C would reduce areas managed as wilderness by 30 percent in the ROI and by 16 percent in the state, leaving nearly 4.5 million acres of land within the state that contain wilderness qualities and are managed accordingly. Therefore, combining Alternatives 3B and 3C would not significantly reduce opportunities to experience wilderness in Nevada overall; however, within southern Nevada, this could be considered a significant impact.

Although the Air Force is requesting that lands that are proposed for wilderness be withdrawn to meet mission needs as outlined in Section 2.3.2 (Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges), this should not diminish the Air Force's commitment to support other areas that have been designated as Wilderness or WSAs throughout Nevada.

3.5.2.5 Alternative 4 – Establish the Period of Withdrawal

Impacts to wilderness from the withdrawal periods proposed in the following subalternatives are dependent on the combination of the above-mentioned alternatives and subalternatives that are selected. Selection of Alternative 1 would not result in any changes to the management of areas that were proposed for wilderness in the South Range. In this scenario, the length of the withdrawal period may result in an improvement of wilderness characteristics. With respect to wilderness characteristics within the NTTR boundary, selection of Alternative 3A or 3A-1 would not affect wilderness. Selection and implementation of Alternative 2, Alternative 3B, and/or Alternative 3C would reduce the total area managed as wilderness in southern Nevada. Under those alternatives, the length of the withdrawal period is not relevant, because wilderness characteristics within the NTTR land boundary would no longer need to be considered with the implementation of new management practices. As a result, there would be no impacts to wilderness within the NTTR land boundaries for Alternatives 4A, 4B, or 4C if Alternative 2, 3A, 3A-1, 3B, or 3C is selected. Potential impacts from the length of the withdrawal period to the land and other resources within the NTTR withdrawal area if Alternative 2, 3A, 3A-1, 3B, or 3C is selected are discussed in Sections 3.4 (Land Use, Recreation, and Visual Resources), 3.8 (Biological Resources), 3.10 (Earth Resources), and 3.11 (Water Resources).

Wilderness Areas, WSAs, and areas proposed for wilderness outside the NTTR boundaries will continue to be impacted by noise associated with aircraft operations and munitions use. Under Alternative 1, there would be no change in the level of operations. Under Alternatives 2, 3A, 3A-1, 3B, and 3C, a 30 percent increase has been analyzed; however, resulting noise levels would not substantially increase. In addition, the construction of perimeter fencing along the boundaries of the expansion alternatives would impact small areas only around the boundary of the NTTR withdrawal. The subsections below address impacts to wilderness characteristics of areas proposed for wilderness if Alternative 1 is selected and impacts to Wilderness Areas, WSAs, and areas proposed for wilderness surrounding the NTTR land boundaries under all alternatives.

Alternative 4A – 20-Year Withdrawal Period

Wilderness characteristics of areas that were proposed for wilderness in the South Range are expected to marginally improve under a 20-year withdrawal period if Alternative 1 is selected, because management of the area and activity restrictions would remain the same. It is reasonable to assume that noise levels would increase over time as more testing and training operations are conducted, which may continue to impact solitude qualities of these areas. However, other wilderness characteristics, such

as untrammeled, natural, and undeveloped qualities, are not impacted by noise. Wilderness Areas, WSAs, and areas proposed for wilderness outside the NTTR land boundaries would continue to be managed under current practices, which are expected to conserve most wilderness characteristics. Therefore, it is likely that there would be a marginal improvement of wilderness qualities of Wilderness Areas, WSAs, and areas proposed for wilderness outside the NTTR land boundaries over a 20-year withdrawal period.

Alternative 4B – 50-Year Withdrawal Period

Wilderness characteristics of areas that were proposed for wilderness in the South Range are expected to improve under a 50-year withdrawal period if Alternative 1 is selected because the current land management practices would continue over a longer period of time, providing better opportunities for improvement. It is reasonable to assume that noise levels would increase over time as more testing and training operations are conducted, which may continue to impact solitude qualities of these areas. However, other wilderness characteristics, such as untrammeled, natural, and undeveloped qualities, are not impacted by noise. Wilderness Areas, WSAs, and areas proposed for wilderness outside the NTTR land boundaries would continue to be managed under current practices, which are expected to conserve most wilderness characteristics. Therefore, it is likely that wilderness qualities of Wilderness Areas, WSAs, and areas proposed for wilderness outside the NTTR land boundaries would improve over a 50-year withdrawal period.

Alternative 4C – Indefinite Withdrawal Period

Wilderness characteristics of areas that were proposed for wilderness in the South Range are expected to substantially improve under an indefinite withdrawal period if Alternative 1 is selected because current land management practices would be implemented indefinitely, providing maximum opportunities for improvement. It is reasonable to assume that noise levels would increase over time as more testing and training operations are conducted, which may continue to impact solitude qualities of these areas. However, other wilderness characteristics, such as untrammeled, natural, and undeveloped qualities, are not impacted by noise. Wilderness Areas, WSAs, and areas proposed for wilderness outside the NTTR land boundaries would continue to be managed under current practices, which are expected to conserve most wilderness characteristics. Therefore, it is likely that wilderness qualities of Wilderness Areas, WSAs, and areas proposed for wilderness outside the NTTR land boundaries would substantially improve with an indefinite withdrawal period.

3.5.2.6 No Action Alternative

Under the No Action Alternative, Congress would not renew the land withdrawal for the Air Force. The absence of military operations at NTTR would allow for other land uses to be reintroduced to these areas, such as mining, livestock grazing, or mineral leasing. As stated in Section 2.4 (No Action Alternative), without control of ground areas, the airspace could not be used to support live-fire exercises and related military high-hazard

activities. Thus, aircraft operations would be decreased and noise impacts that affect solitude or primitive and unconfined recreation would be reduced. While the former NTTR lands could be opened for recreational use, many areas may not be considered safe due to potential contamination hazards associated with past military activities. The land areas would also be subject to BLM and USFWS management objectives, which would likely increase wilderness characteristics of areas proposed for wilderness in the former South Range.

3.5.3 Proposed Resource-Specific Mitigations and Management Actions

No mitigations have been identified for Wilderness and WSAs.

3.5.4 Native American Perspective on Wilderness and Wilderness Study Areas

The CGTO remains concerned about the expansion of public lands for inclusion in the NTTR into wilderness areas including the Desert National Wildlife Refuge. Tribal representatives would no longer be afforded the necessary opportunity to use culturally sensitive areas when needed without restriction or involvement from the Air Force. Solitude is an essential component to preventing intrusion during tribal ceremonies in sacred areas. The CGTO has stated the potential for cultural discord from visual or audible intrusion of aircraft or associated activities that could impact wilderness resources important to Indian people. The CGTO will struggle with limited access to important resource locations within Wilderness or Wilderness Study Areas.

Both tribal and non-tribal recreationalists will be challenged by limited or denied access to previously visited locations. Biological and botanical resources used or needed by the CGTO will be unavailable and affect the cultural and ecological balance of withdrawn lands.

3.6 SOCIOECONOMICS

3.6.1 Affected Environment

For the Native American perspective on information in this section, please see Section 3.6.4 and Appendix K, paragraph 3.6.1.1.1.

3.6.1.1 Description of Resource

Socioeconomics refers to features or characteristics of the social and economic environment. The socioeconomics assessment typically includes employment, earnings, population, housing, and community and public services and varies according to factors that could be affected by a proposed action or an alternative. Data published by the Bureau of Labor Statistics, the U.S. Census Bureau, the Bureau of Justice, and Nellis AFB, among others, were used to determine the affected environment.

3.6.1.2 Region of Influence

The ROI for socioeconomics comprises Clark, Lincoln, and Nye Counties, where the majority of impacts would be anticipated to occur from the Proposed Action and alternatives.

3.6.1.3 Economics

Employment

Full- and part-time employment growth in the State of Nevada has been on par with national levels, while growth in Clark and Lincoln Counties has outpaced both the state and nation. Employment growth in Nye County has consistently remained below both the state and national levels.

Total employment in Nevada increased at an average annual growth rate of 1.1 percent from 1,446,547 jobs in 2004 to 1,614,814 jobs in 2014 (11.7 percent total growth) (See Appendix G, Socioeconomics, Figure G-1, Total Employment in Nevada, Clark County, Lincoln County and Nye County, 2004–2014). Sectors with the largest employment growth statewide over this same time frame are: management of companies and enterprises at 7.1 percent average annual growth; mining, oil and gas extraction (5.3 percent); educational services (5.9 percent); and health care and social assistance (3.3 percent). A few sectors experienced considerable declines over the same period. Construction jobs decreased at an average annual rate of 5.3 percent and utilities at 2.4 percent. These declines could be attributed to the housing market crash in 2008–2009.

Clark County held 69.9 percent of the state's total employment in 2004, 71.3 percent in 2009, and 72.2 percent in 2014. From 2004 to 2014, employment in Clark County increased from 1,011,193 to 1,166,051 at an average annual rate of 1.4 percent. Many sectors grew substantially in Clark County from 2004 to 2014 with the most rapid increases seen in: management of companies and enterprises (at an annual average rate of 7.6 percent); mining, oil and gas extraction (7.5 percent); educational services (6.2 percent); and state and local government (6.5 percent). Other industries saw considerable declines over the same period: construction jobs decreased at a 5.7 percent average annual rate and utilities at 2.9 percent, primarily attributable to the housing market crash of 2008–2009. There were 15,709 military jobs in Clark County in 2014.

The economies of both Lincoln and Nye Counties are smaller than Clark County's. Lincoln County is the smallest in both population and employment (see Appendix G, Socioeconomics, Figure G-2, Total Employment in Lincoln County and Nye County, 2004–2014). Employment in Lincoln County increased from 1,968 in 2004 to 2,494 in 2014, at an average annual rate of 2.4 percent. Between 2009 and 2014, employment increased by 305 jobs to 2,038. There were 14 military jobs in Lincoln County in 2014.

The number of jobs in Nye County decreased from 16,048 in 2004 to 15,784 in 2014 at an average annual loss of 0.2 percent over 10 years. Between 2009 and 2014, 42 jobs were added, bringing the number of jobs in the county to 15,784 (an average annual increase of 0.03 percent over those five years). The persons associated with DoD employment in Nye County was estimated at 121 in 2014.

In 2014, the accommodation and food services sector contributed 19.6 percent of total employment in Nevada, followed by retail trade at 10.4 percent, state and local government with 8.1 percent, and health care and social assistance at 7.0 percent (see Appendix G, Socioeconomics, Table G-1, Employment by Sector in Nevada, Clark County, Lincoln County, and Nye County, 2014). Military employment accounted for only 1.2 percent of total employment in Nevada. The large combined contributions of the accommodation and food services sector and the retail trade sector (approximately 30 percent of the total state workforce in 2014) can be attributed to the gaming industry in Las Vegas, Reno, and other parts of the state.

In Clark County, the accommodation and food services sector provided 22.8 percent of the total employment in 2014, followed by retail trade (10.5 percent), state and local government (8.1 percent), and health care and social assistance (7.5 percent). The large combined contributions of the accommodation and food services sector and retail trade sector (just over 33 percent of the total workforce in Clark County) can be attributed to the dominance of Las Vegas on the economy of Clark County and Nevada overall. The military, with 15,709 jobs, accounted for 1.4 percent of the total employment in the county.

For Lincoln County, the largest sector in 2014 was government and government enterprises. State (5.7 percent) and local government (17.2 percent), federal (1.6 percent), and 14 military jobs represented 0.56 percent of the 25.0 percent of total government employment in Lincoln County. Professional, scientific, and technical services were 11.2 percent of total county employment.

In 2014, in Nye County, the most important sectors in terms of employment were government and government enterprises (11.9 percent), including state and local government jobs (10.4 percent); retail (11.6 percent); professional, scientific, and technical services (10.4 percent); and accommodation and food services (10.2 percent). There were 121 military jobs in Nye County in 2014.

Nellis AFB, Creech AFB, and the NTTR are an important contributor to the local economy through employment of military and civilian personnel and expenditures for goods and services. The total economic impact of the bases and the range on the surrounding communities for fiscal year 2015 was more than $5.5 billion (Nellis AFB, 2015). The two bases along with the NTTR employed 9,103 active-duty military, 620 Reserve/Air National Guard, and 3,548 civilians with a combined payroll of $1,134.6 million (Nellis AFB, 2015). Over a thousand temporary-duty (TDY) personnel conduct business at Nellis AFB, Creech AFB, or the NTTR on any given day. Approximately 5,783 indirect jobs are created as a result of activities associated with the

base and the NTTR with combined salaries of approximately $242.6 million (Nellis AFB, 2015).

Earnings

Employee compensation in the State of Nevada topped $71.9 billion in 2014, an increase of $16.1 billion from 10 years prior in 2004 ($55.8 billion total). The largest shares of total compensation were found in government and government enterprises (18.7 percent of total; 10.8 percent of which was state government employment); accommodation and food services (17.8 percent); and retail trade (7.0 percent). The U.S. Bureau of Economic Analysis (BEA) reported that on average, annual compensation per job in the state of Nevada in 2014 was $57,412. Average compensation per job peaked at $133,431 per year in the utilities sector and $119,827 in the management of companies and enterprises sector (BEA, 2015).

For Clark County, compensation totaled over $52.1 billion in 2014, accounting for approximately 72.6 percent of the state total. The greatest share of this was contributed by the accommodation and food services (21.7 percent of the county total); government and government enterprises (17.4 percent, 13.0 percent of which was state government employment); and retail trade (7.1 percent). On average in 2014, annual compensation per job was $56,981, on par with the state average of $57,412. Average compensation per job in Clark County saw highs of $137,712 in the utilities sector and $120,914 in the management of companies and enterprises sector (BEA, 2015).

Total compensation in Lincoln County was just under $84 million in 2014, which represents only 0.1 percent of compensation in the state. Of the compensation in Lincoln County, approximately 49 percent was contributed by the government and government enterprises sector, and about 32 percent of the total county earnings was in state and local government. Professional, scientific, and technical services contributed approximately 19 percent of the county total. Average compensation for Lincoln County was $55,024 in 2014, slightly below the state average of $57,412 per year. Of the values reported by the BEA for Lincoln County (some data was withheld to avoid confidential information disclosure), the highest average compensation is in the federal and civilian government sector at $83,950 per year (BEA, 2015).

In Nye County, the greatest share of total compensation (which stood at $688.4 million in 2014) was contributed by the professional, scientific, and technical service sector, which represented 19.8 percent of total county earnings, followed by government and government enterprises (18.3 percent, with 14.4 percent contributed by state government employment), and mining, quarrying, and oil and gas extraction with a share of 16.6 percent. Total compensation in Nye County accounted for just under 1.0 percent of the total earnings in Nevada. In 2014, average compensation per year was $59,950, with the highest average accrued to the professional, scientific, and technical services sector ($136,566) followed by workers in government and government enterprises ($125,763) (BEA, 2015).

Agriculture

Agriculture, an important sector in the Nevada economy, significantly contributes to the rural counties' economies. Cattle and calf production is the leading agriculture activity. Irrigation allows for crop growth, with alfalfa hay as the leading cash crop in the state. In 2014, Nevada's food and agricultural sector[1] resulted in an estimated $4.4 billion in total direct value sales (equivalent to about 1.9 percent of Nevada's total output), generated 14,491 jobs, and paid $687 million in total income. Food and agriculture production in Nevada, including direct effects and "ripple effects," generated an estimated $2.7 billion in additional value added, including 6,239 jobs, $323 million in labor income, and $1.3 billion in combined industrial output. Industries and activities supporting the food and agricultural sector contributed 2,551 jobs, $138 million to labor income (wages, salaries, and proprietor income), and $406 million to industrial output, with $345 million value added. Annual cash receipts from all agricultural commodities in Nevada in 2012 were $716 million; 60 percent of which was from livestock and products, and the remaining 40 percent was derived from crops.

As of 2012, the date of the most recent comprehensive U.S. Department of Agriculture (USDA) Census of Agriculture for Nevada, there were 4,137 farms[2] statewide, encompassing a total of 5,913,761 acres, with an average farm size of 1,429 acres. Of these farms, 185 were in Lincoln County, 198 were in Nye County, and 252 were in Clark County (see Appendix G, Socioeconomics, Table G-2, Farm Statistics, State of Nevada and Affected Counties, 2012).

Due in part to continuing urbanization and other economic considerations, the general trend for farms in Nevada is a greater number of smaller farms. That is, from 2002 to 2012, farm sizes declined but the total number of farm operations increased. The total number of farmland acres in the state of Nevada dropped from 6,330,622 to 5,913,761 and the size of the average farm decreased from 2,118 to 1,429 acres while the total number of farms increased from 2,989 to 4,137 over that same period. The number of farm workers in Nevada increased from 4,810 in 2002 to 5,759 in 2014, an average annual increase of 1.97 percent, and the total number of farm proprietors increased over that period from 2,912 to 3,653, an average annual increase of 2.54 percent.

In Clark County from 2002 to 2012, the total number of farmland acres dropped considerably from 68,925 to 15,620, having reached its peak in 2007 of 88,381 acres. The size of the average farm decreased from 272 to 62 acres, while the total number of farms only decreased from 253 to 252 over that same period, dropping to 193 in 2007 (USDA, 2004; 2014). The number of farm workers in Clark County increased from 406 to 464, an average annual increase of 1.43 percent, and the total number of farm

[1] Includes farm, food processor, and wholesale and retail levels of the food and agriculture supply chain.

[2] The U.S. Department of Agriculture defines a "farm" as any place from which $1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year. The current definition was first used in the 1974 USDA Census of Agriculture and has been used in each subsequent agriculture census. This definition is consistent with the definition used for current USDA surveys (USDA, 2014).

proprietors decreased over that period from 249 to 210, an average annual decrease of 1.57 percent (BEA, 2016).

Nye County saw a significant drop in total number of farmland acres declining from a total of 97,604 in 2002 to 65,115 in 2012. The majority of this reduction occurred after 2007, considering there were 90,868 farmland acres in 2007 in Nye County. The total number of farms increased from 172 to 198 between 2002 and 2012. The number of farm workers in Nye County decreased from 302 in 2002 to 211 in 2014, an average annual decrease of 3.01 percent, and the total number of farm proprietors decreased over that period from 168 to 163, an average annual decrease of 0.3 percent.

Data for farmland acres for Lincoln County in 2002 and 2012 was withheld by the USDA to avoid disclosing data for individual farms, but was reported in 2007. In 2007, there were 98 farms encompassing a total of 46,271 acres for an average farm size of 472 acres. The number of farm workers in Lincoln County increased from 147 in 2002 to 257 in 2014, an average annual increase of 7.48 percent, and the total number of farm proprietors increased over that period from 106 to 166, an average annual increase of 5.66 percent.

Property taxes are taxes collected on the possessory interest of property, which is for any reason exempt from taxation, but which is leased to or available for use by the taxpayer. Federally owned grazing lands generally fall into this category. The possessory interest is taxable in the same manner as if the user owned the property. The withdrawal of the additional lands would only be anticipated to have a minor impact on such taxes and therefore, are not further discussed.

Mining

In 2014, there were 110 active mines in Nevada, of which 4 were located in Clark County, 21 in Nye County, and 1 in Lincoln County. In 2004, there were a total of 96 mining operations in Nevada; in the period from 2004–2014, the number of mining operations fluctuated from a low of 94 in 2007 to a high of 126 in 2012 (Nevada Mining Association, 2016).

Clark County had four actively producing mines in 2014, which employed a total of 455. Primary materials mined included limestone, gypsum, dolomite, and silica sands. In total, 7.3 million metric tons of commodities were mined in 2014, and 5.8 million metric tons of commodities were produced (Nevada Mining Association, 2016).

Although Lincoln County has an extensive mining history, in 2014, there was only one mine in active production, with a total of eight direct employees. In 2014, the mine produced 1,981.3 metric tons of perlite, up 22.4 percent from 2013 production of 1,618.4 metric tons (Nevada Mining Association, 2016).

In 2014, Nye County had 21 mines actively producing, which, in total, employed 1,202. Nye County had the greatest number of active mines in Nevada (Churchill County was second with 14 mines). Primary mining products include clays (smectite, bentonite, saponite, and sepiolite), gold, silver, and magnesium. In total, 519.9 thousand metric

tons of commodities were mined in Nye County with 119.8 metric tons produced (Nevada Mining Association, 2016). Of note, 10.0 metric tons of gold were produced in 2013 and 10.5 metric tons in 2014, with approximate market values of $453.7 million and $427.5 million, respectively, based on year-end gold prices.

Currently, there are no active mining claims nor oil and gas leases located within the NTTR. All of the unpatented mining claims and all of the oil and gas leases have either expired or were acquired by the United States. Section 3.10 (Earth Resources) contains additional information on the mineral resources within the NTTR and surrounding area.

Recreation

Because the lands on the NTTR are withdrawn from public use by the MLWA (P.L. 106-65), public recreational activities are prohibited with some exception for certain limited hunting activities, the majority of the NTTR has not been developed for residences or recreation, and other human uses and are strictly controlled, with the exception of some mining and ranching activities that were in place prior to the initial land withdrawal.

Recreational activities on BLM-administered lands are generally divided into "quiet" and "non-quiet" categories. Quiet recreation would include those activities not involving significant use of motorized equipment other than transportation to and from the recreation site (e.g., hiking, camping, hunting, or wildlife viewing). Non-quiet recreation would include those activities that primarily involve the use of motorized equipment (e.g., boating, OHV riding, or snowmobiling).

Appendix G, Socioeconomics, outlines the most popular recreational uses of BLM-administered lands. On all of the BLM-administered lands in the United States, quiet recreation users spent approximately $1.8 billion within 50 miles of recreation sites in 2014, resulting in overall economic contributions of $800 million in personal income, $1.5 billion in value added, economic output of over $2.8 billion, and approximately 25,000 jobs.

In 2014, there were 7,219,759 total visits to BLM-administered areas in Nevada, 3,909,908 of which were considered quiet recreation visits. The total visits resulted in 5,188,722 visitor days, 2,724,866 of which were spent in quiet recreation activities. Direct spending within 50 miles of BLM recreation sites in Nevada in 2014 was estimated at $168.8 million. Overall economic contribution from quiet recreation visits on BLM-administered lands in Nevada included $58.8 million in labor income, $106.2 million in value added, $171.5 million in output, and the addition of 1,611 jobs[3] (ECONorthwest, 2016).

[3] **Labor income**, equivalent to employee compensation, is a subset of output, and includes workers' wages and salary, benefits (health, disability, and life insurance, retirement payments, and non-cash payments. **Value added** is output minus intermediate consumption and is a measure of the contribution to gross domestic product made by and individual producer, industry, or sector. **Output** is the value of goods and services produced; the

…continued on the next page

Identified recreational activities on BLM-administered lands adjacent to the NTTR include motorcycle and OHV riding, horseback riding and backpack trips, mountain bicycling, camping, driving for pleasure, hiking, hunting, photography, rock climbing, rock collecting, nature study, wildlife/wild horse/burro viewing, picnicking, cross country skiing, snowmobiling, and four-wheel driving.

Mountain biking activities continue to be developed north and west of Beatty, Nevada, which lies to the southwest of the NTTR. Figure G-4, Land Impacts on Bike Trails from Alternative 3A, in Appendix G, Socioeconomics, displays some of the existing (shown as green lines) and proposed trails (red lines). A non-profit corporation, Saving Toads thru Off-Road Racing, Ranching and Mining in Oasis Valley (STORM-OV) was formed to create 300 to 500 miles of off-road, multi-use trails for mountain biking, hiking, running, and horseback riding. Its plans are for the trails to eventually link Beatty to Death Valley, Rhyolite, and other regional trails. The trails would run through federal lands and private lands whose owners are willing to grant permission for its use for the trails. According to the Regional Director of the International Mountain Biking Association, the trails could bring $25 million to $42 million to the Beatty area (Pahrump Valley Times, 2015).

Portions of some NDOW Boundary Hunt Units are located within the NTTR; hunters are allowed in these areas only after complying with NTTR safety and security requirements, including a background check and a hunter safety briefing (NDOW, 2016a). Big game animal species hunted in Nevada include antelope, bear, bighorn sheep (desert Rocky Mountain and California), mule deer, pronghorn antelope, mountain goats, and elk. In the Wildlife Boundary Units that are adjacent to (and cross into) the NTTR, only pronghorn Antelope, mule deer, and desert bighorn sheep hunting is allowed (NDOW, 2016b).

On the portions of the DNWR managed only by the USFWS, non-wildlife-dependent recreational opportunities include primitive camping, picnicking, backpacking, and hiking. Wildlife-dependent recreational opportunities include wildlife watching, photography, and hunting (USFWS, 2009).

The *USFWS National Survey of Fishing, Hunting, and Wildlife-Associated Recreation for Nevada* indicates that approximately 734,000 Nevada residents and non-residents over the age of 16 fished, hunted, or watched wildlife in 2011, resulting in an overall spending of $1.2 billion. Of this total, expenditures related to trips were $284 million, equipment expenditures were $512 million, and $387 million were spent on licenses, contributions, and land ownership and leasing. Anglers spent $139 million in Nevada in 2011, hunters spent $205 million, and wildlife watchers spent $682 million (USFWS, 2013).

broadest measure of economic activity. **Jobs** are measured in terms of full-year equivalents and equals 12 months of work in a given industry (ECONorthwest, 2016).

Grazing

In 2014, the cattle and calf production in Nevada was valued at $298 million (Nevada Department of Agriculture, 2016). BLM estimated that the socioeconomic impact of grazing in Nevada from the management of its public lands amounted to $127.5 million in 2014 (BLM, 2015).

Energy Corridor

Complying with Section 368(a) of the *Energy Policy Act of 2005*, the DOE, DOI, and the USFS identified energy corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities. In 2009, BLM and the USFS designated 600 miles of Section 368 corridors on federal lands. As a result of a lawsuit, a Corridor Study was completed. An interagency MOU was then reached to explain how the agencies will review the Section 368 energy corridors on a regional basis to assess the need for corridor revisions, deletions, or additions.

A Corridor Study was conducted to evaluate whether the Section 368 energy corridors are achieving their purpose to promote environmentally responsible corridor-siting decisions and reduce the proliferation of dispersed right-of-ways crossing federal lands. In May 2016, the Section 368 Energy Corridor Study was completed, which establishes baseline data and identifies considerations and areas that should be explored in more detail during future Regional Reviews to be conducted by the BLM and USFS.

The Section 368 energy corridors are divided into six Regional Reviews. Region 1 includes Section 368 energy corridors within the BLM Southern Nevada District (such as energy Corridor 223-224), and Region 5 includes Section 368 energy corridors within the Battle Mountain District (such as energy Corridor 18-224). The purpose of the Regional Reviews is to examine new relevant information and stakeholder input on the Section 368 energy corridors, including corridors of concern, and, based on this information, identify potential revisions, deletions, or additions to the corridors and identify possible changes to the Section 368 energy corridor Interagency Operating Procedures. Any potential revisions, deletions, and additions to the energy corridors identified through the Regional Reviews will be considered by the BLM and USFS during subsequent land-use planning and environmental review processes. In 2017, Region 1 Review was completed and a report is being finalized based on stakeholder/industry input for consideration by the BLM and USFS during land use planning amendment/revision processes. The Region 1 Review report is targeted for completion by autumn of 2018.

The BLM Southern Nevada District energy Corridor 18-224 does not lie within the existing NTTR withdrawal area, but it would transect proposed expansion areas associated with Alternative 3A and 3A-1.

Energy corridor 18-224 will be evaluated in the Region 5 Review energy Corridor 223-224 lies within the southern portion of the proposed NTTR expansion area within Alternative 3B (Range 64C/D-65D). The BLM Southern Nevada District is currently processing a land use plan revision.

3.6.1.4 Land Use and Ownership

Public scoping comments identified recreational concerns as a major issue; therefore, recreation is a focus for land use and is discussed above in Section 3.6.1.3 (Economics). Federal entitlement lands include lands within the National Forests and National Parks systems, lands managed by BLM, those affected by the USACE and the Bureau of Reclamation, and other federal lands. Federal land ownership in Clark, Lincoln, and Nye Counties total approximately 23.6 million acres (see Appendix G, Socioeconomics, Table G-4, Land Ownership Clark County, Lincoln County, Nye County, and Nevada 2012).

3.6.1.5 Population

Clark County is the largest county in Nevada. Several major cities are within the county including Las Vegas, North Las Vegas, Henderson, Boulder City, and Mesquite. The total population in Clark County is estimated at 2,114,801 (USCB, 2016). The county has experienced an annual growth rate of 2.9 percent since the 2000 census. Las Vegas, the most populous city in the county and the state of Nevada, is the county seat. The total population in Las Vegas is estimated at 623,747 (USCB, 2016).

The population in Lincoln County is currently estimated at 5,036 (USCB, 2016). The county has experienced an annual growth rate of 1.3 percent since the 2000 census; however, the population has declined by 4.1 percent since 2010 according to population estimates. The county seat of Lincoln County is Pioche. Pioche is an unincorporated community and census-designated place with a recent population estimate of 909 (USCB, 2014a).

The most recent population estimate for Nye County is 47,319 (Nye County Planning Department, 2015). There are no incorporated areas in Nye County; however, there are four census-designated places including Beatty, Gabbs, Pahrump, and Tonopah, the county seat. The largest census-designated place in the county in terms of population is Pahrump with a recent population estimate of 39,312. The total population in Nye County has experienced an annual growth rate of 2.5 percent since 2000 (see Appendix G, Socioeconomics, Table G-5, Population in the ROI).

Approximately 36,669 people residing in the area are associated with Nellis AFB, Creech AFB, and the NTTR which includes 9,103 active-duty military and 23,398 dependents. In addition, there are approximately 28,375 military retirees among the residents in the Las Vegas metropolitan area (Nellis AFB, 2015).

3.6.1.6 Housing

There are almost 876,000 housing units throughout the three-county ROI, with the majority (over 97 percent) of homes in Clark County. High costs for land and limited availability in the Las Vegas Valley often result in developers looking outside of Clark County and provide a basis for growth in southern Lincoln County. While the recession

in 2008 caused housing prices to drop in the Las Vegas area, housing prices have recovered a good portion of their loss over the last several years, which has helped to improve housing demand in Lincoln County. Table G-6, Housing in the ROI, in Appendix G, Socioeconomics, presents census-derived housing data for Clark County, Lincoln County, and Nye County and the state of Nevada.

Approximately 84 percent of the total appropriated-fund military members associated with Nellis AFB, Creech AFB, and the NTTR live off-base (Nellis AFB, 2015).

3.6.1.7 Public Services and Facilities

Health Care

There are approximately 17 hospitals throughout the ROI including 14 in Clark County, 2 in Lincoln County, and 1 in Nye County. The majority of hospitals in Clark County are located in Las Vegas, while in Lincoln County the two hospitals are located in Caliente. The one hospital in Nye County, the Desert View Hospital, is located in the Town of Pahrump. The number of people per every one physician in Clark County, Lincoln County, and Nye County was 1,830, 2,620, and 2,350, respectively. All three counties in the ROI had a greater number of persons per physician than the state, which had a person-to-physician ratio of 1,750 to 1 (County Health Rankings, 2015).

Public Schools

Each county in the three-county ROI has one public school district. During the 2015-2016 school year, the Clark County School District had a total of 319,713 students enrolled throughout its 357 schools, with an average student-teacher ratio of approximately 22 students per teacher. During the same year, the Lincoln County School District had a total of 996 students enrolled throughout its nine schools with an average student-teacher ratio of 16.5 students per teacher. Nye County had a total of 5,071 students enrolled throughout its 22 schools. The student-to-teacher ratio in each county in the ROI is shown in Appendix G, Socioeconomics, Table G-7, Public School District Information for the ROI, 2015-2016.

Law Enforcement

Several law enforcement agencies exist throughout the ROI, including the Clark County Sheriff's Department, the Las-Vegas Metropolitan Police Department, the Lincoln County Sheriff's Department, and the Nye County Sheriff's Department. According to the most recent U.S. Department of Justice Census of State and Local Law Enforcement Agencies, there were 10,097 personnel and 6,643 sworn officers throughout the 76 state and local law enforcement agencies in the state of Nevada (see Appendix G, Socioeconomics, Table G-8, Law Enforcement in the ROI, 2008). The state had a higher number of state and local law enforcement agency employees per 100,000 residents compared to the national average. The Las Vegas Metropolitan Police ranked 18th in the 50 largest state and local law enforcement agencies by number of full-time sworn personnel. The Las Vegas Metropolitan Police had 2,942 full-

time sworn personnel for an average of 216 per 100,000 residents (Bureau of Justice Statistics, 2011).

Fire Protection

There are approximately 59 fire stations with 729 full-time employee firefighters, 325 volunteer fire fighters, and 59 support staff throughout the ROI. The Clark County Fire Department is the largest fire department in Nevada, providing fire protection and emergency medical services to the unincorporated areas of Clark County. There are fire departments located in Las Vegas, Boulder City, North Las Vegas, Henderson, and Mesquite, which serve the cities they are located in. There are five fire departments in Lincoln County including one in Caliente, Alamo, Panaca, and two in Pioche. There are 12 fire stations throughout Nye County. The Nevada Test Site Fire Department is the only career-type fire department in the county with three stations, 59 career firefighters, and 4 support personnel (Fire Department.net, 2016). (See Appendix G, Socioeconomics, Table G-9, Fire Protection in the ROI.)

3.6.1.8 Public Finance

An important source of funding to counties that have a large proportion of their land managed by the federal government is the Payment in Lieu of Taxes (i.e., PILT) funding allocated to the counties by Congress. The PILT program began in 1976 following the enactment of P.L. 94-565. Federal PILT payments were designed to supplement other federal land receipt sharing payments and are made to local government units who are allowed to spend it for any governmental purpose. The DOI's Office of the Secretary has administrative authority over the PILT program. There are three sections in P.L. 94-565 that prescribe the distribution of money to the states: Section 6902, Section 6904, and Section 6905.

The PILT payment amount is based on the number of acres of federal land within the county, the population of the county, and the Congressionally allocated funding for payments to the local government and for the administration of the program under Section 6902 of the *Payments in Lieu of Taxes Act*.

The PILT payment is important to the counties, particularly those with only a relatively small population and a high proportion of federal land for which no property taxes are paid. The funds are used to provide important community services by the local governments such as fire and police protection, hospital and public school facilities, road construction, and search and rescue operations.

Section 6902 payments are calculated using one of two formulas based on "entitlement lands" within the respective county. Entitlement lands refer to lands owned by the United States Government and include lands in the National Park System, the National Forest System, lands administered by the BLM, or lands involved in Government water resource development projects. Other lands included are: semi-active Army installations used for non-industrial purposes, dredge disposal areas under the jurisdiction of the Secretary of the Army, National Wildlife Reserve areas withdrawn from the public

domain, and some lands donated to the United States Government by state and local governments.

Formula A multiplies a legislatively established value per acre by the entitlement land acreage in the county and then subtracts the payment made last year (University of Nevada, 1995). A University of Nevada (1995) report clarifies that: "only the amount of Federal land payments actually received by units of government in the prior fiscal year are deducted. If a unit of government receives a Federal land payment, but is required by State law to pass all or part of this payment to financially and politically independent school districts, or other single or special purpose district, such redistributed payments are considered to have not been received by the unit of local government and are not deducted from the in-lieu payment. The amounts to be deducted are reported to the Bureau of Land Management each year by the Governor of each State or his delegate."

The formula value is restricted by a population payment ceiling figured by multiplying the county's population by the appropriate figure. Populations are based on the most recent census figures. A government may not be credited with a population greater than 50,000 and populations between 5,000 and 50,000 are rounded to the nearest 1,000.

If the calculated value established by Congressional funding multiplied by the number of entitlement acres exceeds the ceiling, the ceiling value minus last year's payment is the result of Formula A. Formula B is much simpler and is figured by taking an established legislatively established value and multiplying it by the number of entitlement acres. As with Formula A, the population payment ceiling is binding.

Section 6902 payments are computed using one of two computation methodologies. For 2016, the legislative established value is $2.64 per acre of federal land (DOI, 2016). Therefore, each of the counties using Formula A multiplies the number of qualified acres by $2.64, then subtracts the amount of funds received by the county[4] in the prior fiscal year under certain federal programs. The second computation methodology (Formula B) uses a flat $0.37 per acre of qualified federal land in the county.

The number of acres of entitlement land and the amount of payment in 2016 for Clark, Lincoln, and Nye Counties are presented in Appendix G, Socioeconomics, Table G-10, Payments in Lieu of Taxes to Clark, Lincoln, and Nye Counties, 2016. It should be noted that the maximum payment made to each county is limited based on the population in the county. The payment is prorated depending on the amount of appropriated funding for the year. The Unit Population is used to determine the population funding limit.

3.6.2 Environmental Consequences

The Air Force realizes that it is challenging to determine significance at the programmatic level. If the areas associated with the Proposed Action and alternatives

[4] If a unit of government is required by law to pass part of this payment to financially and politically independent districts, such redistributed payments are not deducted from the in-lieu payment (University of Nevada, 1995).

are withdrawn for military use, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made. However, at a programmatic level, the Air Force has determined that there would be minimal to less than significant impacts connected with the Proposed Action and alternatives related to socioeconomics.

3.6.2.1 Analysis Methodology

The primary goal of the Economic Impact Analysis is to place an economic value on the Proposed Action. A commonly-used technique for conducting Economic Impact Analysis is through the application of input-output (I-O) models. I-O models track the flow of income through the economy to measure the impacts on different industries. The I-O model estimates the change in expenditures and in employment that result from a proposed change in economic activity (such as not extending the NTTR land withdrawal) and then applies the changes in employment and expenditures to estimate total changes for each industry.

The Nellis AFB Economic Impact Analysis model takes into effect that purchases from one industry may result in that industry purchasing services, parts, or other inputs from a different industry. In estimating these ripple effects from the change in NTTR activities on the region, the I-O models incorporate multipliers that reflect the total economic impact changes resulting from the change in the direct purchases and expenditures from the changes in activities at NTTR. The multipliers used in the Economic Impact Analysis model determine the amount that each industrial category spends within each industrial category. This relationship between all industries is referred to as an I-O table, which can then be applied to estimate the impacts on other industries when expenditures have changed within the regional economy.

The three types of economic impacts from changes in the utilization of the NTTR can be summarized as:

- **Direct Impacts**. The economic changes in the impacted industry, i.e., the employment, income (payroll) paid and economic output related to the changes in the use of the NTTR and proposed expansion areas.
- **Indirect Impacts**. The changes in the local business sector as a result of the changes in demand from the directly affected industry. In this case, indirect impacts relate to the employment, income, and economic output related to the purchases of goods and services by the activities related to the NTTR and adjacent lands.
- **Induced Impacts**. Changes in employment, income, and economic output related to the changes in spending of the incomes earned through the direct and indirect expenditures.

The Economic Impact Analysis for Nellis AFB, Creech AFB, and the NTTR estimates the total impact from its current operations by establishing a baseline that represents the proposed Status Quo alternative (Alternative 1). Using the Status Quo as the baseline allows a comparison of the impact from the changes in economic activity that would potentially result from the proposed action alternatives and the No Action Alternative.

3.6.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

The economic impact of the Nellis AFB, Creech AFB, and NTTR activities is the sum of the total payroll plus the annual base expenditures and the estimated value of the jobs created as a result of the expenditures by the installations as well as those of the military members and civilian employees directly and indirectly employed. Clark County receives the majority of economic impact from NTTR activities, while Lincoln and Nye Counties receive a substantially lesser amount.

For 2015 the total economic impact of the Nellis AFB, Creech AFB, and NTTR activities is estimated at $5.549 billion (see Appendix G, Socioeconomics, Table G-11, Nellis AFB, Creech AFB, and NTTR Total Economic Impact (Baseline), Fiscal Year 2015). For comparison, the Total Gross Regional Product for Nevada, which is the total value of all goods and services produced in Nevada, is $134.5 billion. The Nellis AFB Economic Impact Assessment model estimates that the number of indirect and induced jobs is 5,783 for 2015 with a total indirect/induced payroll of $242.6 million (Nellis AFB, 2015) (see Appendix G, Socioeconomics, Table G-12, Annual Indirect/Induced Jobs and Pay, Fiscal Year 2015).

Continuing the current land withdrawal and training activities (i.e., Alternative 1) would have no further impact on the region than the baseline economic impact because payrolls and expenditures would be expected to continue at typical levels though they may change as new technologies, aircraft, and military strategies are introduced.

3.6.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

Alternative 2 would extend the current land withdrawal and require Congressionally directed changes in land management to provide the Air Force with ready access in the South Range so the Air Force would have the lead role in management of withdrawn lands, which gives the Air Force greater flexibility to meet current and future NTTR mission requirements. The intent of the action under this alternative is to provide equal capabilities for training and testing in the North Range and South Range, relieving scheduling challenges and increasing throughput. Alternative 2's economic impacts would likely include increased expenditures associated with the increased use of the NTTR but primarily in Clark County.

If Alternative 2 is chosen, it is anticipated that there would be a 30 percent increase in aircraft operations; a significant portion would be associated with TDY activities related to Red Flag exercises. The annual cost of lodging and per diem for TDY personnel ranged from a low of $118.9 million to a high of $332.0 million over the period from 2009 to 2015. Assuming TDY activities would increase by 30 percent over the median of 2009–2015, which is $225 million, the estimated economic increase would be $67 million, predominantly in Clark County.

3.6.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

Under Alternative 3A or 3A-1, the EC South area would be re-designated as “Range 77” to allow full air-to-ground operations. Alternative 3A or 3A-1 would be used to add buffer to the safety footprint of Range 77 – EC South. There would be no construction disturbance (except for fencing installation) or munitions use in this area. It would only serve as a safety buffer for live weapons deployment on the interior of Range 77. The current agricultural activities such as grazing that may be taking place on those lands would likely be eliminated or available to the public on a limited basis or through specific agreements.

Alternative 3B would withdraw areas designated as 64C/D and 65D and the Administrative Incorporation area. Withdrawing these areas would support the NTTR with operational security and safety buffers. These areas must be controlled for safety purposes and would not be used for target impact areas.

For Alternative 3C, the proposed land withdrawal would provide the opportunity to alter the configuration of the training missions on the South Range. The current recreational uses of the land that may be taking place on those lands would likely be eliminated or available to the public on a limited basis or through specific agreements. Additional expenditures from the new training configurations potentially could offset some of the resulting economic losses as well as the 30 percent increase in aircraft operations associated with Alternative 3 as was discussed in Section 2.3.3 (Alternative 3).

The land withdrawal under Alternatives 3A, 3A-1, 3B, and 3C (a total of 301,507 acres) would include about 227,027 acres currently managed by the USFWS as part of the DNWR and more than 35,361 acres managed by BLM, some of which is grazing land.

Impacts on Payment in Lieu of Taxes

The withdrawal of the additional acreage may have a potential impact on the PILT for each county. This is particularly case with Nye County since all of Alternative 3A (and Alternative 3A-1) is located in Nye County. Nye County's total PILT for 2016 (Appendix G, Socioeconomics, Table G-10, Payments in Lieu of Taxes to Clark, Lincoln, and Nye Counties, 2016) provides revenue of $3,108,497 based on 8,546,257 acres (a value of about $0.36 per acre was funded in 2016). The withdrawal of the additional land from Nye County under Alternative 3A and Alternative 3B (estimated at about 28,000 acres) may reduce its annual PILT allocation by about $10,000, which amounts to about 0.3 percent of the county's total allocation for 2016. Alternative 3A accounts for $6,400, while the remaining $3,600 is associated with Alternative 3B. No acres in Nye County are affected by Alternative 3C, and so no PILT reduction would occur for that subalternative. Since less land area would be withdrawn (2,592 acres) under Alternative 3A-1, the estimated reduction in PILT would be $933.12 when compared to Alternative 3A. Therefore, impacts to PILT allocation would be less for Nye County with Alternative 3A-1. The impact for Alternative 3A-1 would be approximately $5,500.

The allocations to both Clark and Lincoln County are currently based on population limitation such that the reduction in federal entitlement acres should not have a significant impact, if any, on their PILT allocation regardless of any subalternative.

Impacts on Recreational Activities

Recreational activities in the area include OHV riding, camping, hunting, viewing wildlife, hiking, and mountain biking. Some access points to wildlife areas, such as trails or parts of trails, may be closed as a result of the proposed expansion of the NTTR. The impact on the local economy would depend on the availability of alternative trails of similar categories or alternative access points to trails that are cut off by the expansions.

A value of $8.77 per acre was extrapolated using BLM's estimated economic impact of recreation activities on BLM lands throughout Nevada (roughly 47.5 million acres), valued at $416.6 million for 2014 (BLM, 2015). This factor was used to evaluate the impact to BLM lands. Because there are no formal procedures to identify the number of guests that visit the DNWR or to quantify the amount of revenue generated by the use of these particular federal lands for recreational use, the BLM factor was applied to USFWS lands already available to public access.

Biking Trails

Mountain biking trails are being developed in the Beatty, Nevada, area. The NTTR expansion proposed under Alternative 3A would impact 4.88 miles of existing bike trails on the western side of the NTTR near Beatty (Appendix G, Socioeconomics, Table G-12, Annual Indirect/Induced Jobs and Pay, Fiscal Year 2015) without impacting the rest of the trails in the immediate area.

Bike trails have been developed on the Spicer Ranch and connect with trails to the east on BLM land in the Transvaal region. Biking events are held on the ranch. Current trail

use estimates are at about 100 or more user days during the months of September to June. A proposal to expand the bike trails in the Beatty area would incorporate some 36 miles of existing roads, 23 miles of existing trails for horseback riding and biking, and 32 miles of new single tract trails for biking and other activities. The new routes would not be impacted by the proposed expansion under Alternative 3A. While existing bike trails would not be impacted under Alternative 3A-1, one of the new proposed bike trails would be impacted by the proposed expansion for Alternative 3A-1.

Hiking Trails

There are approximately 26,000 acres of BLM lands that are included in Alternative 3B that could be used for hiking and recreational activities. Using the factor of $8.77 per acre described previously, the impact to BLM lands would be $228,020.

The DNWR has a number of trails on its eastern portion that is currently outside of the NTTR. Alternative 3C proposes to extend the NTTR boundary by about 227,000 acres along its eastern border, which potentially blocks access to several hiking trails. The extension would close portions of Alamo Road and block access to Dunes North and South hiking trails (see Appendix G, Socioeconomics, Figure G-5, Land Impacts on Hiking Trails from Alternative 3C).

The economic impacts associated with reduced utilization of these hiking trails has been difficult to estimate since the USFWS does not maintain census information regarding the usage of the DNWR. Limited data is associated with the visitors' registration process at the Corn Creek Visitors' Center. Because data was not available specifically for the DNWR, a value of $8.77 per acre was extrapolated from BLM estimates and used to approximate the economic value for recreational use of acres that are associated with the proposed expansion under Alternative 3C. The estimated recreational-use economic impact based on these extrapolated estimates would be $1,990,780 for Alternative 3C (227,000 acres). The area of Alternative 3C associated with Lincoln County is 74,025 acres or approximately 33 percent of the total area of Alternative 3C, and thus the impact to Lincoln County would be $649,190. The acreage of Clark County associated with Alternative 3C is 152,975 acres or 67 percent of the total area of Alternative 3C, and the economic impact to Clark County would be $1,341,590.

Off-Road Racing

Off-road car and all terrain races, such as the "Best in The Desert" race between Las Vegas and Reno, the "Pahrump Nugget 250," and the Beatty VFW Poker Run are held each year in Nye county and are economic driver for the Beatty community. The Best in the Desert and the Pahrump Nugget 250 are competitive events while the Beatty VFW Poker Run is a non-competitive race. The competitive events have a considerable fan following with large sponsorships comparable to professional stock car events in the southeastern United States.

Previously published race routes for the Pahrump Nugget 250 appear to be sufficiently south of the NTTR such that the proposed land expansion associated with Alternative 3A or 3A-1 will not impact the race route. In 2016, the Best in the Desert race was approximately 650 miles long, starting from Alamo, Nevada, and finishing at Reno, Nevada. The race lasts about 10 to 12 hours, with visitors staying one to two days. Total related spending is estimated between $714,000 to $2,142,000 over the entire race course with larger proportions being spent near the beginning and the end of the course.

Portions of the race routes such as the Best in The Desert's Vegas to Reno route are close to the NTTR boundary and may be impacted by the additional land withdrawal for Alternative 3A but not for Alternative 3A-1 (BLM, 2016j). The 2016 route would not have been impacted by any of the proposed Alternative 3 actions. In any event, the race routes may vary between years, so it is likely that the routes could be altered as needed to avoid the expansion areas or the Air Force might be able to adjust mission-related activities to accommodate these races. It is important to note that these races have been occurring for over 20 years in some cases and are an essential element of the local culture and economy of Beatty.

Impact on Grazing

The Alternative 3A proposed expansion area would overlap areas of grazing allotments (see Appendix G, Socioeconomics, Figure G-6, Rangeland Allotments Impacted by Alternative 3A) and reduce grazing in Nye County by about 17,000 acres. The Alternative 3A-1 proposed expansion area would overlap areas of grazing allotments and reduce grazing in Nye County by about 15,000 acres. The permit or lease holders are protected from loss of any improvement that they made to the grazing land. The FLPMA provides that whenever a permit or lease for grazing domestic livestock is cancelled in whole or in part, in order to devote the lands covered to another public purpose, including disposal, the permittee or leasee would receive reasonable compensation for the adjusted value for any improvements that were made to the land. The impact to the grazing activity would also depend on the grazing capacity of the withdrawn land.

The BLM Razorback grazing allotment, which would be impacted by Alternative 3A, consists of 266,329 acres and has an allotment of 1,926 animal unit months (AUM[5]). Currently, there are 386 AUM suspended. Assuming uniform forage production within the allotment and an 18,000-acre reduction in the allotment due to Alternative 3A (or a 15,000-acre reduction in the allotment due to Alternative 3A-1), the allotment capacity would be reduced by about 6 percent. With the total active AUM managed by BLM currently at 1,525,738 AUM, this loss of the grazing allotments would represent a potential reduction of economic impact of about $128,000 for the BLM managed lands for Alternative 3A or 3A-1. However, it should be noted that this would be an 83 percent

[5] The AUM provides sufficient forage for one cow and calf for a month.

reduction in available grazing area to the rancher leasing the AUM and would be a significant impact. The Air Force plans to work directly with the rancher to address this impact. In addition, to minimize potential conflicts between NTTR operations and population, housing, and economic activity in the region (to include grazing and mining), the Air Force would continue coordination between the military, other adjacent federal land management agencies as well as local and regional planning departments.

Impact on Section 368 Energy Corridor

Energy Corridor 18-224 would be impacted by both Alternatives 3A and 3A-1 in the northern land area. This may be mitigated through coordination with NTTR to gain access or by construction of the proposed boundary fence along the eastern boundary of energy Corridor 18-224 within the proposed safety buffer area.

Energy Corridor 223-224 lies within the southern portion of the proposed NTTR expansion area within Alternative 3B (Range 64C/D-65D). The BLM Southern Nevada District is currently processing a land use plan revision. Federally designated portions of this corridor are entirely on BLM-administered land, with a 3,500-foot width for the majority of the corridor and a reduced 2,000-foot width between the NTTR and Red Rock Canyon National Conservation Area. The corridor is designated as a multi-modal corridor that can accommodate both electrical transmission and pipeline projects. Existing rights-of-way include a federal-aid highway (U.S. Route 95), power transmission lines, and fiber optic and communication lines.

Although there is no overlap, a 400-foot-wide Renewable Energy Transmission Corridor (RETC) is adjacent to and south of the proposed expansion area (Alternative 3B). The RETC was established pursuant to Section 3092(a)(4) of the *National Defense Authorization Act for Fiscal Year 2015* (P.L. 113-291). The RETC is for the construction and maintenance of high-voltage transmission facilities. Also adjacent to and south of Alternative 3B is a locally designated transportation and utility corridor labeled US95-Crater Flat that was designated pursuant to Section 503 of the FLPMA through the 1998 Las Vegas Resource Management Plan. Utility Corridor US95-Crater Flat ranges up to 2,640 feet wide, extending parallel east-west, south of U.S. Route 95 and Section 368 energy Corridors 223-224 and 18-224; the utility corridor then crosses U.S. Route 95 north along the east side of energy Corridor 18-224, ending at the BLM field office boundaries of Pahrump and Tonopah near the town of Beatty in Nye County, Nevada.

In September 2016, during the Section 368 Energy Corridor Region 1 Review, stakeholder and industry input indicated that energy Corridor 223-224 was a jurisdictional concern and recommended moving the corridor south of U.S. Route 95 (DOE, 2016a). Shifting of the energy corridor out of the impacted area may be possible, but would have to be assessed for its environmental aspects at that time. BLM is in the process of revising their resource management plan, at which time energy corridor revisions would be considered. Any modifications to the legislatively designated RETC may only occur by Congressional action.

3.6.2.5 Alternative 4 – Establish the Period of Withdrawal

Alternative 4 establishes the period of withdrawal. This alternative will be paired with one or more of the other alternatives. Alternatives 4A, 4B, and 4C propose a 20-year, 50-year, and an indefinite withdrawal period, respectively.

With each alternative, there is the assumption that economic indicators would increase at the national average of 2.2 percent annually, which has been the national average based on the last 17 years.

3.6.2.6 No Action Alternative

With the land withdrawal not extended, prohibitions placed in effect under the public law would expire. Appropriative land uses such as mining, mineral leasing, and livestock grazing could potentially be reintroduced after the Secretary of Interior opens the land to such uses. Facilities on the NTTR may need to be removed and Creech AFB closed. Decontamination of the land where it is practicable and economically feasible would be undertaken if funded by Congress. Detailed evaluations and characterization are not included in this analysis since the full scope of the No Action Alternative would be determined in coordination with the Secretary of the Interior. Further NEPA analyses would be conducted, as appropriate, at that time.

The No Action Alternative would result in the removal of Air Force and DOE/NNSA activities from the NTTR. The initial impact would be a $500.8 million reduction in economic impact including a $138 million reduction in payroll, a $340 million reduction in expenditures, and a $21 million reduction due to the loss of jobs (see Appendix G, Socioeconomics, Table G-14, Reduction in Economic Impact from Not Extending the NTTR Land Withdrawal, based on Fiscal Year 2015).

While there would be a reduction in the annual economic impact for the closing of the NTTR, the cost to return the NTTR to public use may be significant. The removal of all facilities and buildings from the NTTR and Creech AFB is estimated to cost $213 million. Secondly, the cost for full decontamination of the NTTR is estimated at about $2.5 billion. These actions would delay opening some of the NTTR land to public use by up to 18 years, particularly land where decontamination is necessary.

No alternative location has been identified for a training range of sufficient size, topography, and airspace access to meet the need for testing and training new generations of equipment and technologies. A range meeting the Air Force criteria would be costly if such land could be located and acquired. The replacement costs of facilities on the NTTR are estimated at $122 million and $1.1 billion at Creech AFB. A new range location may also require moving the aggressor squadrons and facilities from Nellis AFB to the new location.

If the land withdrawal is not extended and the control of the land is returned to its originating federal agency, the land may again become part of the entitlement acres considered in determining the PILT for Clark, Lincoln, and Nye Counties. The

1,808,244 acres in Nye County and 1,141,359 acres total in Clark and Lincoln Counties are managed by the Air Force in the NTTR. The acres in Nye County eligible for PILT payments would increase, at 2016 rates, an estimated $682,000 to the Nye County PILT payments. Clark and Lincoln County payments are estimated with population limitations and would not necessarily experience such direct impacts on the magnitude of their PILT payments.

3.6.3 Proposed Resource-Specific Mitigations and Management Actions

The identified resource-specific mitigations and/or management actions for socioeconomics that would be implemented include the following:

- Under all action alternatives, in order to minimize potential conflicts between NTTR operations and population, housing, and economic activity in the region (to include grazing and mining, OHV recreation, and dispersed recreation), the Air Force would continue coordination between the military and federal land management agencies as well as local and regional planning departments. (See Sections 3.6.2.3 and 3.6.2.4.)
- Under Alternatives 3A/3A-1 and 3B, impacts to the energy Corridor 18-224 may be mitigated through coordination with NTTR to gain access or by construction of the proposed boundary fence along the eastern boundary of energy Corridor 18-224 within the proposed safety buffer area.
- Under Alternatives 3A/3A-1 and 3B, if construction within the Section 368 energy corridor occurs, then the Interagency Operating Procedures from the Record of Decision for the *Final Programmatic Environmental Impact Statement, Designation of Energy Corridors on Federal Land in the 11 Western States* (DOE, 2009) will be evaluated for potential implementation.

3.6.4 Native American Perspective on Socioeconomics

The CGTO knows the socio-economic conditions addressed in the NTTR LEIS are inadequate in revealing the true impact upon Native people. The LEIS does not provide a full understanding of the tribal values, which are different and unique for sustaining tribal lifeways. Consideration must be given to examining tribal impacts on employment, earnings, agriculture, mining, recreation, grazing and energy corridors. Tribes have influence on these conditions however, the measure of meaning may not always be monetarily driven.

The CGTO knows value or significance is based on tribal identity and their spiritual relation to places used for sustaining traditional lifeways. For example, tribes have the ability to use a natural area for ceremonial activities to sustain balance within the cultural landscape. The CGTO believes generations upon generations of tribal people have sustained a way of life that relies upon the natural resources provided by the Creator. Rather than depleting resources, tribal practices promote active conservation to return balance to our natural world. Tribes place high value on the health and pristine nature of the land and prefer the least intrusive approach to minimize environmental

change. We are the stewards who serve as the voices of the land, water, air and other living things. Thus, tribal governments are mindful of the importance of our own pursuit of economic development in culturally compatible ways that are in the best interest of the health and welfare of our people.

Native Americans prefer to live or use locations within our traditional homelands because of our special ties to the land and the unique relationship that can be severed or adversely impacted if a disconnection occurs. When Native Americans receive employment near their reservation, tribal people can reside on the reservation while commuting to work. This pattern of employment tends to have positive benefits for both the tribal communities and/or tribal enterprises like housing, health coverage and other tribal programming. The tribal community has increased participation from the individual and their financial contribution. The individual payment for tribal housing is tied to income level; when a person earns more from a job, rent is adjusted accordingly and revenues increase for housing programs; resulting in making tribally supported housing more economically sustainable and attractive for tribal governments.

Conversely, when employment opportunities decline on the reservation, Native American families must relocate from the tribal community to seek employment elsewhere. As tribal members move away, Native American culture is threatened because the number of families living on the reservation declines. Tribal members who move from their reservations impact reservation economies, schools, housing and emergency services. Both schools and tribal economies are impacted because federal funding for tribes is based on population statistics.

When local employment opportunities are offered through the Air Force for eligible tribal representatives to support land expansion activities, prices of tribal housing rise and tribal economies benefit, because of the increased revenue stream. If a positive balance occurs between increased income and increased cost of living in tribal communities is achieved, both the individual tribal member and their family including the tribe benefit from employment opportunities.

Tribal housing programs become jeopardized if vacancies occur in rental properties and dwellings remain unoccupied. If vacancies occur, tribal revenues diminish and federal funding is adversely impacted, making it more difficult to expand housing programs in future years.

Vacant units require more maintenance and security at tribal expense. If tribal members are unavailable to occupy a tribal housing unit, then tribes make units available to non-Indians, and potentially impact Native American culture. The increased presence of non-Indians on a reservation or within the tribal community reduces the privacy needed to conduct certain ceremonies and traditional practices. When non-Indian children are in constant interaction with tribal children, it creates a disruption in cultural continuity by minimizing cultural learning opportunities that occur in everyday life.

When Native Americans move away from the reservation several dilemmas occur. Typically, Native Americans experience a feeling of isolation from their tribe, culture, and family. When an Native American relocates to an off-reservation area, the individual

finds that there are fewer people of their tribe and culture to which they can connect. As a result, Native Americans must decide on the appropriateness of practicing traditional ceremonies in the presence of non-Indian people. Native Americans are continually torn between the decision to stay in the city or return to the reservation to participate in traditional ceremonies and interact with other tribal members. This dilemma occurs on a regular basis and potentially impacts the livelihood and cultural well-being of off-reservation employees and their families. When off-reservation individuals choose to return to their homelands to participate in traditional ceremonies or renew familial ties, they risk losing their jobs or being subjected to disciplinary actions against their children who attend public schools due to excessive absenteeism.

Under federal and tribal law, Native American children can be educated in tribally controlled and federally certified schools located on Indian reservations (also known as Indian Trust Land). Federal funds are available through Title VII Indian, Native Hawaiian and Alaskan Native Elementary and Secondary Education, which focuses on tribal communities with Indian special education and cultural needs for the Indian children. Compensation from the federal government is provided to any school district that has eligible students and has entered into a cooperative agreement with federally-recognized tribe(s), whether at a public, private, or an Indian-controlled school.

In addition to these potential impacts to housing and education, small rural Indian reservations must have a sufficient number of people to generate emergency management capability. The need for emergency services will decline as people move away from the reservation. Tribal members employed in these emergency services occupations may move away because of their marketable skills or that availability of increased income. Tribal revenues for administration, school, housing, and emergency services are reduced accordingly, due to a decline in eligible population.

Indian reservations within the CGTO region of influence are primarily located in remote areas with limited access by standard and substandard roads. Should an emergency situation occur resulting from NTTR related activities, including the transportation of munitions or hazardous materials, closure of the main or only transportation artery to our land could occur. If a major transportation corridor into a reservation closes, numerous adverse social and economic impacts could occur. For example, Indian students who have to travel an unusually high number of miles to or from school could suffer substantial delays. Delays also could occur for regular or essential deliveries of necessary supplies for inventories needed by medical services, tribal enterprises or personal use. The ability to deliver emergency medical services in route to or from the reservation, as well as purchases by patrons of tribal enterprises could be dramatically affected. Potential investors interested in expanding tribal enterprises and other ongoing considerations for future tribal enterprises, may significantly diminish because of the real and perceived risks related to access or the transportation of hazardous materials associated with NTTR related activities.

3.7 ENVIRONMENTAL JUSTICE

For the Native American perspective on information in this section, please see Section 3.7.4 and Appendix K, paragraph 3.7.1.1.1.

3.7.1 Affected Environment

3.7.1.1 Description of Resource

Environmental Justice is defined by the EPA and reported in the Air Force EIAP guidelines as, "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (U.S. Air Force, 2014d). EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, is designed to ensure that disproportionately high and adverse human health or environmental effects on citizens in either of these categories are identified and addressed, as appropriate.

For purposes of this analysis, the terms "minority" and "low income" are defined below:

- *Minority*: Those individuals who have identified themselves as having one of the following origins: "Hispanic," "Asian-American," "Native Hawaiian and other Pacific Islander," "Black or African-American," "American Indian or Alaskan Native," or "Some Other Race" (which does not include "White," "Black or African-American," "American Indian or Alaska Native," "Asian," and "Native Hawaiian or Other Pacific Islander" race categories) (U.S. Air Force, 2014d).
- *Low-Income*: A family and each individual in the family is considered in poverty if the total family income is less than the family's threshold or the dollar amount calculated by the U.S. Census to determine poverty status.

Although children and elderly are not specifically included as environmental justice populations, they are identified as sensitive receptors in the most recent Air Force EIAP guidelines (2014d). Children are vulnerable to environmental exposure, and potential health and safety effects to children are considered in this LEIS under the guidelines established by EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. For purposes of this analysis, the term "children" refers to any person under 18 years of age. The EPA and the Air Force EIAP guidelines identify the importance of considering an elderly person as a sensitive receptor to potential environmental impacts. The term "elderly" refers to any person age 65 and older.

3.7.1.2 Region of Influence

Clark, Lincoln, and Nye Counties in Nevada and Washington County and Iron County in Utah represent the community of comparison (COC) for evaluating disproportionate effects on populations of concern for environmental justice since noise associated with activities on the NTTR extend into portions of these counties. These counties also represent the COC for children and elderly populations. Estimates of the populations were developed using the most recent census tract level data from the American Community Survey (ACS) five-year estimates (2010–2014) and are displayed in Table 3-34 and Table 3-35.

Table 3-34. Youth and Elderly Populations

Geographic Unit	Youth (Under 18 years)		Elderly (65 Years and Older)	
	Number	Percent	Number	Percent
Clark County, NV	487,714	24.3%	247,087	12.3%
Lincoln County, NV	1,399	26.5%	929	17.5%
Nye County, NV	8,232	19.2%	11,214	26.1%
Iron County, UT	13,916	29.8%	4,966	10.6%
Washington County, UT	42,378	29.2%	26,611	18.4%
Utah	888,945	31.1%	271671	9.5%
Nevada	661,100	23.9%	362,183	13.1%
United States	73,777,658	23.5%	43,177,961	13.7%

Source: (USCB, 2014a)

Table 3-35. Environmental Justice Populations

Geographic Unit	Total Population	Minority Populations										Low-Income Populations*	
		Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Two or More Races	Some other Race	Hispanic and Latino (of any race)	White alone, Not Hispanic or Latino	Total Minority	% Total Minority	Total Low-Income	% Low-Income
Clark County, NV	2,003,613	206,624	8,301	177,047	13,406	66,639	3,313	596,587	931,696	1,071,917	53.5	314,567	15.7
Lincoln County, NV	5,282	128	209	2	0	52	16	472	4,403	879	16.6	856	16.2
Nye County, NV	42,938	1,127	870	719	129	537	61	6,026	33,469	9,469	22.1	7,986	18.6
Iron County, UT	46,725	283	917	230	259	710	25	3,719	40,582	6,143	13.1	10,422	22.8
Washington County, UT	144,844	659	1,587	983	1,286	2,255	81	14,272	123,721	21,123	14.6	22,131	15.5
Nevada	2,761,584	220,503	24,304	203,924	16,552	84,950	4,110	752,049	1,455,192	1,306,392	47.3	430,807	15.6
Utah	2,858,111	28,719	28,134	59,852	25,754	51,766	4,531	379,454	2,279,901	578,210	20.2	358,682	12.8
United States	314,107,084	38,460,598	2,082,768	15,536,209	493,155	6,692,885	611,881	53,070,096	197,159,492	116,947,592	37.2	49,000,705	15.6

Sources: (USCB, 2014a; 2014b)
Note * = population for whom poverty status is determined, which may differ from the total population.

Five Native American settlements are in the three counties in Nevada: the Duckwater Indian Reservation, Ft. Mojave Indian Reservation, Las Vegas Indian Reservation, Las Vegas Indian Colony, and the Moapa River Indian Reservation. The Paiute Indian Tribe of Utah (PITU) consists of five bands, including Cedar Band, Indian Peaks Band, Kanosh Band, Koosharem Band, and the Shivwits Band. Combined, the five bands of the PITU have 918 tribal members (PITU, 2017). The Cedar Band and the Indian Peaks Band are located in Cedar City in Iron County and have 288 and 48 tribal members, respectively. The Shivwits Band of Paiutes is located in Washington County and has approximately 305 tribal members (PITU, 2017). The populations associated with these reservations are included in the county populations.

Under baseline conditions, six census tracts are exposed to 67 dB DNL (see Figure 3-13 and Figure 3-14). Approximately 12 to 22 of the population in an area exposed to 65 to 70 dB DNL is highly annoyed by noise (see Table 3-5) (U.S. Air Force, 2016a). An estimated 4,159 people live within the affected area. Table 3-36 presents the residential populations of concern for environmental justice within the affected area. Table 3-37 presents the children and elderly population data comparable to that provided for the environmental justice populations. Four schools are located within the 65- to 69-dBA or greater noise contours (see Figure 3-14). No Native American settlements are within the 65-dB DNL or greater noise thresholds associated with subsonic noise (see Figure 3-13).

Table 3-36. Environmental Justice Populations in the Baseline Affected Area (65–69 dB DNL)

State	Census Tract	Special Use Airspace (SUA)	Total Population in the Affected Area	Total Minority	Percent Minority	Total Low-Income	Percent Low-Income
Nevada	9501	Caliente	1,915	205	10.7%	300	15.7%
Nevada	9502	Caliente	422	79	18.7%	57	13.5%
Nevada	9502	Coyote	453	46	10.2%	65	14.3%
Nevada	9602	Coyote	128	16	12.5%	20	15.6%
Utah	1103	Caliente	787	89	11.3%	158	20.1%
Utah	2702	Caliente	277	18	6.5%	25	9.0%
Utah	2703	Caliente	177	45	25.4%	36	20.3%

dB = decibel; DNL = day-night average sound level; SUA = Special Use Airspace

Table 3-37. Youth and Elderly Populations in the Baseline Affected Area (65–69 dB DNL)

State	Census Tract	Special Use Airspace (SUA)	Total Population in the Affected Area	Total Youth	Percent Youth	Total Elderly	Percent Elderly
Nevada	9501	Caliente	1,915	431	22.5%	306	16.0%
Nevada	9502	Caliente	422	146	34.6%	75	17.8%
Nevada	9502	Coyote	453	186	41.1%	54	11.9%
Nevada	9602	Coyote	128	29	22.7%	21	16.4%
Utah	1103	Caliente	787	219	27.8%	93	11.8%
Utah	2702	Caliente	277	93	33.6%	40	14.4%
Utah	2703	Caliente	177	51	28.8%	37	20.9%

dB = decibel; DNL = day-night average sound level; SUA = Special Use Airspace

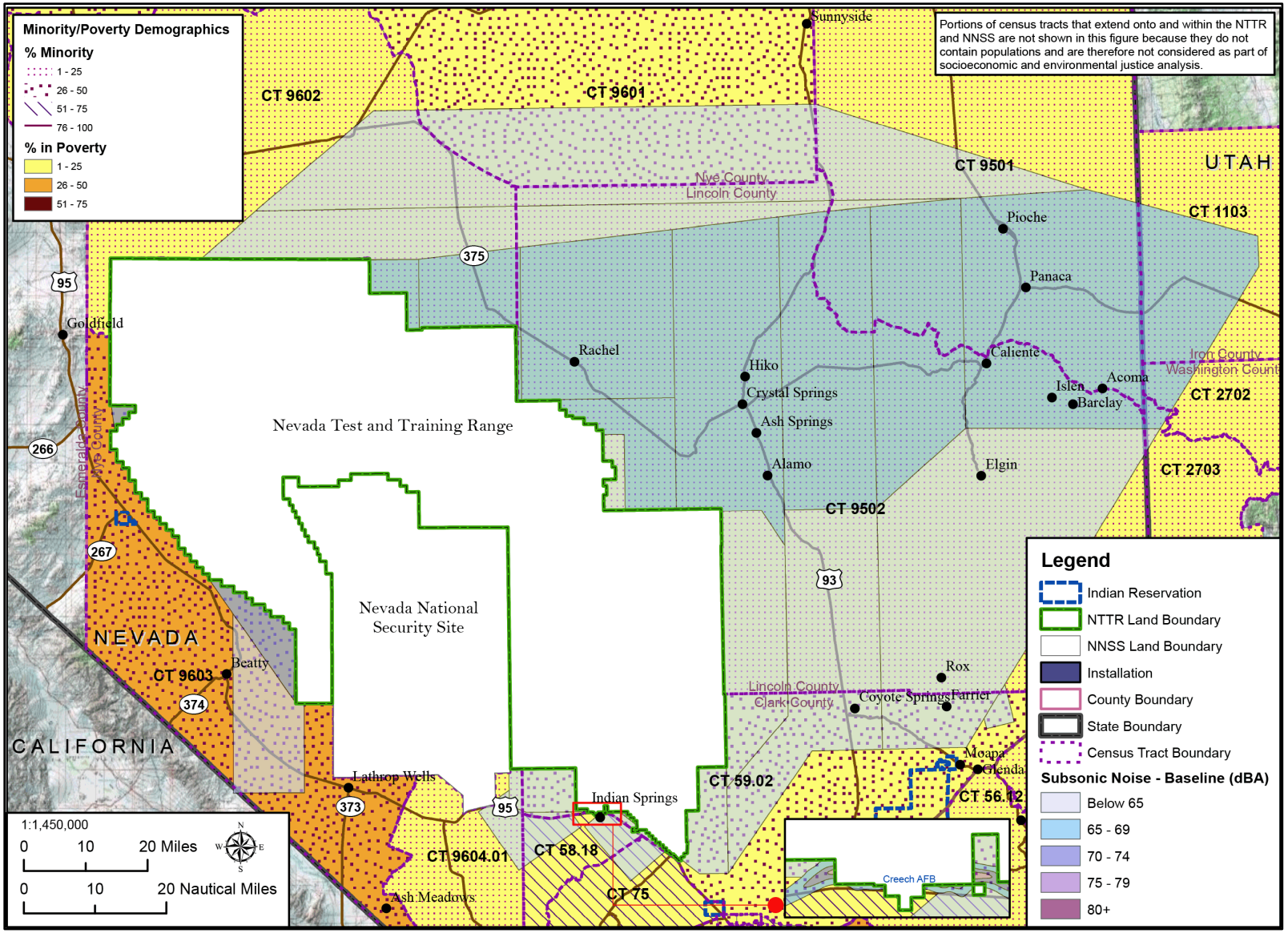

Figure 3-13. Environmental Justice Communities of Concern Exposed to Subsonic Noise

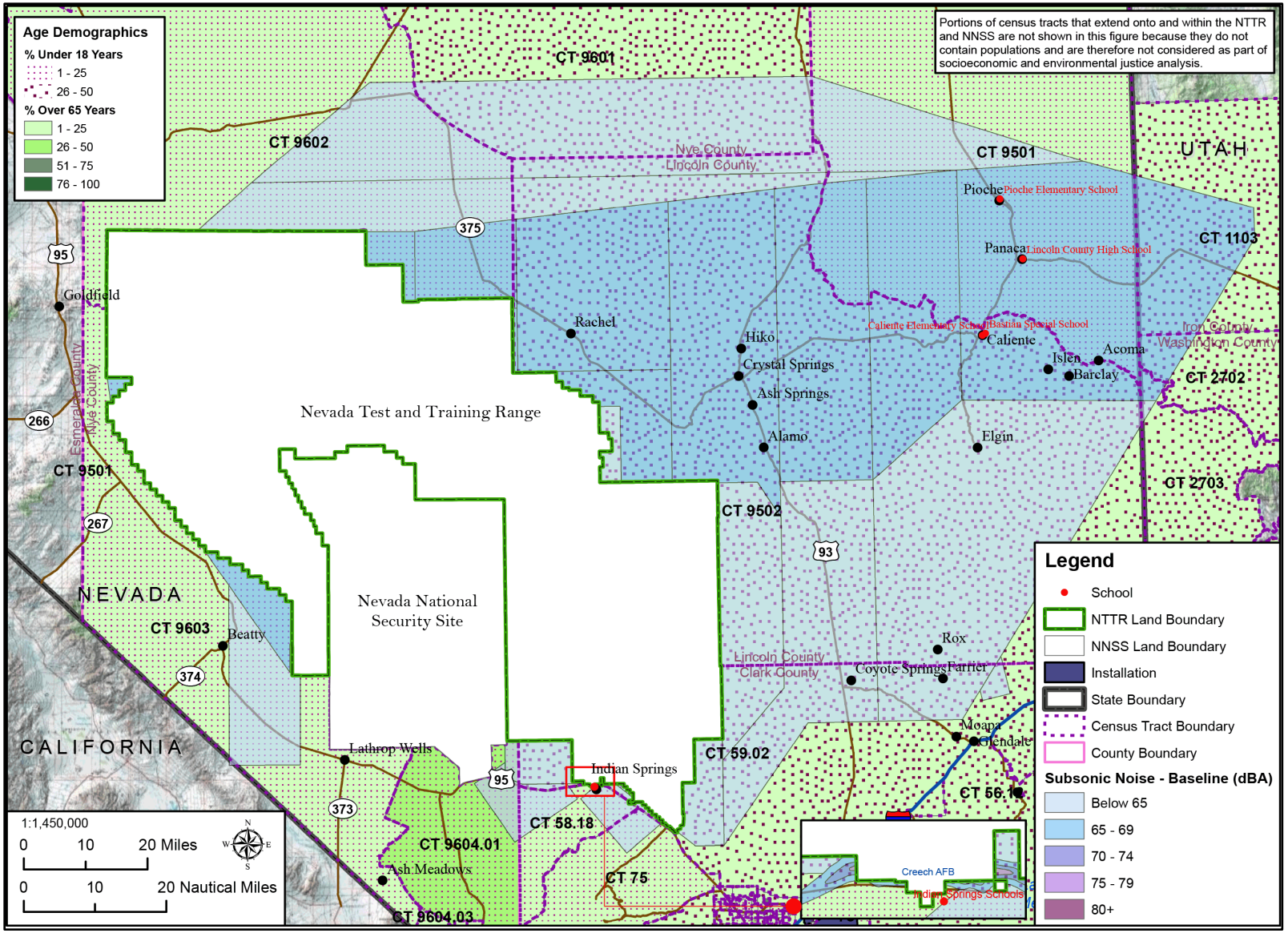

Figure 3-14. Youth and Elderly Populations Exposed to Subsonic Noise

Under baseline conditions, there are no census tracts outside of the NTTR boundary that are exposed to 62 CDNL or greater due to supersonic booms (see Section 3.2, Noise, Table 3-8, Summary of CDNL Values for SUA, and Figure 3-15 and Figure 3-16).

As shown in Figure 3-17 and Figure 3-18, only a portion of Census Tract 59.02 outside the NTTR boundary is exposed to 62 CDNL or greater. A review of satellite image reveals that there are no populations residing within the areas exposed to 62 CDNL or greater under baseline conditions. There are also no noise-sensitive locations such as schools, hospitals, or Indian Reservations within this area.

3.7.2 Environmental Consequences

This section discusses the potential impacts to environmental justice populations and youth and elderly populations under each alternative. For each alternative, any new or additional aircraft operations, munition uses, ground disturbance, or emitter placement proposed for the use on the existing NTTR boundary would require separate NEPA analysis to determine whether environmental justice populations would be disproportionately impacted and whether children or elderly are at a high and adverse risk. Future NEPA analysis would be focused on site-specific information and analysis would be more specific to a local population.

The tribal communities surrounding the NTTR in Clark, Nye, and Lincoln Counties were identified early in the LEIS process as an environmental justice community of concern. Tribal communities have a unique political and cultural perspective of environmental health impacts that might not be captured in a traditional analysis. In order to gain local tribal perspectives, the Native American tribes will be providing input on the LEIS with regard to the potential impacts to Native Americans and their communities associated with the Proposed Action and alternatives. The Air Force continues to engage with the tribal communities regarding the proposal and the LEIS (see Section 3.9, Cultural Resources).

The Air Force acknowledges that it is challenging to determine significance at the programmatic level. Should the areas associated with the Proposed Action or alternatives be withdrawn for military use, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made. Nonetheless, at a programmatic level, the Air Force has identified minimal to less than significant environmental justice impacts connected with the Proposed Action and alternatives overall.

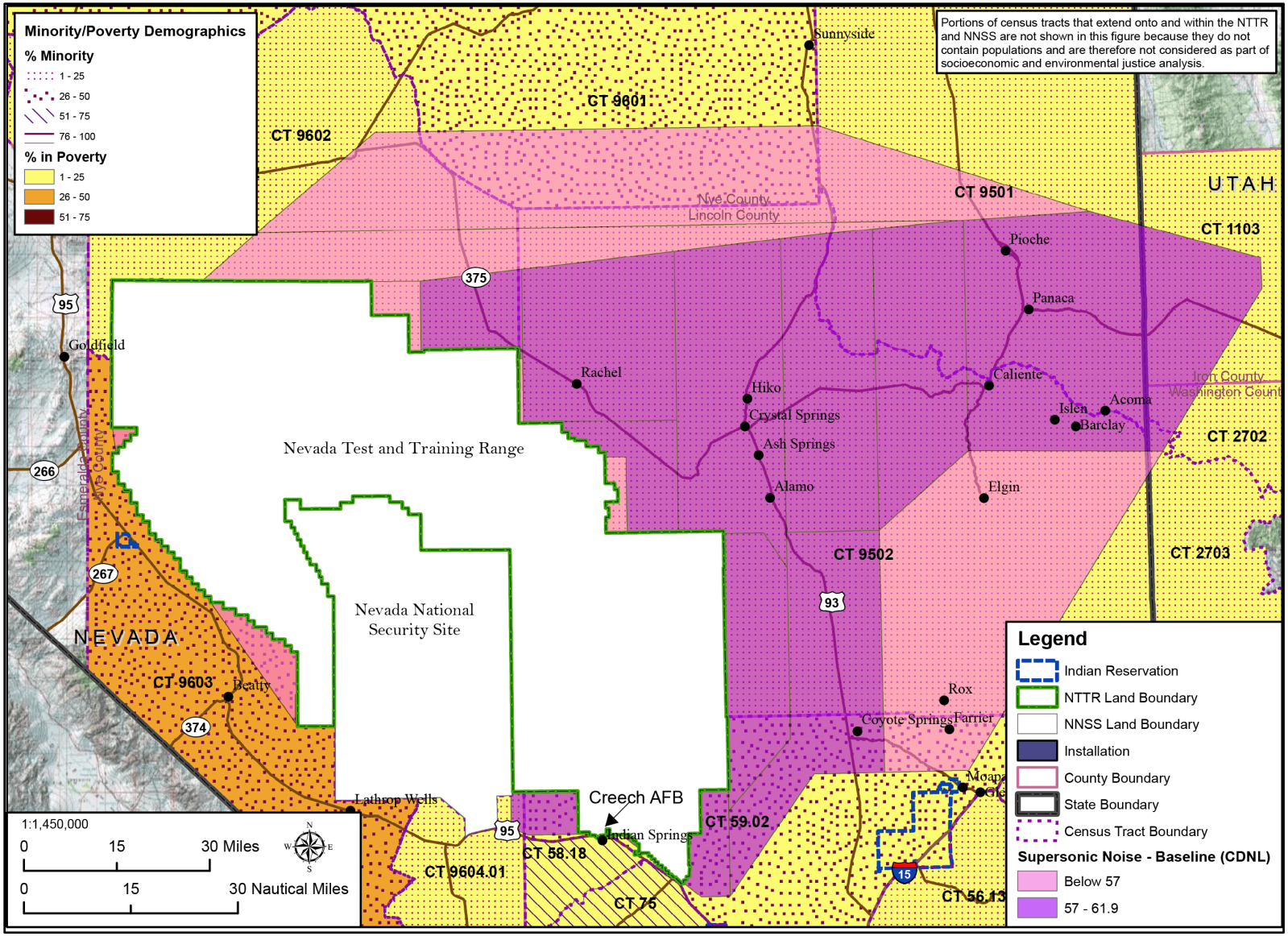

Figure 3-15. Environmental Justice Communities of Concern Exposed to Supersonic Boom Noise

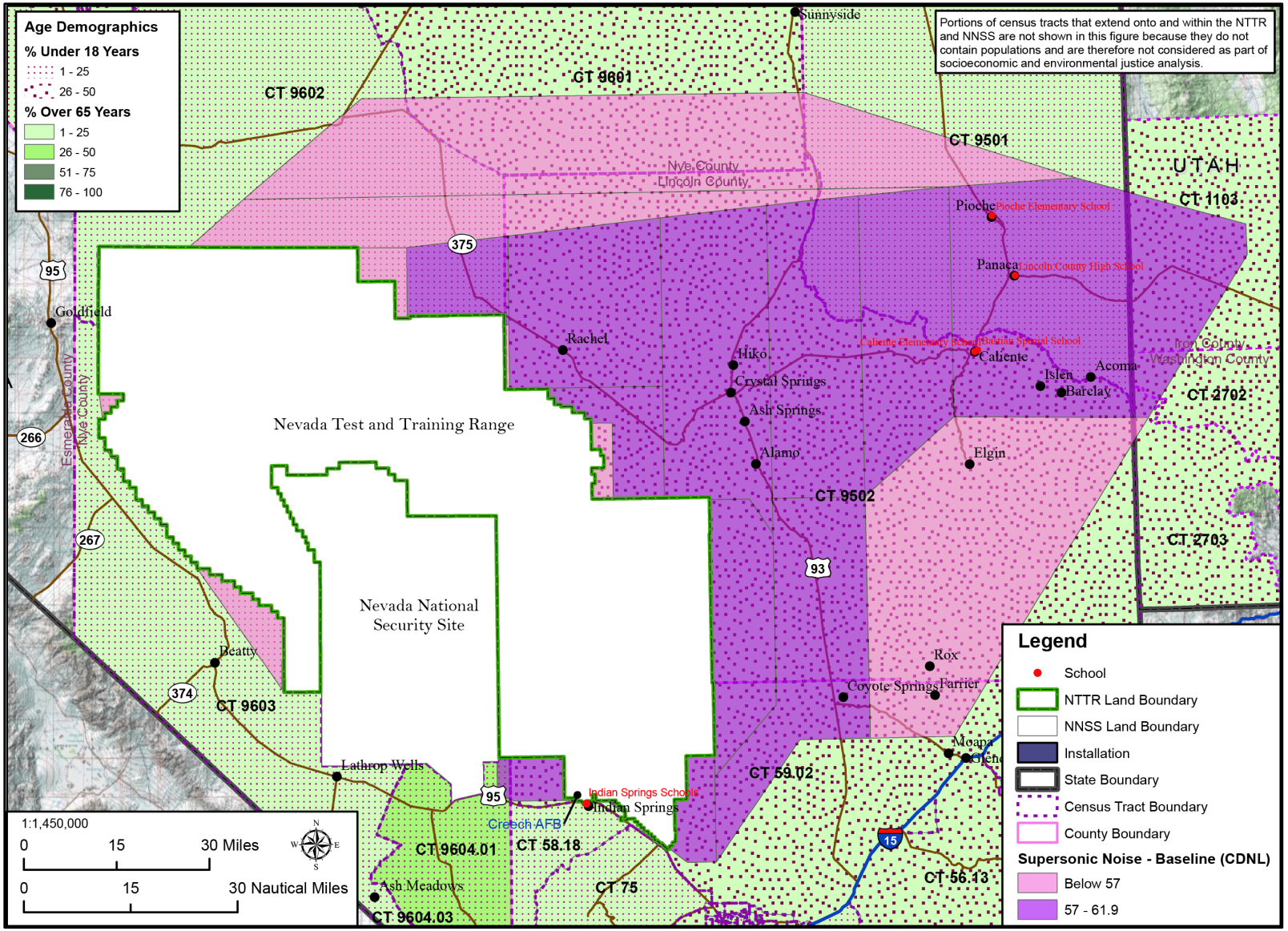

Figure 3-16. Youth and Elderly Populations Exposed to Supersonic Boom Noise

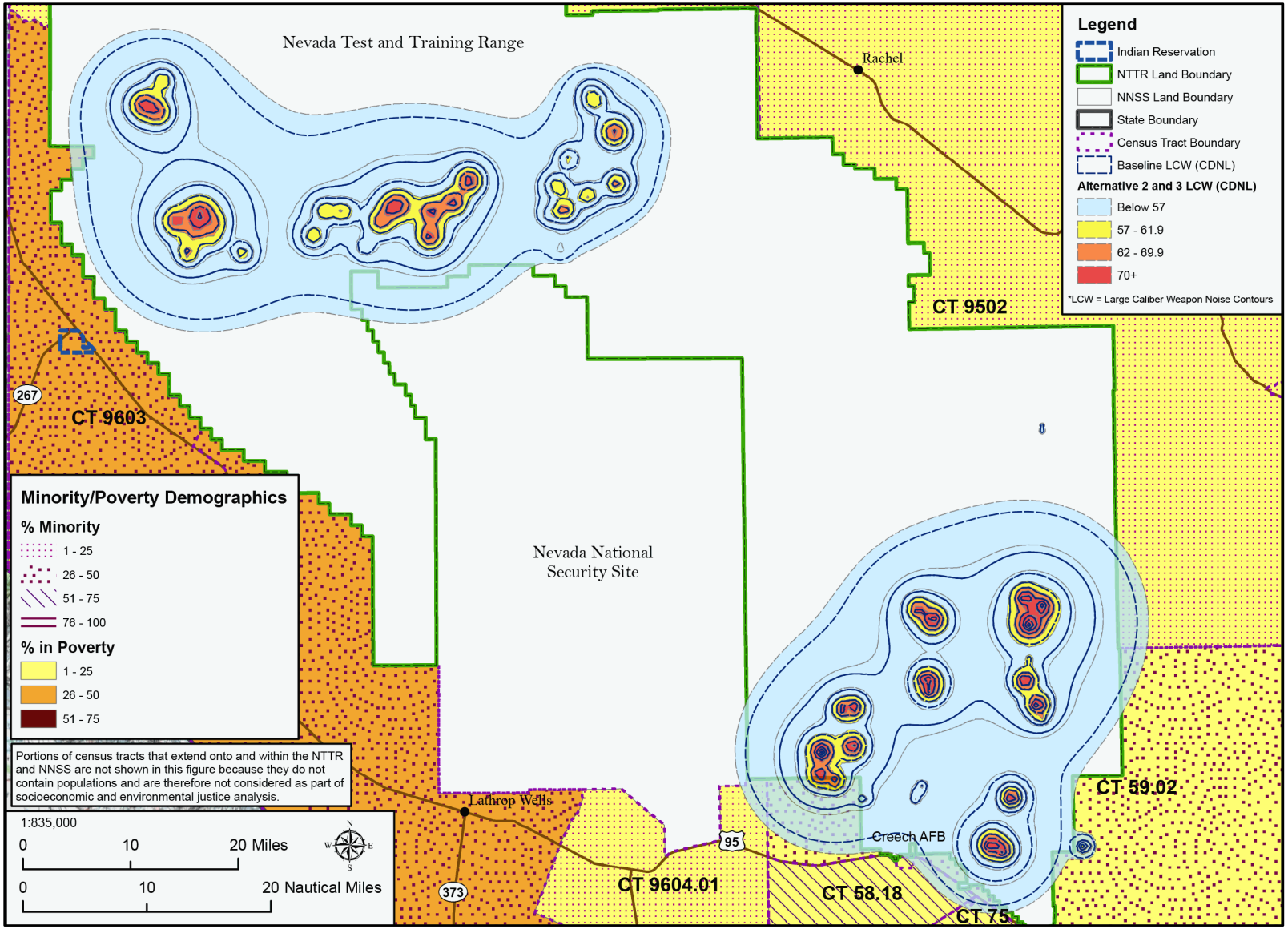

Figure 3-17. Environmental Justice Communities of Concern Exposed to Large-Caliber Weapon Noise

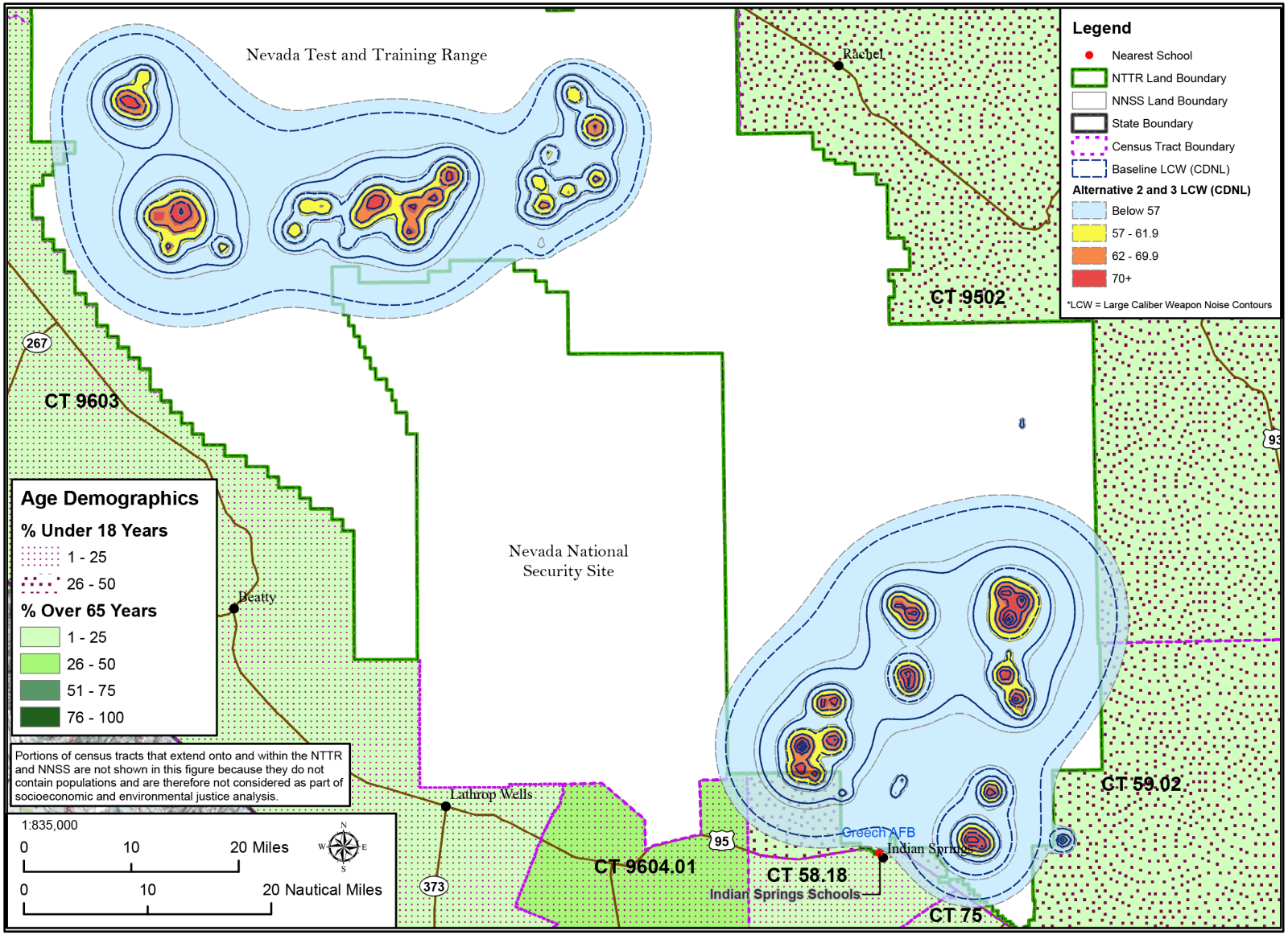

Figure 3-18. Youth and Elderly Populations Exposed to Large-Caliber Weapon Noise

3.7.2.1 Analysis Methodology

Analysis of environmental justice is conducted pursuant to EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, and follows the guidelines outlined in the Air Force EIAP (U.S. Air Force, 2014d). Environmental justice analysis of aircraft operations focuses on the minority and low-income populations in the affected area defined as those areas outside the NTTR boundary that are exposed to noise levels of 65 dB DNL or greater associated with subsonic aircraft noise and noise levels of 62 CDNL or greater associated with supersonic aircraft noise.

For munitions use, environmental justice analysis focuses on the minority and low-income populations in the affected area defined as those areas outside the NTTR boundary that are exposed to noise levels of 62 CDNL or greater. As stated in Section 3.2 (Noise), munitions-generated noise of 62 dB CDNL consists of sound at different frequencies and, in terms of human annoyance, is equivalent to aircraft noise at 65 dB DNL and is, therefore, used as the threshold for environmental justice analysis for supersonic and munitions use. These thresholds are based on suggested land use compatibility with residential land use (AFI 32-7063). For this analysis, calculated noise contours of these thresholds would be considered adverse and the affected area, or ROI, represents residential areas that experience annual average noise levels of 65 dB DNL or greater for subsonic aircraft noise and 62 CDNL or greater for supersonic aircraft noise and large-caliber weapons.

In accordance with Air Force EIAP guidelines, the COC in environmental justice analysis is the “smallest set of Census data encompassing the ROI for each resource and is used to establish appropriate threshold for comparison analysis” (U.S. Air Force, 2014d). For minority, low-income, youth, and elderly populations, the most recent ACS 2010–2014 data for census tracts was the data used to calculate the ROI, and the county data that encompasses the affected area is the COC. The affected area (or ROI) was calculated by using GIS to overlap the noise contours onto the census tract data. The proportion of the area covered in each census tract was then applied to the total population in the entire tract to determine the population within the affected area. The percentages for minority, low-income, youth, and elderly provided in the ACS 2010–2014 five-year estimate, were then applied to the population in the affected area for each census tract to determine the number of people in each census tract that would comprise those population categories.

The potential for disproportionate impacts to occur to minority or low-income populations was first assessed by determining the extent of these populations within the ROI. This is done by comparing the percent of each minority and low-income population in the respective ROI against the percent of each associated population in the respective COC. If the ROI percent is less than the COC percent (i.e., there are fewer minority or low-income populations within the ROI than the COC), then there would be no potential for disproportionate impacts. If, however, the ROI percent of these populations is greater than or equal to the respective COC percent there would be the potential for disproportionate effects that may require mitigation (U.S. Air Force, 2014d).

Analysis then focused on the distribution of known impacts within the ROI and the potential to disproportionately impact identified minority and/or low-income populations as compared to other populations within the ROI.

3.7.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

With Alternative 1, the NTTR boundary would remain as under baseline conditions. Aircraft, operations, munitions use, ground disturbance, and emitter operations would continue as described under baseline conditions.

The noise environment from aircraft operations associated with Alternative 1 would remain similar to existing conditions. No significant noise or safety impacts were identified for Alternative 1 (Section 3.2, Noise, and Section 3.13, Health and Safety), and, therefore, no disproportionately high and adverse impacts to environmental justice communities and no disproportionately high and adverse environmental health and safety impacts to children are anticipated from aircraft operations with this alternative.

With Alternative 1, munitions use would continue as under existing conditions, and noise levels of 62 CDNL outside of the NTTR boundary would not extend into populated areas (see Figure 3-17). Therefore, no disproportionately high and adverse impacts to environmental justice communities and no disproportionately high and adverse environmental health and safety impacts to children are anticipated from munitions use with this alternative.

Any ground disturbance associated with construction or troop movement would occur within the existing NTTR boundary. No adverse noise or safety impacts associated with ground disturbance have been identified that would impact the public (see Section 3.2, Noise, and Section 3.13, Health and Safety). There would be no ground disturbance performed on or in close proximity to cultural or historical sites or other noise-sensitive areas. Therefore, no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children would be anticipated from ground disturbance under this alternative.

No adverse noise or safety impacts associated with existing emitter operations have been identified that would impact the public (see Section 3.2, Noise, and Section 3.13, Health and Safety). Therefore, no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children would be anticipated from emitter operations under this alternative.

3.7.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

With Alternative 2, the NTTR boundary would be the same as for Alternative 1, but with additional “ready access” in the South Range as well as the North.

The six census tracts and the associated environmental justice and youth/elderly populations residing under the Caliente and Coyote SUAs (shown in Table 3-36 and Table 3-37) that are currently exposed to 65 to 69 dB DNL associated with subsonic aircraft noise would continue to be exposed to this range of noise under Alternative 2 as they are under Alternative 1. Therefore, no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children would be anticipated from aircraft operations resulting in subsonic noise over and above current baseline conditions with Alternative 2.

The portions of census tracts 9501, 9502, 1103, 2702, and 2703 under the Caliente SUA that are currently exposed to noise levels of 61 CDNL due to the five supersonic booms per day would be exposed to noise levels of 62 CDNL due to an increase of one supersonic boom per day for a total of six booms per day. Since the noise change would be experienced across the region equally, there would be no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children would be anticipated from aircraft operations resulting in supersonic noise over and above current baseline conditions with Alternative 2.

A comparison of the census tracts in the affected area from supersonic booms to the associated county in which they are located indicates that census tract 9502 has a higher percentage of minority population than Lincoln County (see Table 3-38). Additionally, there are four schools located in census tracts 9501 and 9502 in Lincoln County, Nevada, that would be affected by a CDNL of 62.

Table 3-38. Environmental Justice Populations Under Alternative 2 in the Affected Area (62 or greater CDNL)

State	County	Geographic Unit	Total Minority	Percent Minority	Dispro-portionate	Total Low-Income	Percent Low-Income	Dispro-portionate
Nevada	Lincoln	CT 9501	205	10.7%	N	300	15.7%	N
Nevada	Lincoln	CT 9502	79	18.7%	Y	57	13.5%	N
Nevada	Lincoln	County	879	16.6%	-	856	16.2%	-
Utah	Iron	CT 1103	89	11.3%	N	158	20.1%	N
Utah	Washington	CT 2702	18	6.5%	N	25	9.0%	N
Utah	Washington	CT 2703	45	25.4%	Y	36	20.3%	Y
Utah	Iron	County	6,143	13.1%	-	10,422	22.8%	-
Utah	Washington	County	21,123	14.6%	-	22,131	15.5%	-

CT= census tract; CDNL = C-weighted day-night average sound level; CT= census tract; N = no; Y= yes

As shown in Table 3-38, census tract 2703 in Washington County, Utah, has a higher percent of minority and low-income than Washington County. However, a satellite image review of the portion of census tract 2703 within the 62 and greater CDNL indicates that there are no residential areas located under the 62 and greater CDNL.

Census tracts 9501 and 1103 do not have a higher percent of the population minority or low-income compared to Lincoln and Iron County, respectively, and, therefore, no disproportionate impacts would be anticipated to these areas. As shown in Figure 3-19, the Pine Park Campground is located within the 62 CDNL noise range under Alternative

2. The Pine Park Campground is a primitive campsite with several trails for recreational purposes. Noise associated with supersonic booms (Figure 3-20) would be sporadic and temporary and would likely be moderately disruptive at times but would not add measurably to the overall CDNL and, therefore, would not be significant to recreational users.

Table 3-39 shows which census tracts have a higher percent of youth (under 18 years) and elderly (65 years and older) than the counties they are located within.

Table 3-39. Youth and Elderly Under Alternative 2 in the Affected Area (62 or Greater CDNL)

State	County	Geographic Unit	Total Youth	Percent Youth	ROI>COC	Total Elderly	Percent Elderly	ROI>COC
Nevada	Lincoln	CT 9501	431	22.5%	N	306	16.0%	N
Nevada	Lincoln	CT 9502	146	34.6%	Y	75	17.8%	Y
Nevada	Lincoln	County	1,399	26.5%	-	929	17.5%	-
Utah	Iron	CT 1103	219	27.8%	N	93	11.8%	Y
Utah	Washington	CT 2702	93	33.6%	Y	40	14.4%	N
Utah	Washington	CT 2703	51	28.8%	N	37	20.9%	Y
Utah	Iron	County	13,916	29.8%	-	4,966	10.6%	-
Utah	Washington	County	42,378	29.2%	-	26,611	18.4%	-

> = greater than; CDNL = C-weighted day-night average sound level; COC = community of comparison; CT= census tract; N = no; ROI = region of influence; Y= yes

With Alternative 2, potential impacts to environmental justice communities and youth/elderly populations from munitions use would be similar to those described under Alternative 1. Munitions use would continue as under existing conditions, and noise levels of 62 dB CDNL outside of the NTTR boundary would not extend into populated areas (see Figure 3-17). Therefore, no disproportionately high and adverse environmental health and safety impacts to children would be anticipated from munitions use under this alternative.

Ground disturbance could take place on the South Range with Alternative 2. No adverse noise or safety impacts associated with ground disturbance have been identified that would impact the public (see 3.2, Noise, and Section 3.13, Health and Safety). There would be no ground disturbance performed on or in close proximity to cultural or historical sites or other noise-sensitive areas. Therefore, no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children would be anticipated from ground disturbance with Alternative 2.

Emitter operations could take place on the South Range with Alternative 2. No adverse noise or safety impacts associated with existing emitter operations have been identified that would impact the public (see 3.2, Noise, and Section 3.13, Health and Safety). Therefore, no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children would be anticipated from emitter operations with Alternative 2.

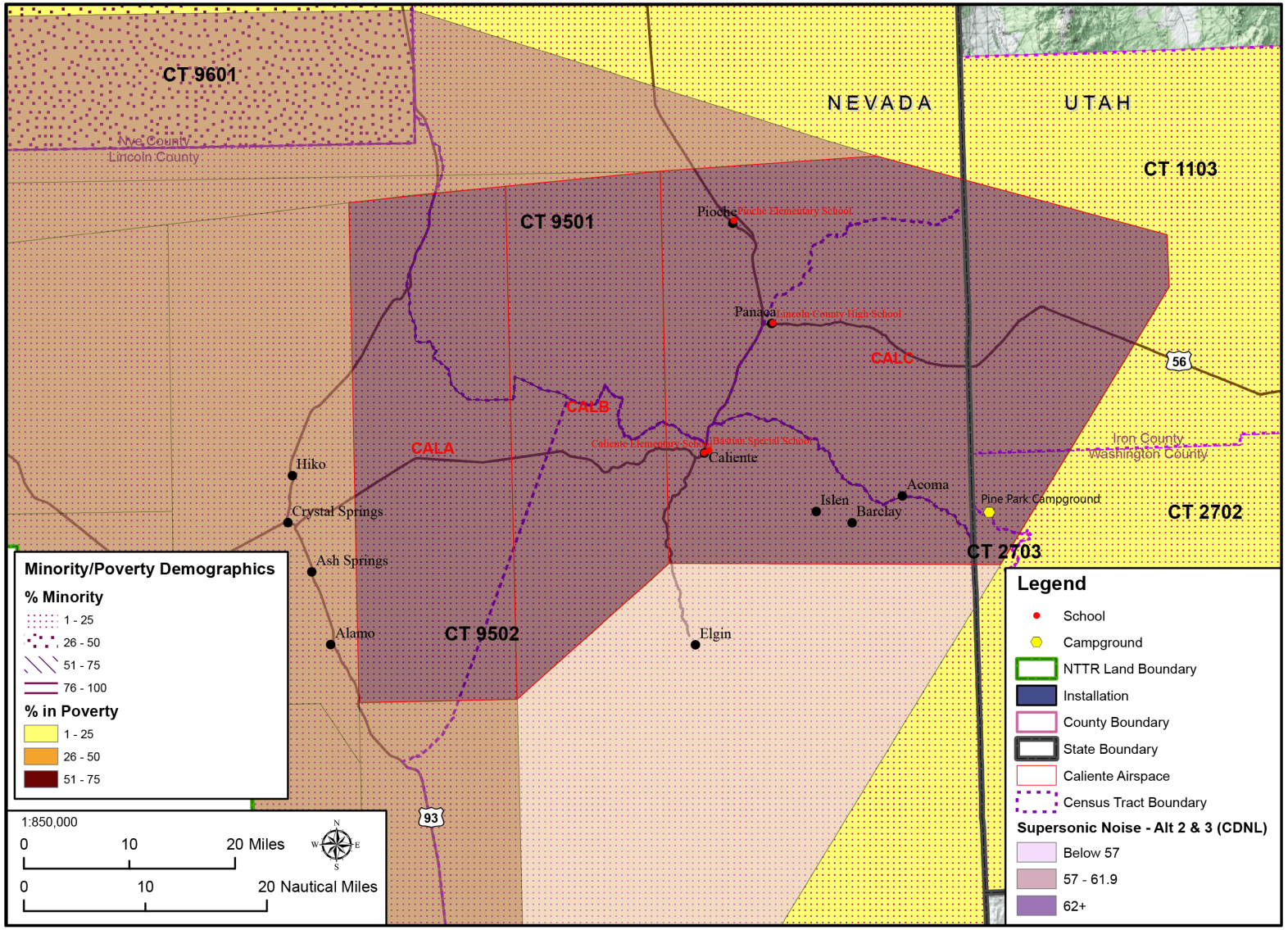

Figure 3-19. Environmental Justice Communities of Concern Exposed to Supersonic Boom Noise Under Alternatives 2 and 3

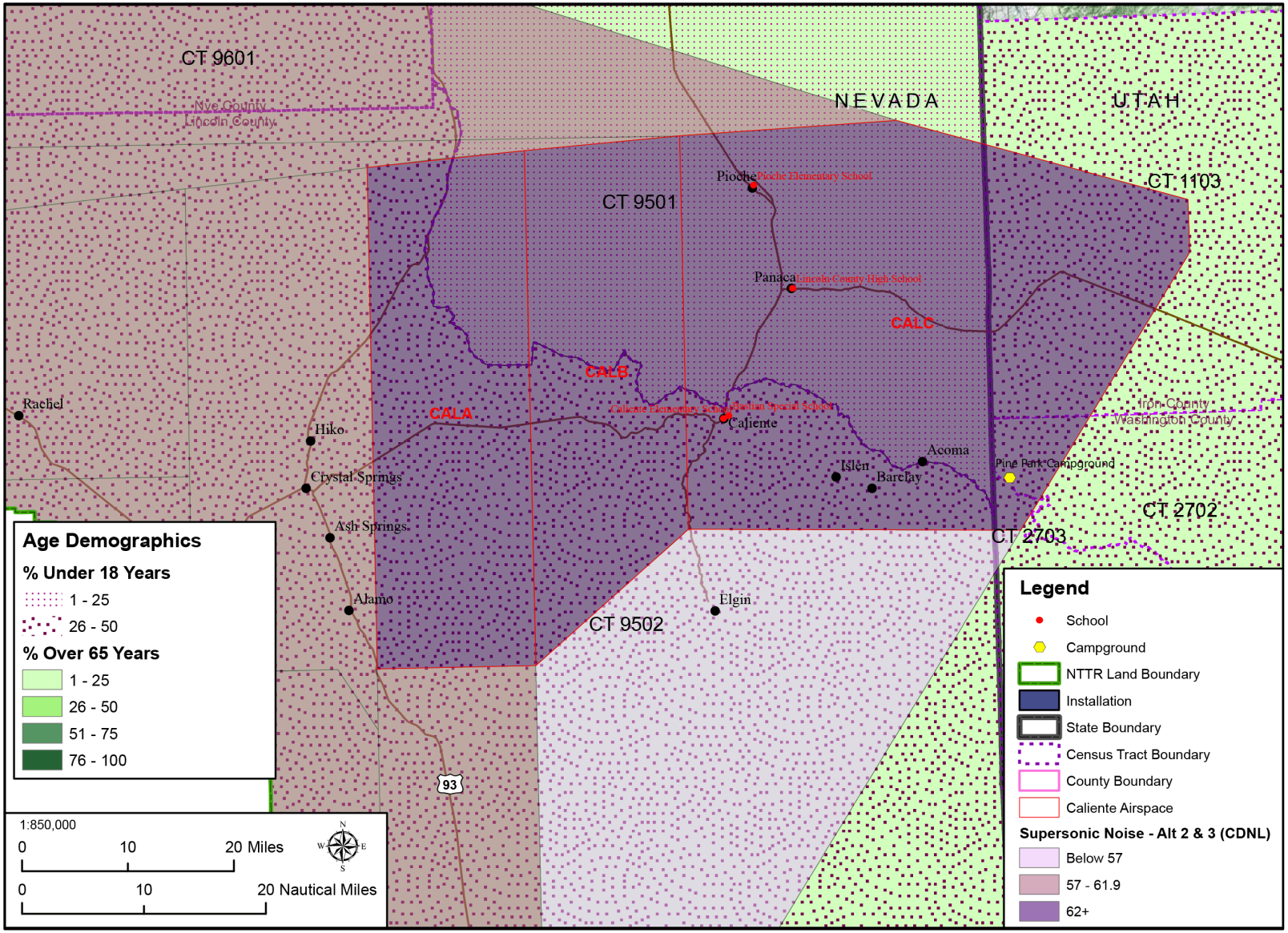

Figure 3-20. Youth and Elderly Populations Exposed to Supersonic Boom Noise Under Alternatives 2 and 3

3.7.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

For Alternatives 3A, 3A-1, 3B, and 3C, the potential impacts to environmental justice and youth and elderly populations resulting from supersonic and subsonic aircraft noise, as well as munitions use, would be similar to those described for Alternative 2. Similar to Alternative 2, the six census tracts and the associated environmental justice and youth/elderly populations residing under the Caliente and Coyote SUAs (shown in Table 3-36 and Table 3-37) that are currently exposed to 65 to 69 dB DNL associated with subsonic aircraft noise would continue to be exposed to this range of noise under this alternative. Therefore, no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children would be anticipated from aircraft operations resulting in subsonic noise over and above current baseline conditions with Alternative 3.

The portions of census tracts 9501, 9502, 1103, 2702, and 2703 under the Caliente SUA that are currently exposed to noise levels of 61 dB CDNL due to the five supersonic booms per day would be exposed to noise levels of 62 dB CDNL due to an increase of one supersonic boom per day for a total of six booms per day. Since the noise change would be experienced across the region equally, there would be no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children would be anticipated from aircraft operations resulting in supersonic noise over and above current baseline conditions with Alternative 3.

Munitions use would continue as under existing conditions, and noise levels of 62 dB CDNL outside of the NTTR boundary would not extend into populated areas (see Figure 3-17). Therefore, no disproportionately high and adverse environmental health and safety impacts to children would be anticipated from munitions use under this alternative.

Fencing would be the only ground-disturbing activity that would occur within the proposed Alternative 3A, 3A-1, and 3B expansion areas. The fencing would not create annoying noise levels and would be short term in duration. For Alternative 3C, no adverse noise or safety impacts associated with ground disturbance have been identified that would impact the public (see Section 3.2, Noise, and Section 3.13, Health and Safety), and there would be no ground disturbance performed on or in close proximity to cultural or historical sites or other noise-sensitive areas. Therefore, no disproportionately high and adverse impacts to environmental justice communities or

disproportionately high and adverse environmental health and safety impacts to children from ground disturbance would be anticipated with Alternatives 3A, 3A-1, 3B, or 3C.

No emitter operations would occur within Alternative 3A, 3A-1, or 3B's proposed expansion areas. For Alternative 3C, no adverse noise or safety impacts associated with potential emitter operations have been identified that would impact the public (see 3.2, Noise, and Section 3.13, Health and Safety). Therefore, no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children from emitter operations would be anticipated with Alternatives 3A, 3A-1, 3B, or 3C.

Under Alternative 3C, there would be potential for the FARRP to be used during training activities (refueling and munitions loading of aircraft). While the proposed location would likely be in an "austere" area such as a dry lake bed, the details of such locations are not available at this time. The Air Force would conduct a more detailed NEPA analysis once details would be available. To avoid disproportionately high and adverse impacts to environmental justice populations, it would be suggested that the location of the FARRP area be within the NTTR boundaries or in an area that does not result in adverse noise or environmental impacts to minority and low-income populations and not be near sensitive areas such as schools or recreational areas to avoid posing special health and safety risks to children and elderly populations.

Several recreational areas would be affected under this alternative. Recreational areas affected by Alternative 3C are shown in Figure 2-14 and Figure 2-15. Key recreational areas listed in Section 2.3.3.4 (Alternative 3C) would continue to be accessible to the public. Approximately 57 percent of Nevada residents participate in outdoor recreation each year (Outdoor Industry Association, 2017). Throughout the state of Nevada outdoor recreation generates $14.9 billion in consumer spending, 148,000 direct jobs, one billion dollars in state and local tax revenue, and $4.8 billion in wages and salaries (Outdoor Industry Association, 2017). Data on the number of users and demographics of recreational users is not available for each of the different recreational areas affected; however, since the recreational areas are open to the general public, it would be assumed that any impacts associated with closures or restricted access to recreational areas would impact the general public and would not have a disproportionate impact on environmental justice populations.

3.7.2.5 Alternative 4 – Establish the Period of Withdrawal

The proposed withdrawal periods associated with Alternative 4—Alternative 4A (20-year withdrawal period), Alternative 4B (50-year withdrawal period), and Alternative 4C (indefinite)—must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect environmental justice communities, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen alternatives may end.

3.7.2.6 No Action Alternative

With the No Action Alternative, populations currently exposed to noise levels above 65 dB DNL associated with current activities on the NTTR would continue to be exposed to these levels because the Air Force does not plan to give up the restricted airspace. However, the ground areas beneath the airspace would no longer be used for test and training associated with live munitions. Activities associated with the NTTR are an important economic contributor and with the No Action Alternative, there would be a loss of employment, income, and expenditures throughout Clark, Lincoln, Nye Counties. Adverse socioeconomic impacts would affect the general public and would not only impact minority, low-income, youth, and elderly populations. Therefore, no disproportionate impacts to environmental justice populations are anticipated with this alternative.

3.7.3 Proposed Resource-Specific Mitigations and Management Actions

No mitigations have been identified for environmental justice.

3.7.4 Native American Perspective on Environmental Justice

Environmental Justice concerns identified by the CGTO and members of the public regarding effects on Native Americans include sacred land violations, perceived risks from munitions and electronic training activities, protection of Native American artifacts, cultural survival, access violations, and a request for government-to-government negotiations.

The CGTO has identified to important concerns that result in a disproportionate impact to tribal communities and perpetuate violations to tribal Holy Lands, which are at a critical state. Generations have been subjected to mistreatment and neglect without consideration and true recovery efforts required to sustain tribal religious practices. Future tribal generations must be afforded opportunities to practice native religions including access to key locations without access limitations.

The United Nations Declaration on the Rights of Indigenous Peoples was adopted by the United Nations General Assembly in 2007. The Declaration reflects the affirmation of tribal rights and offers powerful insight into understanding the value of traditional lifeways.

In consideration of the Declaration, the CGTO knows the vast landscape that encompasses the NTTR land withdrawal and proposed expansion areas is comprised of mountains, springs, dry lakes, trails, shrines, and rock writings (petroglyph/pictographs), considered integral to tribal lifeways. These elements are teaching resources upon which we rely upon. The learning and teaching of these resources is what native people uniquely experience as sacred elements. Only through these resources, can one holistically approach the Creator. Removal or relocation from our homelands doesn't mean these places are removed from our heart as believed from past withdrawals; the NTTR land withdrawal will have an increased burden on tribal people. The recurrence of direct, indirect and cumulative impacts on the cultural landscape further diminishes the

integrity of these resources effects are detrimental to tribal communities especially considering that generations upon generations have been continued to be adversely affected in some way or another.

To achieve equity in Environmental Justice, the Air Force must fulfill its trust responsibility and protect the cultural landscape while reducing the burden of sustaining the cultural values of 17 culturally affiliated tribes with ties to this region. The LEIS provides only a broad overview of the potential impacts and discounts the disproportionate affect to Native culture without acknowledging the unknown and potential risk of adversely affecting cultural transmission attributed to the NTTR withdrawal and accompanying alternatives.

Further, the following concerns associated with the intent of Executive Order (E.O.) 12898 Environmental Justice have been raised by the CGTO as noted below:

- Centrality and Continuity. Because the CGTO considers the NTTR to comprise a portion of their traditional lands, the NTTR is central to the functioning of American Indians from the surrounding region.
- Usurpation of All Resources. The CGTO sees the military land withdrawal, including the proposed lands in Alternatives 3 A-C, as a process that resembles what began with moving American Indians onto reservations and off the land, thereby causing a complete disruption of their way of life and a disconnect from important resources and culturally sensitive areas.

According to the CGTO, Air Force activities on the NTTR constitute sacred land violations, derived from perceived risks associated with munitions and electronic training activities that disturb culturally sensitive areas and cultural survival violations.

Although the Air Force and the CGTO are working together through the NAIP to provide access to certain portions of the NTTR that are not dangerous or will not conflict with training exercises, the CGTO has stated that “land disturbance and irreparable damage of cultural landscapes, traditional cultural properties and cultural resources may render certain locations unusable” (AIWS 1997).

The Air Force has initiated formal consultation with the 17 tribes and American Indian organizations through the CGTO and with the Nevada SHPO. The Air Force is working with these groups to identify cultural and traditional resources on the NTTR to co-manage. Increased participation in the LEIS process through the inclusion of tribal text and other ongoing efforts is considered a positive step towards enhancing tribal involvement. The CGTO knows the proposed Alternatives 1 (Extend Existing Land Withdrawal and Management on North and South Range - Status Quo), 2 (Extend Existing Land Withdrawal and Provide Ready Access in the North and South Range), and 3 (Expand Withdrawal of Public Lands for the NTTR) will all restrict access to Native Americans due to scheduling conflicts and other safety or security concerns associated with military training and testing missions.

Access denial will have a disproportionate and adverse effect on the cultural integrity and sacred nature of culturally sensitive areas due to increased land disturbance. Native Americans have stated that land withdrawals, test and training activities, and

land management activities by DOD and Air Force may cause further land disturbance and preclude access by Native Americans. The CGTO believes these activities create a cumulative impact that falls disproportionately upon tribal communities, by imposing access restrictions preventing use and interacting with the land and natural resources of the area that are considered critical to maintaining traditional, cultural and historic practices.

The CGTO knows that federal agencies are directed by Executive Order (EO) 12898, Environmental Justice, to detect and mitigate potentially disproportionately high and adverse human health or environmental effects of its planned programs, policies, and activities to promote nondiscrimination among various populations in the United States.

In the Record of Decision associated with the Final Environmental Impact Statement for the nearby Nevada Test Site and Off-Site Locations in the State of Nevada (1996 NTS EIS), the US Department of Energy (DOE) recognized the need to address Environmental Justice concerns of the CGTO based on disproportionately high and adverse impacts to their member tribes from the nearby DOE Nevada National Security Site (NNSS) activities.

Equally, in the 2002 Supplement Analysis for the Final Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada (2002 NTS SA), DOE concluded that the selection and implementation of the Preferred Alternative would impact its member tribes at a disproportionately high and adverse level, perpetuating Environmental Justice concerns. The CGTO maintains that Environmental Justice concerns continue to exist. Of special concern to the CGTO is the potential for Holy Land violations, cultural survival-access violations, and disproportionately high and adverse human health and environmental impacts to the Indian population. These Environmental Justice issues need to be addressed in the LEIS.

There is no question that the Native American Holy Lands have been, continue to be, and will be impacted by activities on the NTTR. It is also well known that only Indian people have lost cultural traditions because they have been denied free access to many places on the NTTR where ceremonies need to occur, where plants need to be gathered, and where animals need to be hunted in a traditional way.

Prior to undertaking or approving activities on the NTTR, the CGTO recommends that the Air Force comply with E.O. 12898 by facilitating tribal access to the NTTR, sponsoring an Indian subsistence consumption study, and sponsoring a study to determine perceived health risks and environmental impacts resulting from NTTR activities to CGTO member tribes. The CGTO has concerns that fall within the context of E.O. 12898, such as subsistence consumption. Subsistence consumption requires the Air Force to collect, maintain, and analyze information on consumption patterns such as those of culturally affiliated tribal communities who rely principally on wildlife for existence. Most importantly, the E.O. mandates each federal agency apply equally their Environmental Justice strategy to Native American programs and assume the financial costs necessary for compliance.

To date, Air Force has not shared its design and implementation strategy for Environmental Justice with the CGTO, nor has it identified and analyzed subsistence consumption patterns of natural resources by Indian people within the region of influence. Since the E.O., specifically addresses equity to Indian people and low-income populations, it is critical that the Air Force immediately address the concerns of Indian Tribes and communities by conducting systematic ethnographic studies and eliciting input necessary for administrative compliance and in the spirit of the Air Force Instruction 90-2002. This policy outlines the principles in its decision making and interaction with federally recognized tribal governments. It requests that all departmental and installation elements ensure tribal participation and interaction regarding pertinent decisions that may affect the environmental and cultural resources of tribes. Of particular interest within these guiding principles is Section 1.5. Activities Typically Involving tribes which states:

1.5.1. Air Force planning actions that may affect tribes include, but are not limited to (a) land- disturbing activities, (b) construction, (c) training, (d) over-flights, (e) management and protection of properties of traditional religious and cultural importance including historic properties and sacred sites, (f) activities involving access to sacred sites, (g) disposition of cultural/funerary items in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), (h) natural resources management activities, (i) educational and public affairs activities linked to tribal topics, and (j) other land use/military airspace operations in general.

In the Record of Decision for the 1996 NTS EIS, nearby DOE recognized the need to address Environmental Justice concerns of the CGTO based on disproportionately high and adverse impacts to their member tribes tied to the adjacent Nevada National Security Site. In 2002 DOE concluded that the selection and implementation of the Preferred Alternative would impact its member tribes at a disproportionately high and adverse level, perpetuating Environmental Justice concerns. Similarly, the CGTO maintains that Environmental Justice concerns continue to exist on the NTTR and will continue with the proposed land withdrawal and expansion areas. These concerns include (1) Holy Land violations, (2) cultural survival-access violations, and (3) disproportionately high and adverse human health and environmental impacts to the Indian population. Similarly, the CGTO knows the same circumstances persist on the NTTR that must be considered as noted below:

Holy Land Violations

The CGTO consider the NTTR lands to be as central to their lives today as they have been since the creation of their people. The NTTR lands are part of the Holy Lands of Western Shoshone, Southern Paiute, Owens Valley Paiute/Shoshone and Fort Mojave people. The CGTO perceives that the past, present, and future cultural pollution of these Holy Lands constitutes both Environmental Justice and equity violations. No other people have had their Holy Lands impacted by NTTR-related activities. Prior to undertaking or approving new activities, the CGTO should be funded to design, conduct, and produce a systematic American Indian Environmental Justice study with qualified ethnographer(s) that have experience with the CGTO.

Cultural Survival-Access Violations

One of the most detrimental consequences to the survival of Native American culture, religion, and society has been the denial of free access to Native people's traditional lands and resources. Loss of access to traditional food sources and medicine has greatly contributed to undermining the cultural well-being of Indian people. These Indian people have experienced, and will continue to experience, breakdowns in the process of cultural transmission due to lack of free access to government-controlled lands and resources such as those in the NTTR area. No other people have experienced similar cultural survival impacts due to lack of free access to the NTTR area.

In 1996, President Clinton signed E.O. 13007, Indian Sacred Sites. The E.O. promotes accommodation of access to American Indian sacred sites by Indian religious practitioners and provides for the protection of the physical integrity of such sites located on federal lands. The CGTO recommends that open access be allowed for Native Americans who must conduct their traditional ceremonies and obtain resources within the NTTR study area. Unfortunately, however, land disturbance and irreparable damage of cultural landscapes, potential Traditional Cultural Properties (TCPs), and cultural resources may render certain locations unusable.

Disproportionately High and Adverse Human Health and Environmental Impacts to the Indian Population

It is widely known that many tribal representatives still collect and use plants and animals that are found within the NTTR region. Many of the plants and animals cannot be gathered or found in other places. Consumption patterns of Indian people who still use plants and animals for food, medicine, and other cultural or ceremonial purposes force the CGTO to question if its member tribes are still being exposed [to] pollution, and potentially hazardous waste located at the NTTR.

3.8 BIOLOGICAL RESOURCES

For the Native American perspective on information in this section, please see Section 3.8.4 and Appendix K, paragraph 3.8.1.1.1 and Appendix K Tables 1 and 2.

3.8.1 Affected Environment

3.8.1.1 Description of Resource

Biological resources include vegetation and wildlife species and their associated habitats, aquatic and wetland habitats, special status species and habitats, and federally listed species. These categories are detailed below in Sections 3.8.1.3 (Vegetation) through 3.8.1.6 (Special Status Species and Habitats).

Additionally, the Air Force reviewed concerns associated with pollinators and electromagnetic radiation. These concerns are generically known as Colony Collapse Disorder (CCD), which is a phenomenon that occurs when the majority of worker bees in a colony disappear and leave behind a queen, plenty of food, and a few nurse bees to care for the remaining immature bees and the queen. Once thought to pose a major long-term threat to bees, reported cases of CCD have declined substantially over the last five years (EPA, 2018).

Based on EPA literature, there have been many theories about the cause of CCD, but researchers are now focused on these factors as a root cause:

- Increased losses due to the invasive varroa mite (a pest of honey bees)
- New or emerging diseases such as Israeli Acute Paralysis virus and the gut parasite Nosema
- Pesticide poisoning through exposure to pesticides applied to crops or for in-hive insect or mite control
- Stress bees experience due to management practices such as transportation to multiple locations across the country for providing pollination services
- Changes to the habitat where bees forage
- Inadequate forage/poor nutrition
- Potential immune-suppressing stress on bees caused by one or a combination of factors identified above

Some researchers have theorized that electromagnetic radiation, including cell phone signals, can confuse worker bees so that they are not able to find the way to their hive. However, these theories are speculative and were not evaluated further. Additionally, since CCD does not affect native pollinators, it is not addressed further.

3.8.1.2 Region of Influence

The geographical scope of this analysis includes the land boundary within the existing NTTR as well as the proposed alternative expansion areas. In addition, the overlying airspace (see Figure 1-1) as it applies to biological resources is discussed in Section 3.8.2 (Environmental Consequences).

The NTTR overlaps two biogeographic regions of the Great Basin and is divided into the South Range, which lies in the eastern Mojave Desert, and the North Range, which lies in the southern Great Basin Desert. This zone of transition between the Mojave and Great Basin Deserts has low- to mid-elevation ranges with valleys oriented north to south. The valley bottoms of the South Range vary in elevation from approximately 3,000 to 3,600 feet, whereas the valley bottoms of the North Range are approximately 4,500 to 5,500 feet. Mountain range elevations exceed 6,000 feet on the South Range and 8,500 feet on the North Range (U.S. Air Force, 1999). Geology varies from limestone/dolomite in the south to volcanic fields in the north. Natural sources of water are scarce across most of the NTTR. Annual precipitation ranges from 3 to 5 inches in the basins to 16 inches in upper elevations of mountains (U.S. Air Force, 1999). Many plant and wildlife species are distinctly associated with either the Mojave Desert or the Great Basin Desert while others occur in both, depending on local climatic or historical conditions.

3.8.1.3 Vegetation

Existing NTTR Boundaries (Alternatives 1 and 2)

Vegetation composition is strongly influenced by the levels of precipitation as well as soils and topography. Since 2005, the Nellis Natural Resources Program has conducted

field surveys to provide baseline data on plant communities across the NTTR and the wildlife that utilize those communities. Additional surveys were conducted in 2016, and Maxent modeling was used to assist in identifying plant communities and wildlife habitat for the North and South Ranges, including expansion alternatives (Alternatives 3A, 3A-1, 3B, and 3C) (U.S. Air Force, 2017c). A total of 44 plant communities have been identified on the NTTR (Table 3-40, Figure 3-21 and Figure 3-22).

Table 3-40. Plant Communities and Associated Acreage on the North and South Ranges

Plant Community	Area (acres)	
	North Range	South Range
G310 Intermountain Semi-Desert Steppe & Shrubland		
A3144 *Coleogyne ramosissima* Mojave Desert Scrub Alliance	0	165,603
A3196 *Ericameria nauseosa* Steppe & Shrubland Alliance	13,980	17
A3202 *Krascheninnikovia lanata* Steppe & Dwarf-shrubland Alliance	73,800	347
A3203 *Gutierrezia sarothrae - Gutierrezia microcephala* Dwarf-shrubland Alliance	637	23,198
Ericameria spp. Shrubland Alliance (Place Holder)	9,857	0
G541 Warm Semi-Desert Shrub & Herb Dry Wash & Colluvial Slope		
A1044 *Chilopsis linearis - Psorothamnus spinosus* Desert Wash Scrub Alliance	0	452
A4185 *Prunus fasciculata - Salazaria mexicana* Northern Mojave Desert Wash Scrub Alliance	0	118
A4186 *Psorothamnus fremontii - Psorothamnus polydenius* Desert Wash Scrub Alliance	1,930	124
A4188 *Hymenoclea salsola - Bebbia juncea* Mojave-Sonoran Desert Wash Scrub Alliance	3,107	855
A3259 *Fallugia paradoxa* Desert Wash Scrub Alliance	0	69
G246 Colorado Plateau-Great Basin Juniper Open Woodland		
A3496 *Juniperus osteosperma* / Shrub Understory Woodland Alliance	2,629	0
G247 Great Basin Pinyon - Juniper Woodland Group		
A2108 *Pinus monophylla - Juniperus osteosperma* / Shrub Understory Woodland Alliance	50,884	14,998
CEGL000825 *Pinus monophylla* Woodland	28,408	0
G295 Mojave-Sonoran Bajada & Valley Desert Scrub		
A3277 *Larrea tridentata - Ambrosia dumosa* Bajada & Valley Desert Scrub Alliance	14,179	268,258
A3279 *Ambrosia dumosa* Desert Dwarf Scrub Alliance	0	24,383
G296 Mojave Mid-Elevation Mixed Desert Scrub		
A0833 *Purshia stansburiana* Scrub Alliance	569	12,064
A2515 *Menodora spinescens* Scrub Alliance	76,456	388
A3147 *Yucca schidigera* Scrub Alliance	0	11,584
A3148 *Yucca brevifolia* Wooded Scrub Alliance	47,927	124,277
CEGL005294 *Yucca brevifolia / Coleogyne ramosissima* Wooded Shrubland	0	99,851
CEGL005777 *Yucca brevifolia / Larrea tridentata - Yucca schidigera / Pleuraphis rigida* Wooded Shrubland	0	183,101
A3195 *Chrysothamnus viscidiflorus* Steppe & Shrubland Alliance	2,280	0
A4167 *Eriogonum wrightii - Eriogonum heermannii - Buddleja utahensis* Scrub Alliance	0	136
A4245 *Ephedra nevadensis - Lycium andersonii - Grayia spinosa* Scrub Alliance	56,322	13,969
CEGL005751 *Ephedra nevadensis - (Salazaria mexicana, Hymenoclea salsola)* Shrubland	81	10,242

Table 3-40. Plant Communities and Associated Acreage on the North and South Ranges

Plant Community	Area (acres)	
	North Range	South Range
Lycium (andersonii, shockleyi) Shrubland (Place Holder)	13,772	663
G300 Intermountain Shadscale – Saltbrush Scrub		
A0869 *Atriplex canescens* Scrub Alliance	65,805	20,423
A0870 *Atriplex confertifolia* Scrub Alliance	123,205	113,906
CEGL001315 *Atriplex confertifolia / Tetradymia glabrata* Shrubland	3,637	0
CEGL001452 *Picrothamnus desertorum* Shrubland	242,108	0
A3171 *Grayia spinosa* Scrub Alliance	5,084	2,074
G303 Intermountain Tall Sagebrush Steppe & Shrubland		
A3198 *Artemisia tridentata* - Mixed Shrub Dry Steppe & Shrubland Alliance	234,192	0
G308 Intermountain Low & Black Sagebrush Steppe & Shrubland		
A3219 *Artemisia arbuscula ssp. arbuscula* Steppe & Shrubland Alliance	192,656	13,455
A3222 *Artemisia nova* Steppe & Shrubland Alliance	68,753	7,207
G312 Colorado Plateau Blackbrush – Mormon Tea Shrubland Group		
A2572 *Ephedra torreyana* Shrubland Alliance	0	2,784
G537 North American Desert Alkaline-Saline Wet Scrub		
A1046 *Sarcobatus vermiculatus* Intermountain Wet Shrubland Alliance	20,665	0
A3880 Mojave Seablite - Red Swampfire Alkaline Wet Scrub Alliance		
CEGL001991 *Suaeda moquinii* Wet Shrubland	0	2,133
G569 North American Warm Semi-Desert Cliff, Scree & Pavement Sparse Vegetation	0	11,263
G570 Intermountain Basins Cliff, Scree & Badland Sparse Vegetation	227	0
G675 North American Warm Semi-Desert Dune and Sand Flats		
A3170 *Pleuraphis rigida* Desert Grassland Alliance	0	1,245
G775 Intermountain Sparsely Vegetated Dune Scrub & Grassland Group		
Achnatherum hymenoides Vegetation Alliance (Proposed)	183	565
NNHP Classification (Peterson, 2008)		
A.858 *Ephedra viridis* Shrubland Alliance	4,460	0
B.007 Microphytic Playa Alliance	19,684	38,006
No Current Classification		
Developed or Disturbed Land	17,803	21,306
Sarcobatus baileyi Shrubland Alliance	237,178	0
Total	1,632,458	1,189,064

Source: (U.S. Air Force, 2017c)

Vegetation communities on the NTTR are named according to plant alliances assigned, using the 2016 U.S. National Vegetation Classification where possible. In some cases, unique plant community names are assigned because the U.S. National Vegetation Classification did not have a good fit for that plant community. For the North Range, 32 plant alliances were mapped, while 38 different plant alliances were mapped for the South Range (Table 3-40). Most of the plant communities found on the NTTR are of the woodland, shrubland, or scrub alliance. Details of the methodology of and descriptions of each plant community can be found in *Plant Community Mapping for the Nevada Test and Training Range and Proposed Evaluation Alternatives Report* (U.S. Air Force, 2017c), and results of the plant community mapping is provided in Figure 3-21 and Figure 3-22. The discussion below provides a broad description of the vegetation within the South Range and North Range.

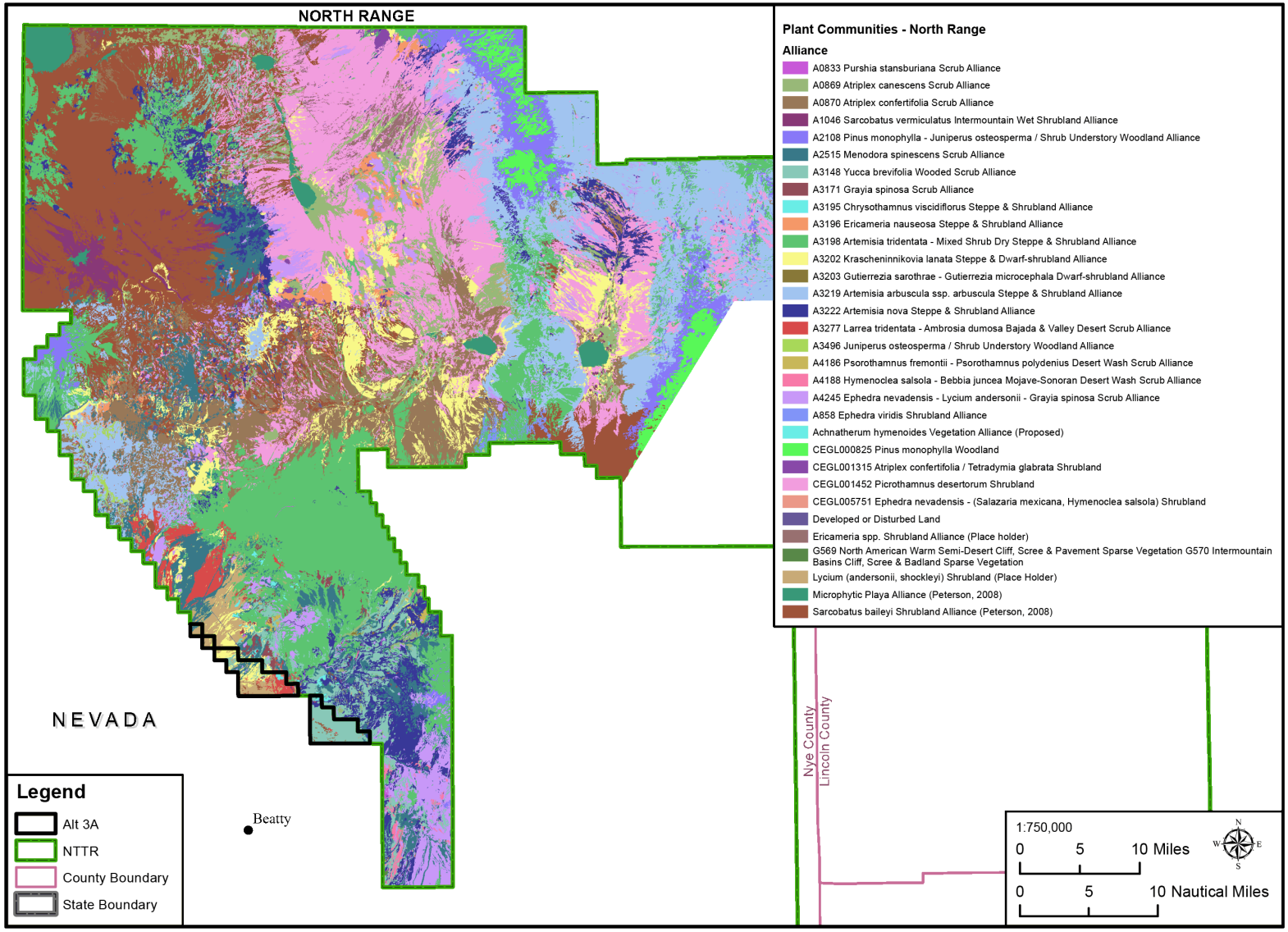

Figure 3-21. Plant Communities on the North Range
(U.S. Air Force, 2017c)

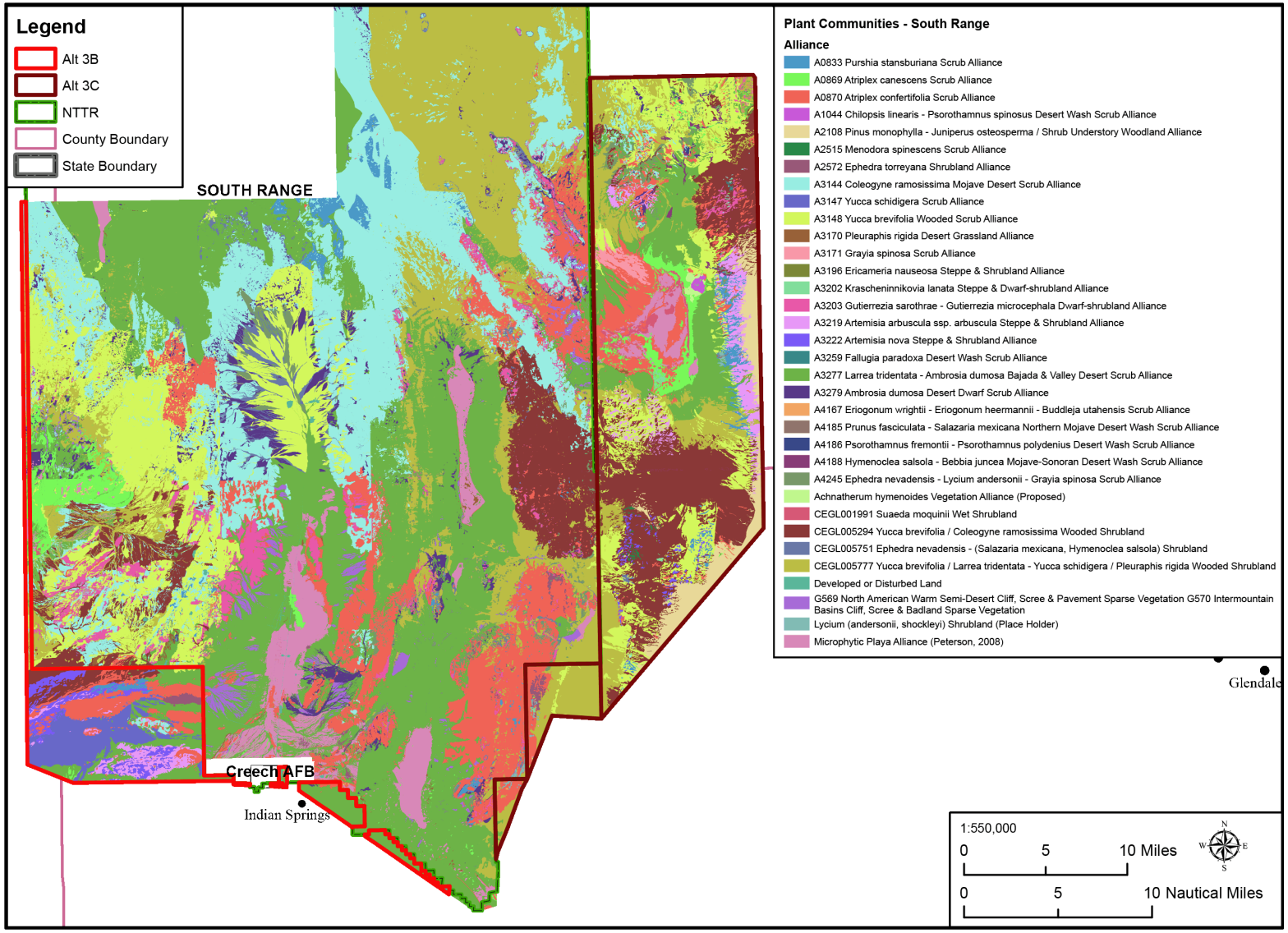

Figure 3-22. Plant Communities on the South Range
(U.S. Air Force, 2017c)

The South Range is located in the Mojave Desert, and typical physiography of the area consists of mountain ranges that drain into bajadas (collections of alluvial fans) and eventually drain into playas. Playas tend to have little or no vegetation, while bajadas are often dominated by creosote bush (*Larrea tridentata*) and bursage (*Ambrosia dumosa*) in the lower bajadas and blackbrush (*Coleogyne ramosissima*) and Joshua tree (*Yucca brevifolia*) in the upper bajadas (U.S. Air Force, 2017d). Most of the mountains are covered by scattered populations of various desert brush, including bitterbrush (*Purshia* spp.), matchweed (*Gutierrezia* spp.), and shadscale (*Atriplex confertifolia*), cactus species at the lower elevations, and scrub/woodland in elevations above at least 4,900 feet mean sea level and usually above 5,900 feet mean sea level (U.S. Air Force, 2010). At higher elevations (above 4,700 feet), plant communities may be dominated by Utah juniper (*Juniperus osteosperma*) and pinyon pine (*Pinus monophylla*) (U.S. Air Force, 2017c; 2017d).

The North Range encompasses the southern portions of the Great Basin Desert. The physiography of the area is similar to the South Range. However, rainfall is slightly higher in the North Range, resulting in plant communities that have denser vegetation. Similar to the South Range, playas are sparsely vegetated, and from the boundaries of the playas to the base of mountains, vegetation is typically dominated by greasewood (*Sarcobatus* spp.), shadscale, and sagebrush species (*Artemisia* spp.). Greasewood and shadscale tend to occur in the basins, on sites where soils may be salt-affected and heat and aridity are locally the greatest. Species of sagebrush (*Artemisia* spp.) dominate different sites, generally assorting along soil temperature and moisture gradients. The mountain areas are dominated by Utah juniper and pinyon pine, similar to the South Range (U.S. Air Force, 2017d).

Habitats that are unique, valuable for wildlife, and in greatest need of conservation in Nevada were identified based on the Nevada Wildlife Action Plan, developed by the NDOW, the USFWS, State of Nevada, and local organization agencies. In 2007, unique habitat investigations were initiated on the NTTR, in support of the Nellis Natural Resources Program, to characterize and understand unique habitats and their associated species. Using these data, specific research studies were prioritized based on species of concern and potential projects (U.S. Air Force, 2014e). In addition, a study has been prepared to document historical reports and survey results for key habitats, including maps and detailed descriptions (e.g., dominant plant species, value to wildlife and plants, potential to support special status plant and wildlife species) (U.S. Air Force, 2017d).

Natural sources of water are scarce across most of the study area; therefore, wetland and riparian vegetation is limited to areas of active springs and seeps. Ephemeral streams may support riparian vegetation, which is a unique habitat potentially supporting species of concern (U.S. Air Force, 2010).

Invasive and noxious plant species destroy native ecosystems, negatively impact federally protected and state-protected species, and pose potential problems for military operations. EO 13112, *Invasive Species*, requires prevention of the introduction and spread of invasive plant and animal species on federally managed lands, and control of invasive species is a primary natural resources management issue on military

installations. Noxious weeds have federal and state legislation regarding inventory and control of these species. Noxious weeds are defined as any plant designated by a federal, state, or county government to be injurious to public health, agriculture, recreation, wildlife, or any public or private property (Sheley et al., 1999). The only noxious weed known to occur on the NTTR is salt cedar (*Tamarix ramosissima*). The Nevada Department of Agriculture maintains a list of noxious weeds and makes regulations for the transport and control of noxious weeds, which is the responsibility of every landowner or occupant. Cheatgrass (*Bromus tectorum*), red brome (*Bromus madritensis* ssp. *rubens*), halogeton (*Halogeton* spp.), Russian thistle (*Salsola kali),* and salt cedar *(Tamarix ramosissima)* are invasive species that currently inhabit the NTTR. Cheatgrass has the widest distribution and is found throughout the North Range. Red brome is mostly restricted to valley bottoms and alluvial fans in the South Range. The occurrence of both these grasses is closely tied to soil disturbances from human activities. Halogeton appears to be restricted to areas that are either regularly or severely disturbed and do not contain a perennial plant component or undisturbed sites with saline soils and low cover from native perennial species. Russian thistle appears to be restricted to areas that are regularly or severely disturbed, such as roadsides, or sites with sandy soils and a low density of perennial plants. Salt cedar is also present but not widespread on the NTTR, due to the fact that this species is adapted to wetter environments, and is basically restricted to a few riparian corridors and wet areas. Salt cedar stands can be quite large, and the plants tend to be very competitive for water use, often out-competing any other plants in the area (U.S. Air Force, 2014f).

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

This area consists of 18,000 acres lying along the southwest boundary of the North Range of the NTTR. The withdrawal of 15,314 acres associated with Alternative 3A-1 is 2,592 acres less than Alternative 3A in the EC South Withdrawal. Vegetation is similar to that described above for the North Range. Desert shrubland plant communities, the majority of which is dominated by wolfberry (*Lycium andersonii, L. schockleyi*), winterfat (*Krascheninnikovia lanata*), and greasewood, are the dominant vegetation types on Alternatives 3A and 3A-1 areas (occupying 59 percent and 68 percent of the land, respectively). The remaining lands support desert woodland, dominated by Joshua trees (41 percent for Alternative 3A and 32 percent for Alternative 3A-1). Less than 0.01 percent of the lands are mapped as developed or disturbed for both Alternatives 3A and 3A-1 (U.S. Air Force, 2017c).

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

This location consists of approximately 57,000 acres located immediately south of the South Range. The majority of the lands (87 percent) occupied by Alternative 3B is desert shrubland, with 38 percent dominated or co-dominated by creosote bush, 18 percent dominated by sagebrush, and 17 percent dominated by shadscale. Desert woodlands dominated by Joshua trees occupy 12 percent of the Alternative 3B lands. Less than 1 percent of the lands are mapped as microphytic playa alliance, desert pavement, or barren lands, and less than 0.05 percent is mapped as developed or disturbed (U.S. Air Force, 2017c).

Alternative 3C – Alamo Withdrawal

The Alamo areas consist of 227,000 acres immediately east of the South Range in the DNWR. Vegetation is similar to that described above for the South Range. Desert woodlands dominated by Joshua tree occupy more than half (54 percent) within Alternative 3C lands, and 7 percent is pinyon pine/Utah juniper woodland. About 35 percent of the lands support desert shrubland, with areas dominated or co-dominated by creosote bush contributing 12 percent, shadscale shrublands representing 10 percent, and 6 percent dominated by sagebrush. The remaining lands include 2 percent mapped as microphytic playa alliance and 1 percent intermittently flooded areas dominated by Mojave seablite (*Sueada moquinii*) or desert almond (*Prunus fasciculata*). Less than 1 percent is dominated by herbaceous species and barren lands, and there are no areas mapped as desert pavement or developed or disturbed in Alternative 3C lands (U.S. Air Force, 2017c).

3.8.1.4 Wildlife

Existing NTTR Boundaries (Alternatives 1 and 2)

The NTTR lies within two major geographic regions within the Basin and Range physiographic province of the western United States. The region has broad desert valleys bounded by seven intricate mountain ranges, which extend from 3,000 to 9,000 feet in elevation, and also includes a transition zone between the Mojave Desert and Great Basin Desert. Together, these factors result in suitable habitat for a variety of wildlife species, including a number of sensitive species, such as the sage grouse (*Centrocercus urophasianus*), banded Gila monster (*Heloderma suspectum cinctum),* the Mojave desert tortoise (*Gopherus agassizii*), and various bat species (U.S. Air Force, 2017e; 2010). Common reptiles include *the* side-blotched lizard (*Uta stansburiana*), California whiptail (*Cnemidophorous tigris*), zebra-tailed lizard (*Callisaurus draconoides*), yellow-backed spiny lizard (*Sceloporus uniformis*), desert night lizard (*Xantusia vigilis*), and the desert horned lizard (*Phyrnosoma platyrhinos*). Common snakes include the coachwhip (*Coluber flagellum*), western patch-nosed snake (*Salvadora hexalepis*), gopher snake (*Pituophis catenifer*), western shovel-nosed snake (*Chionactis occipitalis*), and the Mojave rattlesnake (*Carotalus scutulatus*). On the North Range, additional reptile species have been observed and include the sagebrush lizard (*Sceloporus graciosus*), long-nosed leopard lizard (*Gambelia wislizenii*), and the Great Basin rattlesnake (*Crotalus oreganus lutosus*). Due to the general lack of suitable aquatic habitat, the NTTR does not have any natural fish populations and amphibians are less common (U.S. Air Force, 2010). Species observed on the North Range include the Great Basin spade-foot toad (*Spea intermontana*) and the western spade-foot toad (*Spea hammondii*), and on the South Range the western toad (*Anaxyrus boreas*) has been seen. Approximately 20 bat species and 143 bird species, including as many as 18 different species of raptors, are found on the NTTR (U.S. Air Force, 2017f; 2017g).

Carnivores such as the coyote (*Canis latrans*), badger (*Taxidea taxus*), bobcat (*Lynx rufus*), mountain lion (*Felis concolor*), and kit fox (*Vulpes macrotis*) occur on the North

and South Ranges. A wide variety of small- to medium-size mammals (e.g., rodents and lagomorphs), including the little pocket mouse (*Perognathus longimembris*), Merriam's kangaroo rat (*Dipodomys merriami*), desert wood rat (*Neotoma lepida*), and black-tailed jackrabbit (*Lepus californicus*), also are found throughout the NTTR. Desert bighorn sheep (*Ovis canadensis*) may be found at higher elevations on the NTTR particularly during the summer and at lower elevations in the winter. Other large mammals present on both the North and South Ranges include the desert mule deer (*Odocoileus hemionus*) and pronghorn antelope (*Antilocapra americana*), which have increased in population since the early 1990s (U.S. Air Force, 2017h). The majority of pronghorn antelope have been observed on the North Range, especially in basins of Cactus Flats, Kawich Valley, and Kawich Range (U.S. Air Force, 2017h). Wild horses and burros are an important component to the desert ecosystem in Nevada and are protected under P.L. 92-195, the *Wild Free-Roaming Horse and Burro Act* of 1971. Under this act, the BLM and USFS are charged with managing and protecting these animals. The Air Force and BLM created the Nevada Wild Horse Range on the north-central portion of the NTTR (see Figure 3-6). Wild horse population surveys have been conducted by BLM (U.S. Air Force, 2017h).

Prior to the LEIS withdrawal effort, there was limited detailed population information for most wildlife species on the NTTR (U.S. Air Force, 2010). In support of this LEIS, field and desktop surveys (analysis using existing data, reports and GIS information) were conducted for large mammals, small mammals, bats, special status species, key habitat, raptors, migratory birds, sage grouse, and desert bighorn sheep (U.S. Air Force, 2017i). In support of natural resources management, habitat range models were developed for select species by a group of scientists and planners from the Air Force, USFWS, BLM, and the NDOW (U.S. Air Force, 2017i). GIS layers of existing distribution data from the select species and associated environmental requirements were used to predict potential habitat ranges (U.S. Air Force, 2017i). The habitat models were developed using the unique habitat guidelines based on the Nevada Wildlife Action Plan, which is a comprehensive wildlife strategy developed cooperatively by the NDOW in response to a mandate by Congress that requires all states and territories of the United States to develop wildlife action plans. This comprehensive database can be used by the military mission for strategic planning of training operations on the NTTR.

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

Alternatives 3A and 3A-1 consist of 18,000 acres and 15,000, respectively, that lie along the southwest boundary of the North Range. Wildlife species commonly associated with NDOW habitats, including Mojave mid-elevation mixed desert scrub, Mojave/Sonoran warm desert scrub, and intermountain cold desert scrub, could occur in Alternatives 3A and 3A-1 areas (U.S. Air Force, 2017i). Wildlife species that could occur in these desert scrub habitats include a variety of small mammals (e.g. pale kangaroo mouse), bats (e.g., Mexican free tailed bat, Townsend's big-eared bat), reptiles (e.g., banded gila monster, long nosed leopard lizard), amphibians (e.g., Amargosa toad), and bird species (e.g., Brewers sparrow, Bendire's thrasher, loggerhead shrike, and hawks) (U.S. Air Force, 2017d; 2017i).

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

Alternative 3B consists of approximately 57,000 acres located immediately south of the South Range. Wildlife species commonly associated with NDOW habitats, including Mojave mid-elevation mixed desert scrub, Mojave/Sonoran warm desert scrub, and intermountain cold desert scrub, desert playas, and cliffs and canyons, could occur in Alternatives 3B 64C/D and 65D areas (U.S. Air Force, 2017i). As mentioned above, wildlife species that occur in desert scrub habitats include a variety of birds, bats, and mammals. Species such as aquatic invertebrates, various waterfowl species, shorebirds, and small water birds are associated with desert playas. Cliffs and canyons provide structure for nesting, roosting or denning, protection from predators and foraging habitat for many wildlife species (U.S. Air Force, 2017d). For example, peregrine falcons, prairie falcons, and golden eagles are obligate nesters in cliff and canyon habitats. Rocks and crevices are used by chuckwallas and gila monsters for protective cover and by ringtails for denning.

Alternative 3C – Alamo Withdrawal

Alternative 3C consists of approximately 227,000 acres immediately east of the South Range in the DNWR. Wildlife species commonly associated with NDOW habitats, including Mojave mid-elevation mixed desert scrub, Mojave/Sonoran warm desert scrub and intermountain cold desert scrub, desert playas and ephemeral pools, sand dunes and badlands and lower montane woodlands could occur in Alternatives 3C (U.S. Air Force, 2017i). As mentioned above, wildlife species that occur in desert scrub habitats include a variety of birds, bats, and mammals. Most playas do not have permanent sources of water, thus their value to wildlife is largely ephemeral, yet critical in nature. Playas can produce lush growth of emergent and submergent vegetation that are important for aquatic invertebrates, various waterfowl, shorebirds, and small water birds (U.S. Air Force, 2017d). Sand dunes provide habitat for bats, birds, and mammals such as the big dune miloderes weevil, kangaroo mouse, desert pocket mouse, and the pale kangaroo mouse. Other species present in the sand dunes are the western banded geckos, desert night lizards, and desert horned lizards. Sand dunes are also habitat for a high diversity of invertebrates, including beetles, solitary bees, crickets, and ants, some of which are sand dune obligates. A range of wildlife such as birds, bats, and small and large mammals occur in montane woodlands.

3.8.1.5 Aquatic and Wetland Habitats

Existing NTTR Boundaries (Alternatives 1 and 2)

As previously stated, natural sources of water are scarce across most of the study area. Surface waters, including springs, seeps, and pools, provide a critical resource to wildlife species living in or migrating through the arid environment. Migratory and resident birds and large mammals rely heavily on surface water. Native fishes are not known or expected to occur because of the lack of perennial pools of water with sufficient extent to sustain populations during drought (U.S. Air Force, 1999).

About 135 water features were identified within the study area, including natural and manipulated or man-made features. Natural springs and seeps originate in areas where

the groundwater table intersects the ground surface. Springs in the mountains discharge from perched water zones or emerge in areas where groundwater has migrated along rock fractures. Springs typically flow for only short distances before infiltrating into the ground. Pools may occur at some large springs. Seeps also originate from groundwater but have a more diffuse source and very low flow rate. Figure 3-23 depicts the locations of springs and seeps, construction pond and surface water accumulation, rivers and streams, floodplains and other water features within the study area on the North and South Ranges and proposed expansion areas. Natural water features include 46 perennial springs, 20 intermittent springs, 7 perennial seeps, and 36 intermittent seeps. Other features include 1 surface water accumulation, 4 construction ponds, and 21 wildlife water developments. Most of the perennial seeps and springs are found in the mountains and foothills of various mountain ranges in the study area. These springs are usually low flow (less than 2 gallons per minute) and inundate very small areas (10 to 1,000 square feet). A majority of the perennial seeps and springs found on the North Range are allowed to flow naturally over the landscape, which results in development of wetland plant communities where soils remain inundated throughout the year. The wetland plant community is often surrounded by a mesic plant community composed of mostly facultative plants capable of growing in wet and dry areas. These areas often support healthy populations of grasses and forbs, which provide forage for grazing animals (U.S. Air Force, 2017j).

Most of the active springs are found on the North Range, especially in the Kawich, Belted, and Cactus Mountain Ranges and Stonewall Mountain. Only five springs are found on the South Range. Most of the perennial springs on the South Range, as well as a few of the perennial springs on the North Range, are captured in troughs to allow water to accumulate for use by bighorn sheep, pronghorn antelope, mule deer, and other wildlife. In many cases, these springs do not support wetland vegetation unless the troughs overflow in small areas, which may be dominated by a mix of facultative and upland species. No perennial seeps have been observed on the South Range. Most water sources for wildlife on the South Range are provided by wildlife water developments, which collect water from storm events and store it in water tanks (U.S. Air Force, 2017j).

Intermittent seeps and springs typically flow only in the early spring when water tables are higher. At that time, the seeps and springs support relatively lush vegetation that can be utilized by wildlife in the area. By summer, most of the vegetation becomes desiccated and may be replaced by more xeric species. Intermittent seeps are sometimes very difficult to differentiate from areas where water accumulates after significant precipitation. This is especially true for areas where winter snows melt and accumulate in the mountains. These areas of saturated soils could either be the result of accumulated surface water or a temporarily exposed water table. Regardless of the origin of the water, these areas provide excellent forage for wildlife, especially in the spring (U.S. Air Force, 2017j).

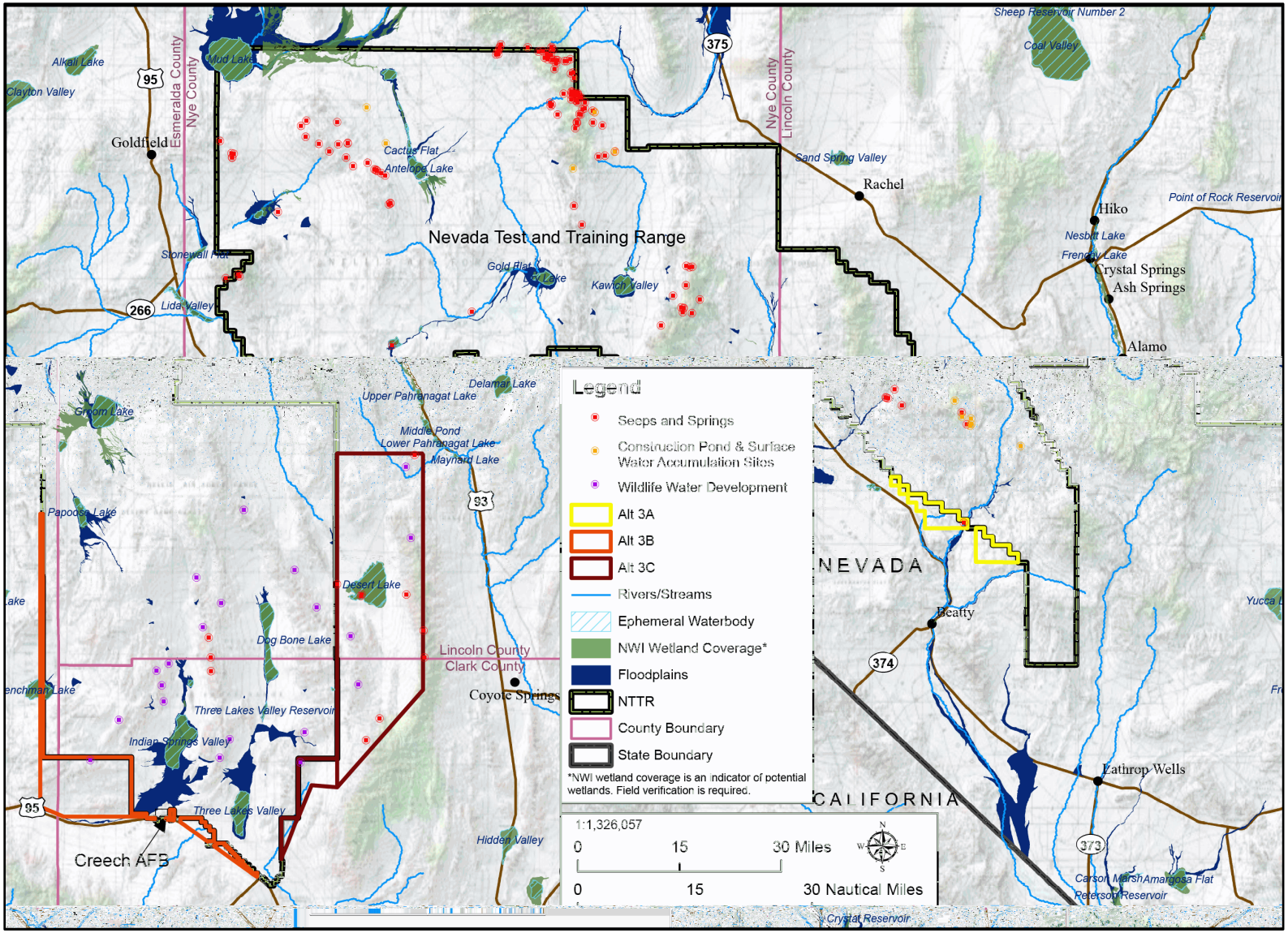

Figure 3-23. Aquatic Resources Within the Study Area

Federal jurisdictional wetlands have legal protection under Section 404 of the CWA. Activities with the potential to discharge fill into waters of the United States (including wetlands) require a CWA Section 404 permit from the USACE authorizing the activity and may also require permitting or certification under CWA Section 401. The protection of wetlands on federal lands is also required under EO 11990, *Protection of Wetlands*, and Air Force Order 780.1, *Wetlands*.

USACE defines wetlands as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (USACE, 1987). Wetlands are recognized as a special aquatic site under CWA Section 404(b)(1) guidelines, and a "no net loss" policy continues to guide federal regulatory actions affecting wetlands under CWA Section 404. Jurisdictional wetland areas are identified and delineated according to USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (USACE, 2008).

Jurisdictional wetlands are a subset of jurisdictional waters of the United States, which include streams, rivers, ponds, and lakes, discussed in Section 3.11 (Water Resources) and also in the *Wetlands, Floodplains, and Seeps and Springs of the Nevada Test and Training Range and Proposed Expansion Alternatives* report (U.S. Air Force, 2017j). To be considered jurisdictional, a wetland needs to be dominated by hydrophytic vegetation and have positive indicators for wetland hydrology and hydric soils and a significant nexus (connection) to a jurisdictional water of the United States (USACE, 2008). Figure 3-23 depicts wetlands identified by the National Wetlands Inventory (NWI).

The NWI, developed by the USFWS, uses high-altitude imagery to identify wetlands based on the visible presence of wetland vegetation or hydrology and depicts these on a series of topical maps available through an on-line query. The NWI is not intended to define limits of jurisdiction of any federal, state, or local agency, but it is used as a tool that contributes to the existing information available for the survey area. The NWI maps were consulted and included on maps as part of the *Wetlands, Floodplains, and Seeps and Springs of the Nevada Test and Training Range and Proposed Expansion Alternatives* report (U.S. Air Force, 2017j).

It is ultimately the responsibility of USACE to make the final determination on the jurisdictional status of wetlands or other waters of the United States identified within the survey areas. However, the NTTR is located within the Great Basin region, and most of the surface water on the NTTR occurs as ephemeral streams and washes that drain to many playas found throughout the study area, where water collects and eventually evaporates (U.S. Air Force, 2010). These streams, washes, and playas are not connected to waters of the United States and would likely be considered isolated features (not traditional navigable waters). Areas that have surface water for sufficient time to support wetland vegetation, such as seeps, springs, or other surface water

features, would also be considered isolated and nonjurisdictional unless they have a significant nexus to traditional navigable waters.

Based on the results of the jurisdictional determination report, the only streams that have the potential to be considered jurisdictional are limited to two watersheds within the study area, including the Amargosa River in the southern portion of the North Range and a small area of the South Range that coincides with the Las Vegas Wash watershed (U.S. Air Force, 2017j). (Refer to Section 3.11, Water Resources, for a more detailed description of watersheds). Therefore, wetlands within these watersheds could potentially fall under the jurisdiction of USACE.

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

The Alternative 3A and 3A-1 withdrawal area lies along the southwest boundary of the North Range; Figure 3-24 depicts the locations of aquatic features and floodplains within the proposed Range 77 withdrawal area. Nearly all of the Range 77 withdrawal area is within the Amargosa River watershed. Ephemeral streams and natural seeps and springs in this area that meet the definition of USACE wetlands or other waters of the United States with nexus to Amargosa River or tributaries may fall under the jurisdiction of USACE. Surface water features such as the unnamed spring and drainages of the upper Amargosa River on the Alternative 3A and 3A-1 withdrawal area are used by wildlife, although these features are not considered developed (U.S. Air Force, 2017j).

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

The Alternative 3B withdrawal area is located immediately south of the South Range; Figure 3-25 depicts the locations of aquatic features and floodplains within the proposed Range 64C/D and 65D withdrawal area. All or a portion of the Range 64C/D and 65D is within the Las Vegas Wash watershed. Ephemeral streams and natural seeps and springs in this area that meet the definition of USACE wetlands or other waters of the United States with nexus to Las Vegas Wash or tributaries may fall under the jurisdiction of USACE. The only known water present on the Alternative 3B withdrawal area is a wildlife water development (U.S. Air Force, 2017j).

Alternative 3C – Alamo Withdrawal

The Alternative 3C withdrawal area is immediately east of the South Range in the DNWR; Figure 3-26 depicts the locations of aquatic features and floodplains within the proposed Alamos withdrawal area.

The southeasternmost portion of the Alamos withdrawal area is within the Las Vegas Wash watershed. Ephemeral streams and natural seeps and springs in this area that meet the definition of USACE wetlands or other waters of the United States with nexus to Las Vegas Wash or tributaries may fall under the jurisdiction of USACE. Two natural springs are present on the west side of the Sheep Range in the Alternative 3C withdrawal area (U.S. Air Force, 2017j).

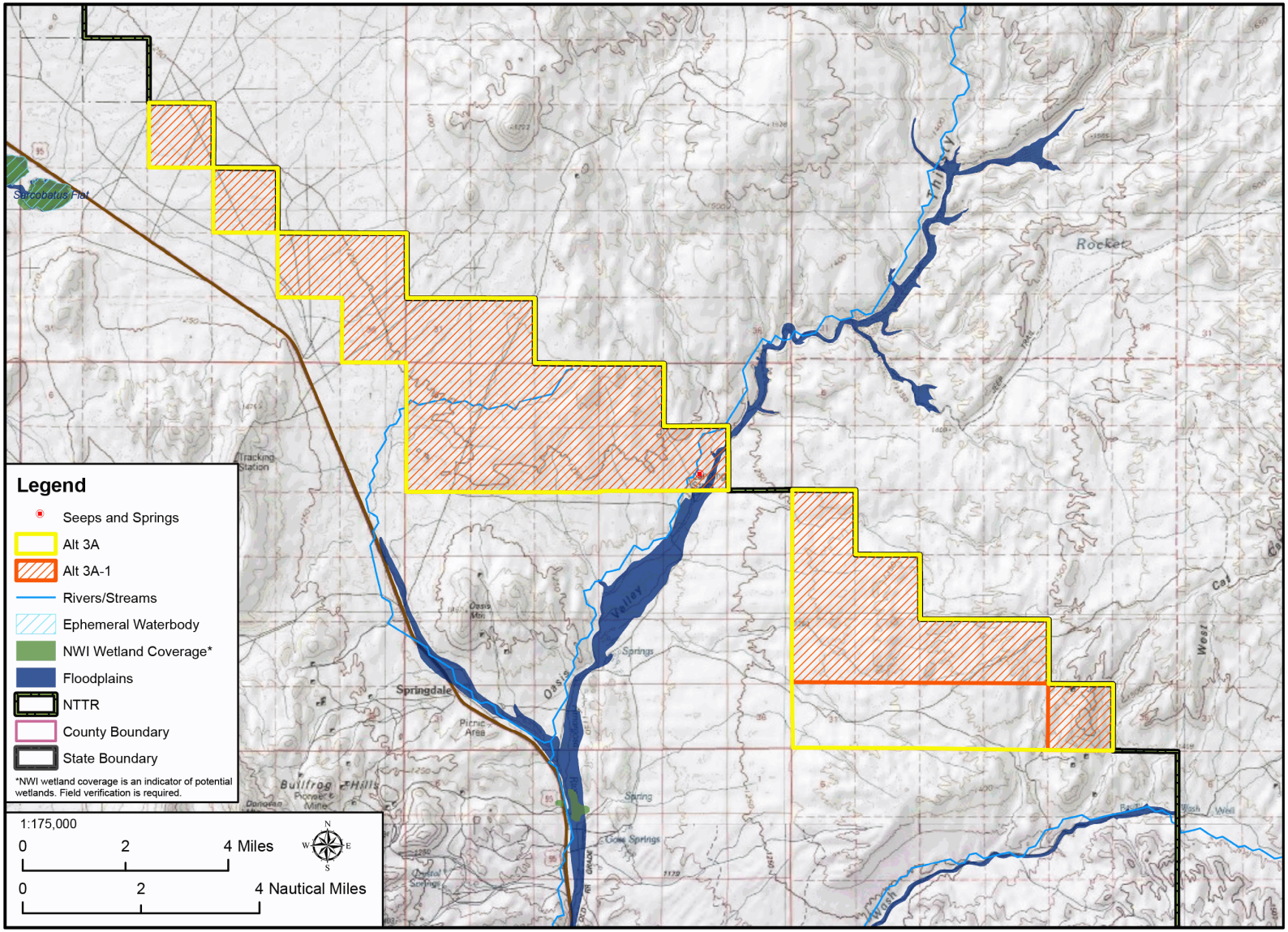

Figure 3-24. Aquatic Resources Within Alternative 3A Proposed Expansion Areas

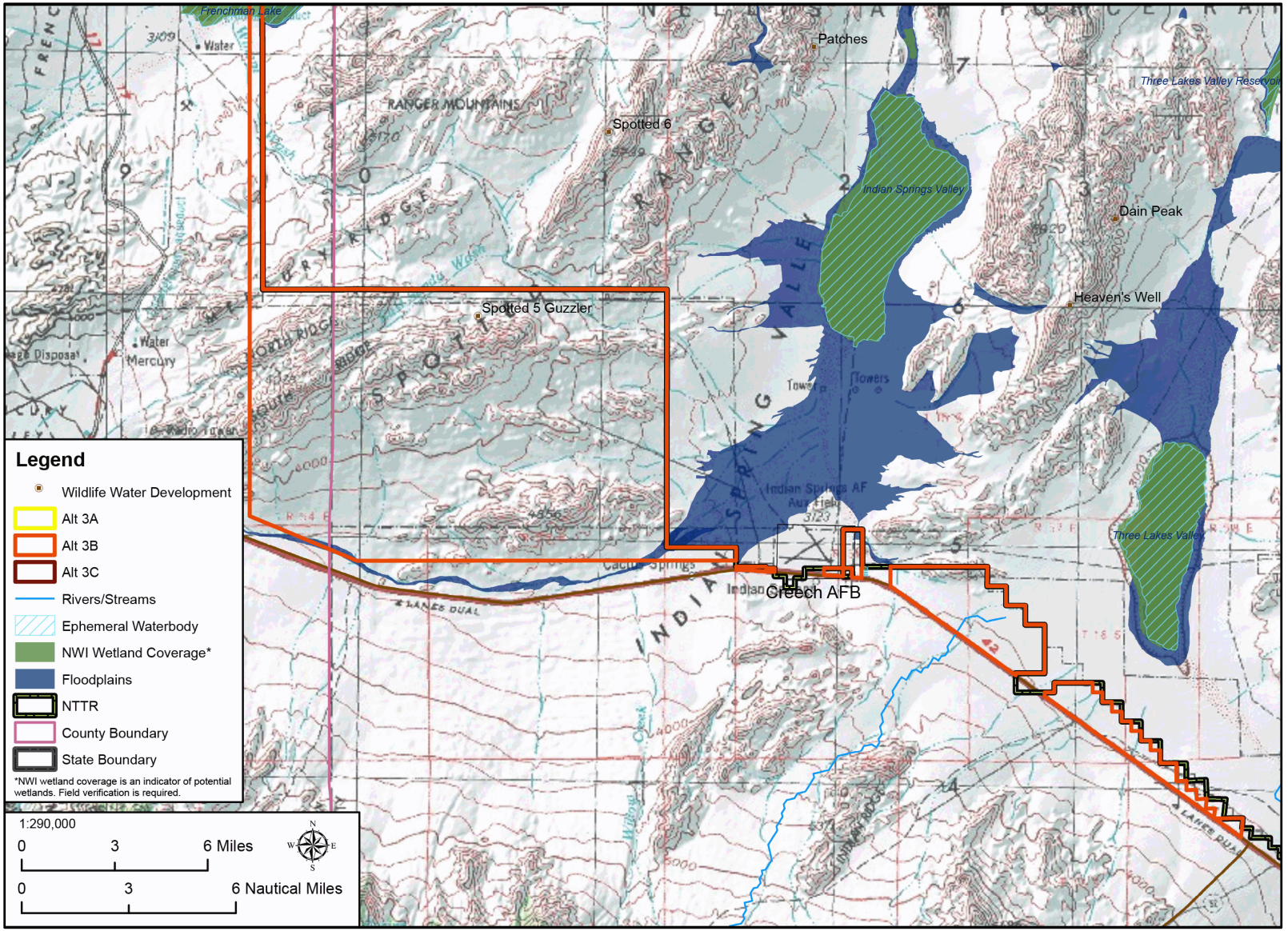

Figure 3-25. Aquatic Resources Within Alternative 3B Proposed Expansion Area

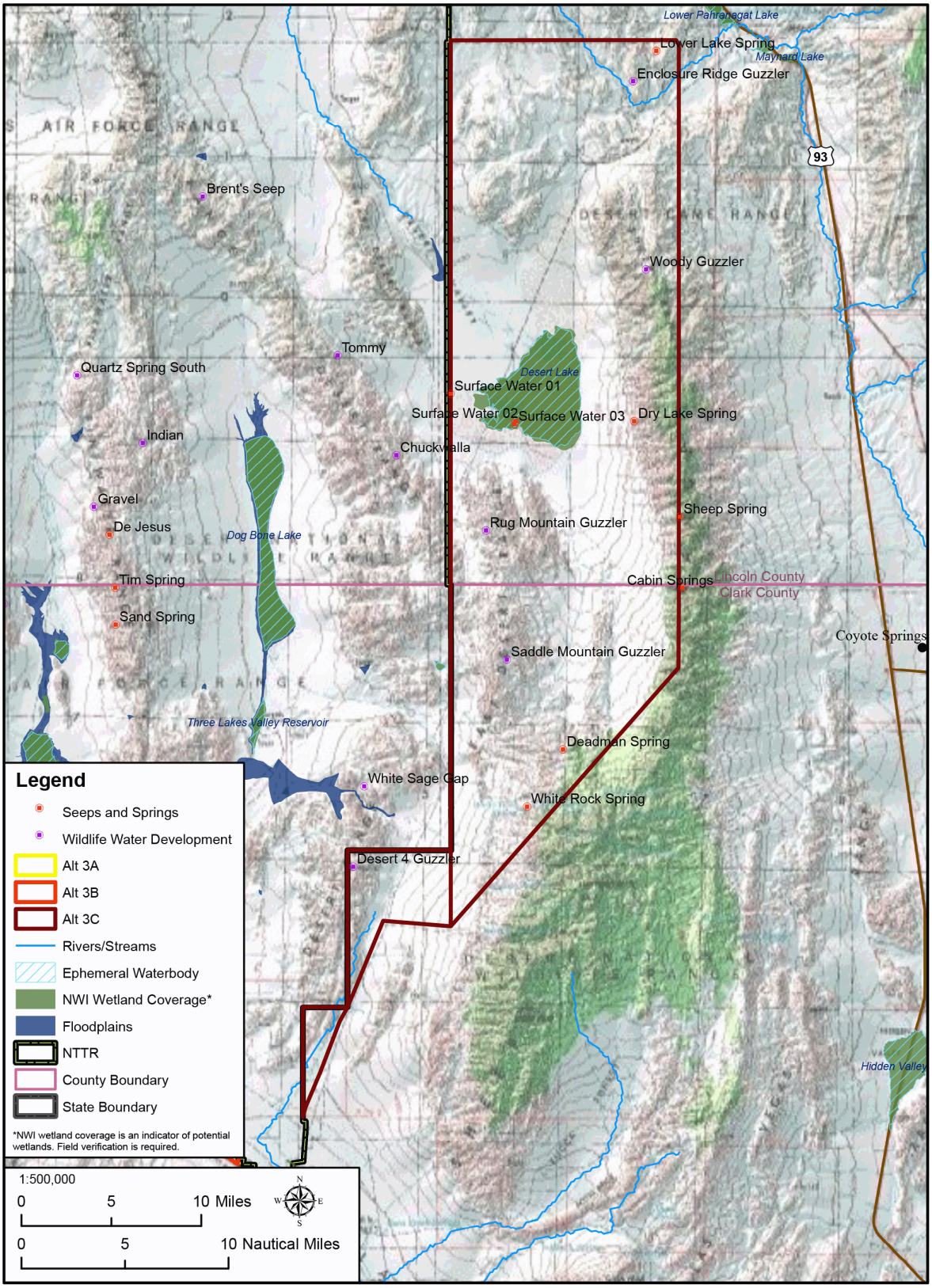

Figure 3-26. Aquatic Resources Within Alternative 3C Proposed Expansion Area

3.8.1.6 Special Status Species and Habitats

Special status species include plant and wildlife species listed as threatened or endangered under the federal ESA (including proposed and candidate species), those protected by the State of Nevada or with a state ranking of S1 (critically imperiled), those with a similar status under the NDOW, those identified as sensitive (S) by the BLM or USFS, or those of regional concern due to rarity and potential vulnerability to extinction and that have the potential to occur within the study area (i.e., the NTTR and proposed alternative areas).

Sensitive habitats include those that support endangered, threatened, or sensitive species and, therefore, are important to the conservation of these species, as well as wetlands and other waters regulated under Sections 401 and 404 of the CWA. Also included in this category are species protected by the *Bald and Golden Eagle Protection Act*, the federal *Migratory Bird Treaty Act* (MBTA), and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*. The Air Force is concurrently preparing a biological assessment for the NTTR land withdrawal and will enter formal Section 7 consultation with USFWS.

Existing NTTR Boundaries (Alternatives 1 and 2)

Plants

Surveys have been conducted on and around the NTTR since the 1990s to locate rare plant populations. Beginning in 2005, extensive surveys were initiated to confirm and reestablish the known locations for previously identified rare plant populations. Fieldwork conducted in 2016 included vegetation surveys to characterize plant communities and identify rare plants on the proposed expansion areas. Prior to the 2016 surveys, a target rare plant list was developed and coordinated with the USFWS, NDOW, and BLM. A summary of the historical surveys and results of the 2016 surveys for rare plants and vegetation within the study area (the NTTR and proposed expansion areas) is presented in *Rare Plants of the Nevada Test and Training Range and Proposed Expansion Alternatives* (Rare Plants Report) (U.S. Air Force, 2016c).

A table listing the species identified in the Rare Plants Report (U.S. Air Force, 2016c) as federally listed, state listed as protected, or of special interest to cooperating agencies is included in Appendix H, Biological Resources (Rare Plants Tables), including regulatory status, a general habitat description, and known or potential occurrences within the vicinity of the NTTR. Also in Appendix H, Biological Resources (Rare Plants Tables) is a list of other plant species in the study area (including scientific name, common name, and status) that are of interest to cooperating agencies. Of these, there are no plant species federally listed as threatened or endangered or that are candidates for listing by the USFWS in the study area.

The Joshua tree (*Yucca brevifolia*) is currently under review for listing as an endangered or threatened species under the ESA. A petition for listing this species as threatened, either as a full species or as two intraspecific taxa, was received by the USFWS in September 2015. An emergency listing was determined by the USFWS not to be necessary (USFWS, 2016a). However, the USFWS did find the petition presented

substantial scientific or commercial information indicating that listing the Joshua tree may be warranted and are initiating a status review for this species and will issue a finding as to whether or not the petitioned action is warranted (USFWS, 2016a). There is no further information available on the status of the USFWS review for federally listing the Joshua tree as endangered or threatened. Joshua tree is present on the NTTR. Joshua tree is currently not specifically identified as a sensitive species in the state of Nevada or on cooperative agency lists, although a collecting permit would be required to harvest this species in Nevada or on BLM-managed lands (WildEarth Guardians, 2015). There are 47,927 acres on the North Range and 407,229 acres on South Range currently mapped as Joshua tree habitat (U.S. Air Force, 2017c).

No species identified as critically endangered by the State of Nevada occur within the study area. The Las Vegas bearpoppy (*Arctomecon californica*), listed as critically endangered by the State of Nevada, and the Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesii*), a federal candidate for listing, occur on Nellis AFB, 33 miles south of the NTTR. Although rare plant surveys conducted on the NTTR since 2005 have not found these species within the North or South Range (U.S. Air Force, 2016c), the South Range lies within the range of these plants and gypsiferous soils are present.

Species with a heritage rank of S1 (indicating their distribution in the state of Nevada is critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, threats, or other factors) are depicted in Figure 3-27. In addition, three state-protected cactus species have been identified within the study area; these are depicted in Figure 3-28. The Rare Plants Report includes species descriptions, distributions, and photos (U.S. Air Force, 2016c).

The Rare Plants Report (U.S. Air Force, 2016c) includes other special status plant species of special interest to cooperating agencies (see the list in Appendix H, Biological Resources: Rare Plants Tables). Most of these species have a heritage rank of S2 (indicating their distribution in Nevada is imperiled due to rarity or other demonstrable factors) or S3 (indicating their distribution in Nevada is vulnerable to decline because they are rare and local throughout the range or have a very restricted range), or they are identified as sensitive by BLM or USFS. The Rare Plants Report includes a brief description of the species and a map showing any observations of those species in the study area (U.S. Air Force, 2016c). Of the 65 other special status species of interest to cooperating agencies listed in the Rare Plants Report, 40 were mapped as observed in or around the study area.

Wildlife

Wildlife surveys have been conducted at the NTTR since the early 1990s to identify and locate any sensitive species. Since early 2000, baseline surveys have focused on select groups of species such as small mammals, large mammals, reptiles, bats, birds, and furbearers (U.S. Air Force, 2017e; 2017g; 2017h). Methods have included live trapping (e.g., small mammals), helicopter surveys, incidental observations, motion-triggered wildlife cameras (e.g., furbearer and carnivores), capture sampling and acoustic modeling surveys (e.g., bats), point counts, cliff raptor surveys and winter raptor drives (e.g., birds), night drives, and pitfall trapping (reptiles).

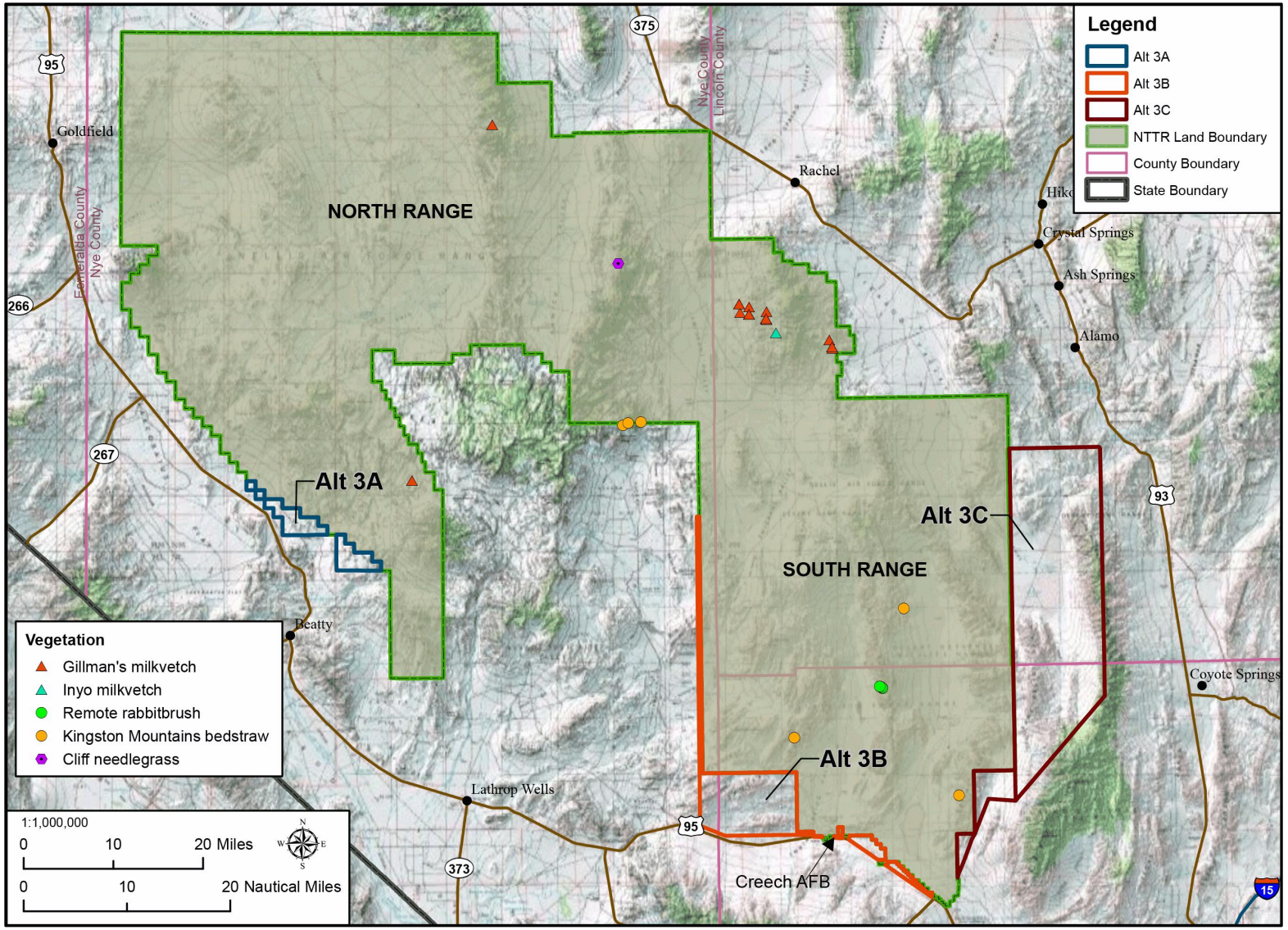

Figure 3-27. Special Status Species Reported in the Study Area – Gillman's Milkvetch, Inyo Milkvetch, Remote Rabbitbrush, Kingston Mountains Bedstraw, Cliff Needlegrass

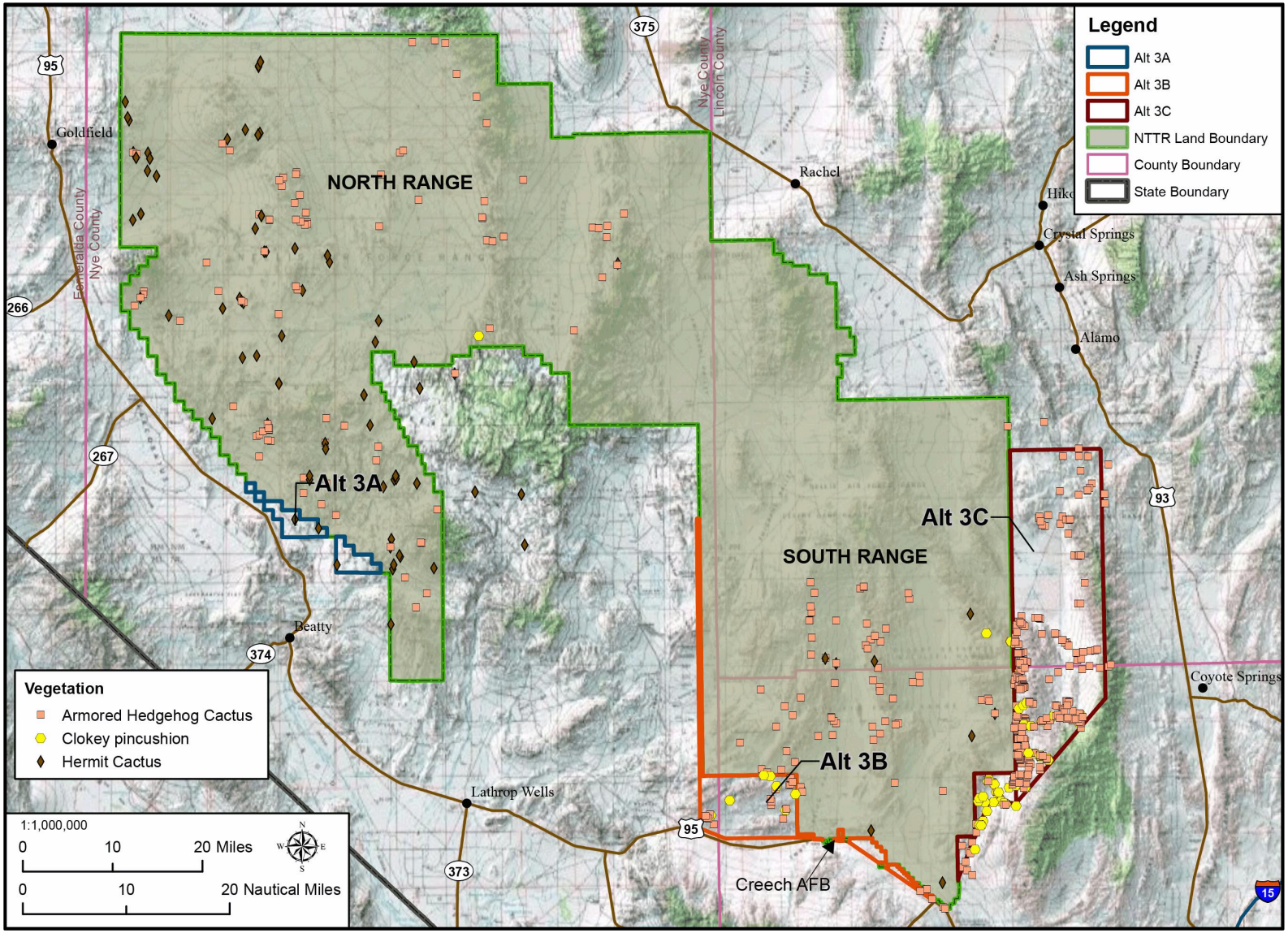

Figure 3-28. Special Status Species – Armored Hedgehog Cactus, Clokey Pincushion, Hermit Cactus

A list of special status wildlife species that are known or have the potential to occur on the NTTR is included as Table 3-41. A second group, or "other" special status species, includes all wildlife species that are of special interest to cooperating agencies and ranked by the State of Nevada as imperiled or vulnerable to decline. The list of other special status species is included as Appendix H, Biological Resources (Special Status Wildlife Species).

Table 3-41. Special Status Wildlife Species that Are Known or Have the Potential to Occur on the NTTR

Scientific Name, Common Name	Status[1] Federal/Nevada/BLM/USFS	Heritage Rank[2] State/Global
Amphibians		
Anaxyrus nelsoni, Amargosa toad	--/PA/S/--	S2/G2
Lithobates pipiens, northern leopard frog	--/PA/S/--	S2S3/G5
Reptiles		
Gopherus agassizii, Mojave desert tortoise	FT/TR/S/T	S2S3/G3
Heloderma suspectum cinctum, banded Gila monster	--/PR/S/--	S2/G4T4
Birds		
Accipiter gentilis, northern goshawk	--/PR/S/S	S2/G5
Aquila chrysaetos, golden eagle	BE/PB/S/--	S4/G5
Centrocercus urophasianus, greater sage-grouse	--/PR/S/S	S3/G3G4
Lanius ludovicianus, loggerhead shrike	--/SB/S/--	G4/S4
Spizella breweri, Brewer's sparrow	--/SB/S/--	G5/S4B
Toxostoma bendirei, Bendire's thrasher	--/--/S/--	S1/G4G5
Mammals		
Antrozous pallidus, pallid bat	--/PM/S/S	S3/G5
Chaetodipus penicillatus, desert pocket mouse	--/--/--/--	S1S2/G5
Corynorhinus townsendii, Townsend's big-eared bat	--/SM/S/S	S2/G3G4
Microdipodops megacephalus albiventer, desert valley kangaroo mouse	--/PM/S/--	S2/G4T2
Microdipodops pallidus, pale kangaroo mouse	--/PM/S/--	S2/G3
Microtus montanus fucosus, Pahranagat Valley montane vole	--/--/--/--	S1S2/G5T2
Myotis thysanodes, fringed myotis	--/PM/S/S	S2/G4
Ovis canadensis nelsoni, desert bighorn sheep	--/GM/S/R4S	S4/G4T4
Tadarida brasiliensis, Mexican free-tailed bat	--/PM/S/--	S3S4B/G5
Gastropods		
Pyrgulopsis fausta, Corn Creek pyrg	--/--/--/--	S1/G1
Insects		
Neivamyrmex nyensis, endemic ant	--/--/--/--	S1/G1
Pseudocotaipa giulianii, Giuliani's dune scarab	--/--/S/--	S1/G1

Table 3-41. Special Status Wildlife Species that Are Known or Have the Potential to Occur on the NTTR

Scientific Name, Common Name	Status[1] Federal/Nevada/BLM/USFS	Heritage Rank[2] State/Global
Aegialia magnifica, large Aegialian scarab	--/--/S/--	S1/G1
Miloderes sp., big dune miloderes weevil	--/--/S/--	S1/G1

Sources: (USFWS, 2017a; Nevada Natural Heritage Program, 2017; U.S. Air Force, 2017i)
Notes:
1. Status -- = no status
Federal = Species listed by the U.S. Fish and Wildlife Service under the *Endangered Species Act*
FT - Federally Listed Threatened, likely to be classified as Endangered in the foreseeable future if threats continue.
BE - Protected under the *Bald and Golden Eagle Protection Act*
State = Species listed by the State of Nevada
PA - Protected Amphibian; PR - Protected Reptile; TR - Threatened Reptile; PM - Protected Mammal; SM - Sensitive Mammal; PB - Protected Birds; SB - Sensitive Birds; GM - Game Mammal
BLM = S - Sensitive, which includes USFWS species, and those protected by Nevada state law on BLM managed lands.
USFS = S - Sensitive Species; T - Threatened; R4S - Region 4 Sensitive
2. Heritage Rank: S = State rank indicator, based on distribution within Nevada at the lowest taxonomic level; G = Global rank indicator, based on worldwide distribution at the species level; T = Global trinomial rank indicator based on worldwide distribution at the infraspecific level; B - Breeding - Conservation status refers to the breeding population of the element in the nation or state/province.
1-Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, threats, or other factors.
2-Imperiled due to rarity or other demonstrable factors.
3-Vulnerable to decline because rare and local throughout range or with very restricted range.
4-Long-term concern, though now apparently secure; usually rare in parts of its range, especially at its periphery.
5-Secure, at very low or no risk of extirpation in the jurisdiction due to a very extensive range or abundant populations or occurrences, with little to no concern from declines or threats.

Desert Bighorn Sheep

Large mammal species are of special interest on the NTTR, especially the desert bighorn sheep. The desert bighorn sheep is a medium-sized, herbivorous bovid that occurs in mountains, canyons, and upper alluvial fans. They use their climbing abilities in rough, rocky, and steep terrain to escape from predators. Free-standing water is particularly important during the summer months. Breeding season (rutting season for rams or estrous season for ewes) in the eastern Mojave Desert typically begins in July and continues through September. On the NTTR, desert bighorn sheep occupy a variety of habitats, particularly in the rough terrain of the mountain ranges throughout the South Range and much of the western half of the North Range (Figure 3-29).

Since 2003, the number of desert bighorn sheep observed during helicopter surveys has varied due to factors including survey efforts and the area covered during the surveys, for details see *Final Large Mammal Report* (U.S. Air Force, 2017h).

Desert bighorn sheep have been documented on the North Range, on Stonewall Mountain, Pahute Mesa, Thirsty Canyon, Cactus Range, and Mount Helen. On Stonewall Mountain, bighorn sheep counts have ranged from a low of 192 in 2009 to a high of 384 in 2011. In 2013 and 2015, numbers were 272 and 238 respectively. Pahute Mesa and Thirsty Canyon surveys conducted in 2012, 2014, and 2015 reported relatively stable numbers from 96, 132, and 109, respectively, and surveys for the Cactus Range from the same years reported 51, 62, and 31 sheep.

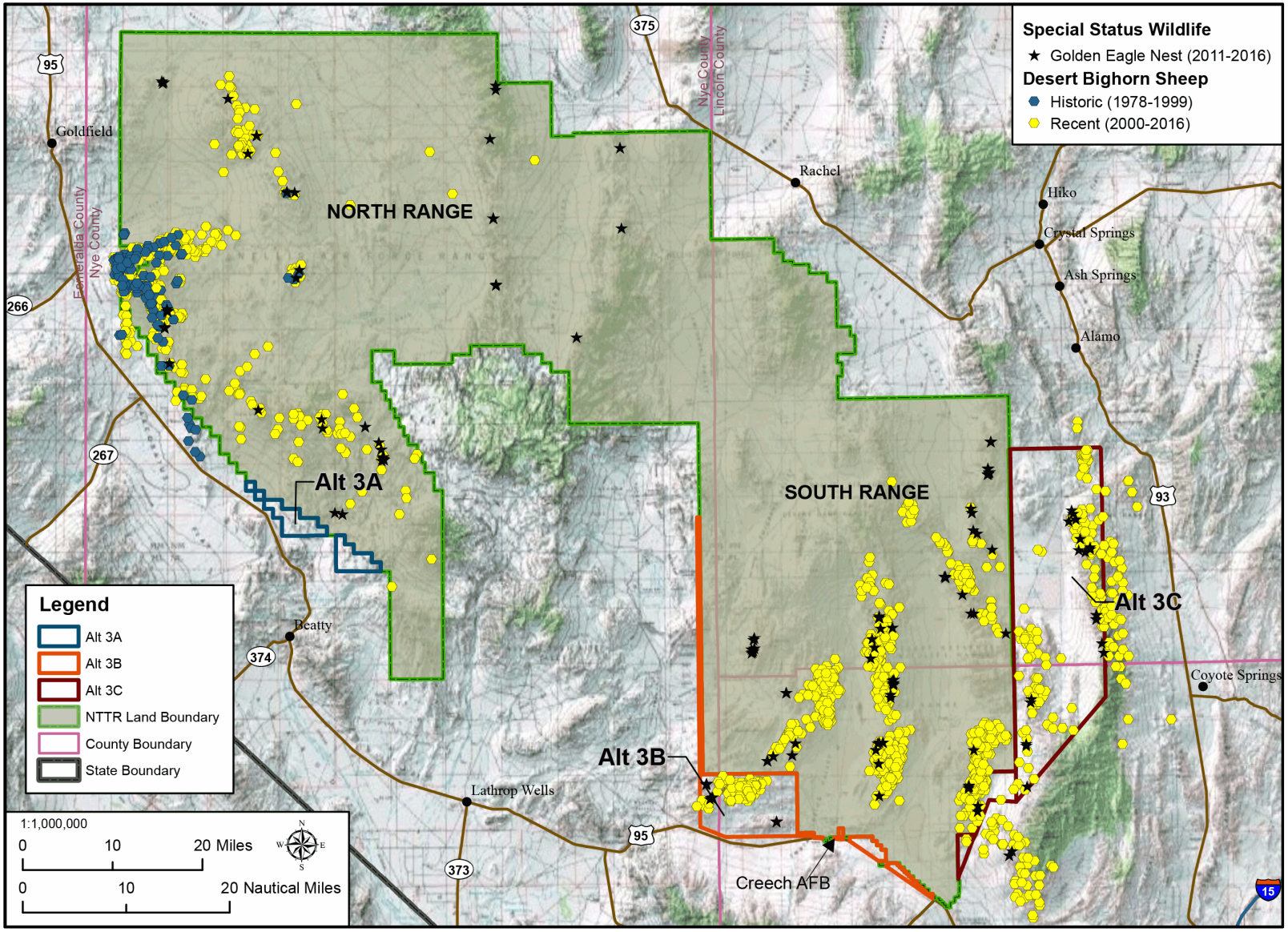

Figure 3-29. Special Status Wildlife Species, Desert Bighorn Sheep and Golden Eagle

On the South Range, desert bighorn sheep surveys have been conducted almost annually from 2003 through 2015 and focused on the Spotted Range, Pintwater Range, Sheep Range and Desert Range. In 2014 and 2015, the total number of sheep observed on the South Range was 422 and 488, respectively. In general, the desert bighorn sheep counts for the South Range indicate a stable population, with a trend towards an increase in numbers (U.S. Air Force, 2017h).

In 2015, 25 GPS collars were deployed on desert bighorn sheep on the NTTR and 21 collars were deployed in 2016 (U.S. Air Force, 2017h). All collars were real-time satellite collars, with a battery life of about two years and GPS data recorded every hour. Data is downloaded weekly and combined into monthly datasets. Data collected from the monitoring of collars will be used to determine the locations and movements of bighorn sheep herds and to provide baseline information for development of a habitat range model by the USGS.

Golden Eagle

The golden eagle (*Aquila chrysaetos*) is culturally important to Native Americans and is also protected under the *Bald and Golden Eagle Protection Act*. The golden eagle is one of the largest birds of prey. It is associated with mountain cliffs, canyons, and rim rock terrain adjacent to shrub steppe, native grassland, and open desert. Eagles soar for long distances and hunt over open areas in search of prey, including game birds, young ungulates, mammals (especially black-tailed jack rabbits), and reptiles.

Nesting occurs from December through May and is often associated with cliffs, trees, or earthen mounds. Nests are frequently located within 2 miles of a water source. Golden eagles are particularly susceptible to human disturbance. Golden eagle surveys were conducted from 2001 to 2016 on the NTTR (U.S. Air Force, 2017g). Nest sites have been found on cliff ledges, cliffs and rocky outcrops at elevations as high as 8,600 and as of 2016 golden eagles have only been found nesting in mountain habitat on NTTR (U.S. Air Force, 2017g). Active golden eagle nests are known to occur on the North and South Ranges. From 2011 through 2016, 47 active golden eagle nests have been recorded on the North and South Ranges; 37 in the North Range and 10 on the South Range. In 2016, there were 14 nests observed, 10 in the North Range, and 4 in the South Range with a total of 23 chicks initially observed (Figure 3-29). Of those, 15 successfully fledged, 4 are unknown, and 4 were failed (U.S. Air Force, 2017g).

Migratory Bird Treaty Act Species

The MBTA is an international agreement between the United States, Canada, and Mexico that protects designated species of birds. The MBTA controls the taking of these birds and their nests, eggs, parts, or products. The USFWS has regulatory authority over the MBTA (16 USC 703–712). More specifically, the MBTA and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds,* direct the Air Force to avoid or minimize negative impacts on migratory birds and take steps to protect birds and restore or enhance their habitat whenever possible. These actions include preventing or evading pollution or detrimental alteration of the environment as practicable within the constraints of the military mission.

A complete list of all species of migratory birds protected by the MBTA is in the *Federal Register* (50 CFR 10.13). Nearly all native bird species found within the boundaries of the NTTR are protected under the MBTA (U.S. Air Force, 2017f). Bird species typically found in sagebrush communities, which are more prevalent on the North Range than the South Range, include the sage thrasher (*Oreoscoptes montanus*), sage sparrow (*Amphispiza belli*), Brewer's sparrow (*Spizella breweri*), and horned lark (*Eremophila alpestris*). Less frequently observed species include the greater roadrunner, common nighthawk (*Chordeiles minor*), and western meadowlark (*Sturnella neglecta*) (U.S. Air Force, 2010). Chukars (*Alectoris chukar)* typically inhabit rocky habitat and desert scrub near springs and other freshwater sources. Many species of ducks, geese, and water birds are seasonal migrants that may inhabit playas during wet years; many of these birds are also protected under the MBTA. Canyons in the NTTR provide a unique structure for habitat that attracts raptors and other cliff-dwelling avian species such as the prairie falcon (*Falco mexicanus*), golden eagle, white-throated swift (*Aeronautes saxatalis*), and rock wren (*Salpinctes obsoletus*).

Pinyon-juniper woodlands occur on both the North and South Range and support a high diversity of MBTA species. Common species include the blue-gray gnat catcher (*Polioptila caerulea*), gray vireo (*Vireo vicinior*), black-throated gray warbler (*Dendroica nigrescens*), juniper titmouse (*Baeolophus ridgwayi*), gray flycatcher (*Empidonax wrightii*), pinyon jays (*Gymnorhinus cyanocephalus*), Townsend's solitaire (*Myadestes townsendi*), and the house finch (*Carpodacus mexicanus*). Birds present in the Mojave Desert creosote scrub plant communities found on much of the South Range include the common raven (*Corvus corax*), horned lark, loggerhead shrike, mourning dove (*Zenaida macroura*), sage sparrow (*Amphispiza belli*), black-throated sparrow (*Amphispiza bilineata*), burrowing owl (*Athene cunicularia*), greater roadrunner (*Geococcyx californianus*), lesser nighthawk (*Chordeiles acutipennis*), and Gambel's quail (*Callipepla gambelii*). The diversity of MBTA-protected species generally increases where Joshua trees, riparian vegetation, or large cacti are present. The cactus wren (*Campylorhyncus brunneicapillus*) is associated with stands of cholla cactus, and Scott's oriole (*Icterus spurius*) and ash-throated flycatchers (*Myiarchus cinerascens*) are observed nesting in Joshua trees, whereas phainopepla (*Phainopepla nitens*), ash-throated flycatcher, and blacktailed gnatcatchers *(Polioptila melanura*) are associated with riparian scrub habitat dominated by mesquite (U.S. Air Force, 2010).

The NTTR has been conducting migratory bird surveys since 1996. In 2007, the Nellis Natural Resources Program initiated formal migratory bird surveys on the NTTR. The migratory bird project monitors bird populations on the NTTR and these surveys supported the military mission by providing knowledge about the locations of bird populations, the locations of nesting birds and sensitive bird species, and the potential risk of bird populations to military operations. MBTA-protected species are known to occur throughout the North and South Ranges and in the proposed expansion areas; see *Migratory Bird Report* (U.S. Air Force, 2017f) for further details. Note that surveys conducted to date have been intended to determine presence/absence and do not provide data that can accurately estimate population size or density. A total of 120 bird species was recorded on the NTTR from 2007 to 2009, and from 2010 to 2015, a total

of 148 was reported. (U.S. Air Force, 2017f). Approximately 7,676 individual birds were observed during the surveys. Seventeen different special status migratory bird species have been observed on the NTTR, and 12 have been observed on the expansion alternatives, including Brewer's sparrow (*Spizelia breweri*), loggerhead shrike (*Lanius ludovicianus*), golden eagle, phainopepla, crissal thrasher (*Toxostoma crissale*), pinyon jay, and prairie falcon (U.S. Air Force, 2017f). The common nighthawk was the only special status species that was observed on proposed expansion areas and not within the NTTR. Other rare birds observed outside their normal range include black and white warbler (*Mniotilta varia*), indigo bunting (*Passerina cyanea*), and golden crowed kinglet (*Regulus satrapa*). Six habitat types (desert playas and ephemeral pools, lower montane woodlands, Mojave mid-elevation mixed desert scrub, Mojave/Sonoran warm desert scrub, mesquite bosques and desert washes, Mojave/Sonoran warm desert scrub with a mix of cliffs and canyons, and sand dunes and badlands) were surveyed in the NTTR proposed expansion areas (U.S. Air Force, 2017f). MBTA species were recorded in all habitats. Overall, recent and historical migratory bird surveys indicate that the bird populations found on the NTTR and the potential expansion alternatives appear to be healthy and diverse (U.S. Air Force, 2017f).

Federally Listed Species

Mojave Desert Tortoise (Gopherus agassizii)

Mojave Desert Tortoise (*Gopherus agassizii*)
Source: (U.S. Air Force, 2017l)

To date, only one federally listed species, the Mojave desert tortoise (*Gopherus agassizii*), is known to occur on the NTTR. The Mojave Desert population of the tortoise was federally listed as threatened on April 2, 1990 (55 *Federal Register* 12178). Critical habitat occurs in portions of Nevada (59 *Federal Register* 5820–5846); however, no designated critical habitat occurs on the NTTR (USFWS, 1994). The NTTR is situated within the Northeastern Recovery Unit and includes the Ivanpah Valley, Coyote Spring, Mormon Mesa, Gold Butte-Pakoon, and Beaver Dam Slope Desert Wildlife Management Areas (USFWS, 2011). In Nevada, the desert tortoise is protected under NAC 503.080, wherein the species is listed as a state-protected reptile further classified as threatened (USFWS, 2011). Further details on the desert tortoise listing, range, life history, and critical habitat, refer to the Biological Assessment (Appendix B, Agency Consultation and Coordination).

The desert tortoise is a herbivorous reptile that occupies a variety of habitats from flats to rocky slopes and is associated with the creosote bush scrub plant community at lower elevations and juniper woodland ecotones at higher elevations (USFWS, 2011). Seasonal, annual, and geographic variations in rainfall affect the physiology, behavior,

and ecology of desert tortoises (Henen, 1998). The desert tortoise spends much of the year underground in burrows to avoid extreme temperatures during summer and winter. In general, it is most active and above ground during the spring, summer, and fall when daytime temperatures are below 90 degrees Fahrenheit (32 degrees Celsius). Their diet primarily includes annual forbs, but tortoises will also forage on perennials (grasses and cacti) and eat non-native species such as red-stem filaree (*Erodium cicutarium*). Desert tortoises derive much of their water requirements from the vegetation they eat and can go for extended periods without drinking. They can live for more than 50 years and do not reach reproductive maturity until 14 to 20 years of age.

The decline of the desert tortoise is thought to be a result of a complex interaction of threats. Disease along with urbanization, human access, military operations, and illegal use of off-road vehicles have been suggested as the most serious threats to the desert tortoise (Darst et al., 2013). Vehicle travel and human activity on unpaved roads increase the risk of crushing a tortoise or burrow, can damage native vegetation, facilitate the establishment and spread of nonnative vegetation, result in the loss and compaction of soil, generate increased particulate matter emissions, and likely result in direct mortality (USFWS, 2011). Predation by the common raven, feral/domestic dog, and coyote is also a threat, especially to juvenile tortoises.

The Mojave desert tortoises have been known to occur on the NTTR since the early 1990s, and there has been ongoing management of this species as required by the INRMP (U.S. Air Force, 2010) (Figure 3-30). Numerous biological opinions have been issued regarding management practices for the desert tortoise (1992, 1994, 1997, 2003, 2004, 2007, and 2012), including a programmatic biological opinion for the NTTR (99 CES/CEIEA, 2015; U.S. Air Force, 2017k).

In general, desert tortoise surveys on the NTTR have focused on population monitoring (e.g., documenting burrows, carcasses, and live tortoises). Surveys have focused on the South Range, because suitable habitat is lacking on the North Range (U.S. Air Force, 2017k). In 2015, desert tortoise habitat was evaluated in several locations on the South Range. As of 2015, approximately 69 percent of the South Range had been surveyed, with 247,459 acres of suitable desert tortoise habitat. A total of 17 live tortoises, 79 active burrows, 202 burrows in good condition, 226 inactive or abandoned burrows and 33 carcasses have been documented (U.S. Air Force, 2017k).

The estimated density of desert tortoise on the South Range is approximately 5.2 desert tortoises per square mile or 5.8 desert tortoises per square mile, correcting for 90 percent detection (U.S. Air Force, 2017k). The density is comparable to the estimates for 2015 and 2016 for the Eastern Mojave Recovery Unit, which were 4.9 and 7.0 desert tortoises per square mile, respectively (USFWS, 2016b). Data to determine population trends are lacking for the NTTR, but over the years there has been an increase in detection of desert tortoise. Surveys in 1992 found evidence of desert tortoise in 110 of 431 (26 percent) transects, whereas the surveys from 2010 through 2015 found 178 of 405 transects (44 percent) that showed positive sign (presence of a live tortoise, burrow, scat or carcass) of desert tortoise. The desert tortoise population on the South Range is currently comparable in density to populations in the Eastern Mojave Recovery Unit.

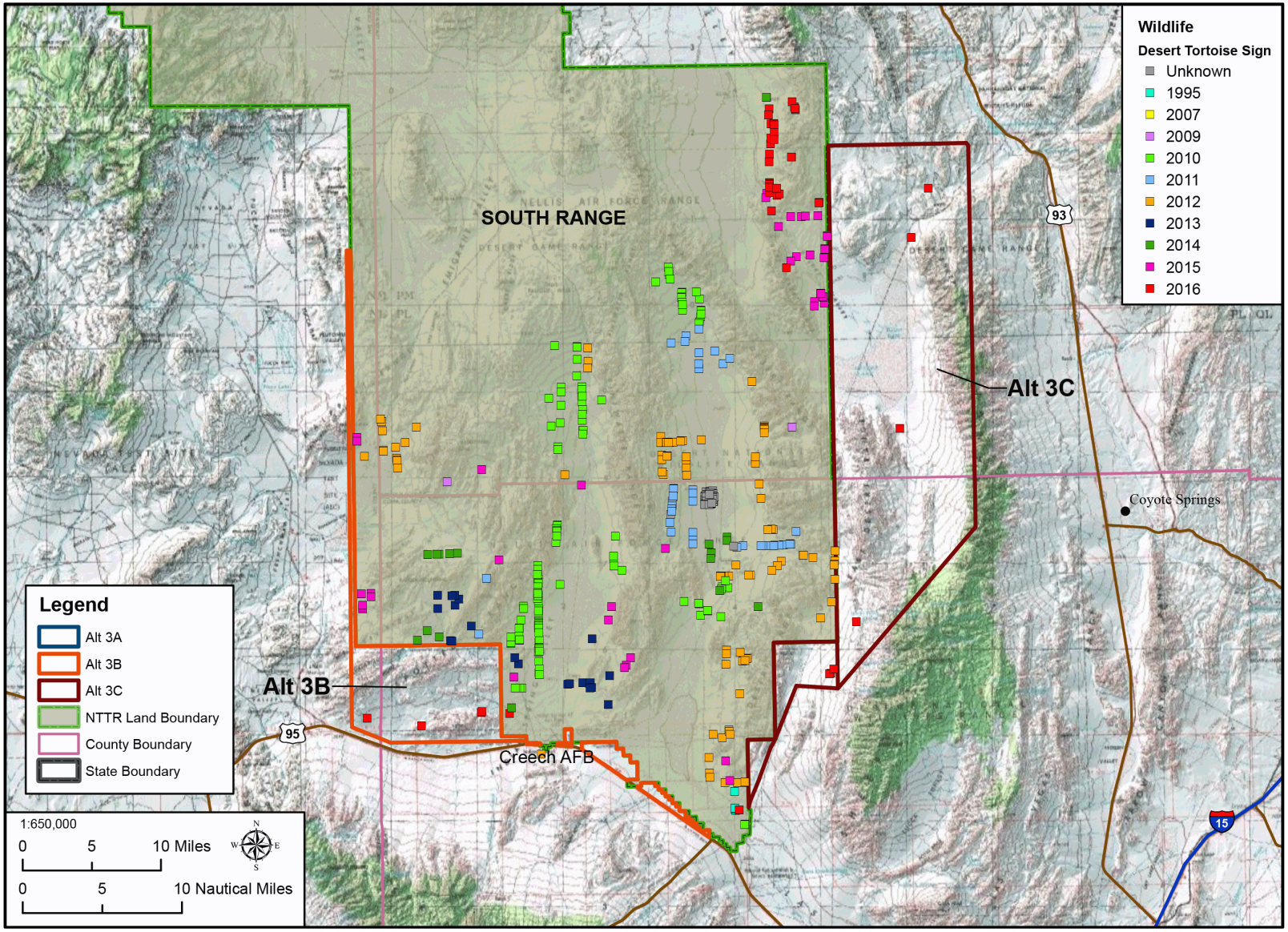

Figure 3-30. Location of Desert Tortoise on the NTTR

No formal desert tortoise surveys have been conducted on the expansion alternatives. Details on desert tortoise habitat based on vegetation, soils, and other factors can be found in the Biological Assessment (see Appendix B, Section B.10.2, Endangered Species Act Section 7 Consultation).

The Air Force has initiated formal consultation with the USFWS (Ecological Services Branch) as required by Section 7 of the ESA; P.L. 93-205; 18 USC Section 1536, as amended; and 50 CFR 402.14(c). A Biological Opinion is included in the proposal package transmitted to Congress and presented Appendix B, Section B.10.2.

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

Special Status Plants

The Alternatives 3A and 3A-1 areas are along the southwest boundary of the North Range. None of the species with a heritage rank of S1 have been observed within the Alternative 3A/3A-1 withdrawal areas, although other sensitive plant species of special interest to cooperating agencies may be present, such as the hermit cactus, which is protected by the State of Nevada, has been reported in this area (U.S. Air Force, 2016c). Additionally, Joshua tree wooded shrubland is abundant and covers 41 percent of the area.

Special Status Wildlife

There is potential suitable habitat for special status wildlife, including birds (e.g., Brewer's sparrow, Bendire's thrasher [*Toxostoma bendirei*], and loggerhead shrike), reptiles (e.g., banded Gila monster [*Heloderma suspectum cinctum*]), and bats (e.g., fringed myotis [*Myotis thysanodes*], Mexican free-tailed bat [*Tadarida brasiliensis*], pallid bat [*Antrozous pallidus*], Townsend's big-eared bat [*Corynorhinus townsendii*]) within the Alternative 3A/3A-1 areas (U.S. Air Force, 2017i). The Amargosa toad occurs only in Oasis Valley, Nevada, specifically along a 10-mile stretch of the Amargosa River and upland springs. The Town of Beatty occurs at the southern end of the toad's range. In 2000, a Conservation Agreement and Strategy was completed for the toad and other species that co-occur with the toad in the Oasis Valley. That document was prepared to ensure the persistence of the toad and other species in the area and to provide management guidance to prevent the need to protect the Amargosa toad under the ESA (NDOW, 2000). Figure 3-31 illustrates the overlap of Alternative 3 with Amargosa toad habitat.

Additionally, Desert bighorn sheep, golden eagles, and MBTA-protected species also have the potential to occur within the Alternative 3A/3A-1 areas.

Desert Tortoise

Desert tortoises are not known to occur within the Alternative 3A/3A-1 areas; however, based on recent modeling efforts there is potential suitable habitat present (see Appendix H, Biological Resources).

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

Special Status Plants

The Alternative 3B area is located immediately south of the South Range. None of the species with a heritage range of S1 have been observed within the Range 64C/D and 65D withdrawal areas, although other sensitive plant species of special interest to cooperating agencies may be present, such as the armored hedgehog cactus and Clokey pincushion, which are protected by the State of Nevada, which have been reported in this area (U.S. Air Force, 2016c). Joshua tree wooded shrubland is abundant and covers 10 percent of Alternative 3B and 53 percent of Alternative 3C area.

Special Status Wildlife

There is potential suitable habitat for special status wildlife, including, birds (e.g., Brewer's sparrow, Bendire's thrasher, and loggerhead shrike), bats (e.g., Mexican free-tailed bat, pallid bat, Townsend's big-eared bat, spotted bat [*Euderma maculatum*]), reptiles (e.g., banded Gila monster), amphibians (e.g., northern leopard frog (*Lithobates pipiens*]), and small mammals (e.g., desert valley kangaroo mouse [*Microdipodops megacephalus albiventer*], desert pocket mouse [*Chaetodipus penicillatus*], and pale kangaroo mouse [*Microdipodops pallidus*]) within Range 64C/D and 65D (U.S. Air Force, 2017i). Desert bighorn sheep, golden eagles, and MBTA-protected species are also known to occur in Range 64C/D and 65D.

Desert Tortoise

In 2015, desert tortoise habitat was evaluated and signs of desert tortoise and suitable habitat occurs within Ranges 64C/D and 65D (U.S. Air Force, 2017l). See Appendix H (Biological Resources) for desert tortoise suitable habitat within the Alternative 3B 64C/D and 65D areas.

Alternative 3C – Alamo Withdrawal

Special Status Plants

The Alternative 3C area is immediately east of the South Range in the DNWR. None of the species with a heritage rank of S1 have been observed within the Alamos withdrawal area, although other sensitive plant species of special interest to cooperating agencies may be present. Armored hedgehog cactus, Clokey pincushion, and hermit cactus, all of which are protected by the State of Nevada, have been reported in this area. Numerous occurrences of armored hedgehog cactus are present throughout the Alamos withdrawal area, and several observations of Clokey pincushion have been made in the southern portion of this area. Hermit cactus is also present, but very few observations have been made for this species (U.S. Air Force, 2016c).

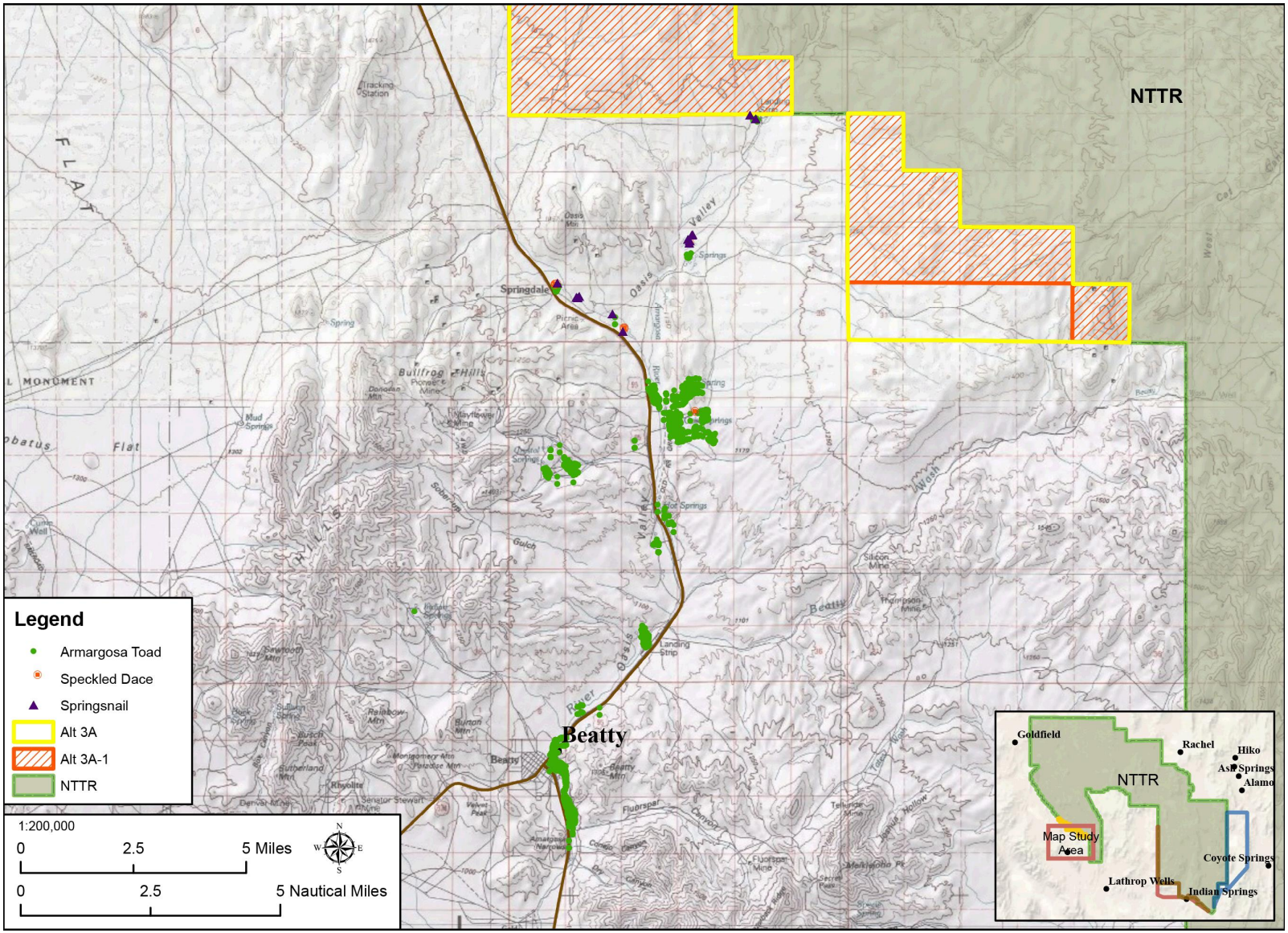

Figure 3-31. Amargosa Toad Habitat

Special Status Wildlife

There is potential suitable habitat for special status wildlife, including, birds (e.g., Brewer's sparrow, Bendire's thrasher, northern goshawk [*Accipiter gentilis*], and loggerhead shrike), bats (e.g., Mexican free-tailed bat, pallid bat, Townsend's big-eared bat, and spotted bat), reptiles (e.g., banded Gila monster), amphibians (e.g., northern leopard frog), and small mammals (e.g., dark kangaroo mouse, desert pocket mouse, and pale kangaroo mouse) within the Alamos withdrawal area (U.S. Air Force, 2017i). Golden eagle nests, desert bighorn sheep, and MBTA-protected species are also known to occur in the Alamos withdrawal area. The Sheep Range, located on the east side of the proposed Alamo withdrawal areas, was designated as an Important Bird Area (IBA) by the National Audubon Society in 2004. The Sheep Range IBA provides important breeding habitat for flammulated owl, gray flycatcher, black-throated gray warbler, and Grace's warbler. It also represents the northern limit of the Mexican whip-poor-will (Nevada Audubon Society, 2008).

Desert Tortoise

USFWS staff have twice observed desert tortoise in the Alamos within the past year (USFWS, 2018). See Appendix H (Biological Resources) for potential desert tortoise suitable habitat within Alternative 3C.

3.8.1.7 Current Natural Resources Management Practices

Many of the activities involved in meeting the goals and objectives of the military mission have impacts on natural resources. However, maintaining ecosystem integrity through good stewardship and protecting existing biodiversity ensures lasting use of the installation and minimizes management costs and efforts (U.S. Air Force, 2010). The authority to establish natural resources management programs at DoD installations is provided by 16 USC 670 or *Sikes Act* (Conservation Programs on Military Installations). Additional governing laws include the ESA, CWA, the MBTA, and the MLWA (1999) (P.L. 106-65). AFI 32-7064, *Integrated Natural Resources Management*, as implemented by Air Force Policy Directive 32-70, *Environmental Quality*, and DoD Instruction 4715.03, *Natural Resources Conservation Program*, authorizes planning and implementation of current and future management actions necessary to meet resource management goals to maintain ecosystem integrity and dynamics on the NTTR without compromising the military mission.

The Air Force typically implements the following biological resource management guidelines prior to a Proposed Action (U.S. Air Force, 2010):

- Identifies specific project or training areas and access corridors prior to ground operations to allow for any natural resource surveys and protection measures that may be necessary (i.e., desert tortoise surveys).
- Through various existing program offices and current practices, NTTR planners, with user group support:

  - Develops guidance on environmental restrictions and compliance requirements, to include mitigations and environmental constraints, and associated consultations, as well as the INRMP.
  - Provides both a visual and written presentation of restrictions to unit commanders and training personnel (through NTTR Range Safety and Operations Procedures annual briefings, additional site-specific environmental briefings, and/or the Center Scheduling Enterprise).
  - Documents and resolves any issues related to environmental compliance with the cooperating agencies upon notice of any compliance issues.
- The Air Force typically works with the USFWS, BLM, and NDOW to develop a mitigation plan as required by NEPA identifying proposed resource-specific mitigations to be implemented, responsible parties for mitigation implementation and compliance evaluation, and monitoring mechanisms for evaluation of mitigation effectiveness.

The natural resources management practices described above are ongoing as part of the NTTR natural resources management program and will continue to be periodically reviewed and revised, as well as implemented, to ensure management of the NTTR meets the goals and objectives of the military mission, which includes maintaining ecosystem integrity through good stewardship and protecting existing biodiversity during any military planning or activities.

3.8.2 Environmental Consequences

The Air Force recognizes that it is difficult to determine significance at the programmatic level. Some portions of the South Range that overlap with the DNWR are not currently used to support military activities and therefore are currently minimally affected by military activities. As a result, when considering the context of allowing ready access within the South Range, utilization of proposed expansion areas to support military activities, the programmatic analysis, and public, tribal, and agency comments, the Air Force recognizes the potential for significant impacts based on potential future activities as yet undetermined. In consideration of any potential for significant impacts to biological resources, the Air Force has committed to mitigations to minimize the potential for significant impacts evaluated at a programmatic level (see Section 1.1, Introduction, and Section 2.9, Mitigation) and determined these mitigations would reduce impacts programmatically to a less than significant level. Should any of the alternatives be adopted, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made.

3.8.2.1 Analysis Methodology

The analysis of potential impacts to biological resources for the Proposed Action and alternatives evaluated several factors, including direct or indirect impact, permanence of impact (permanent loss versus temporary short term/temporary long term), sensitivity of the resource, legal protection of the resource, and local/regional management. The sensitive biological resources within the action area (the sphere of influence subject to effects caused by the Proposed Action and alternatives) were evaluated, on a programmatic level, to determine their potential to be affected by the project components for each of the proposed alternatives. Potential temporary and permanent impacts on species federally listed as threatened or endangered require consultation with the USFWS Ecological Services under Section 7 of the ESA prior to project implementation. Ongoing management of biological resources on the NTTR and conservation and minimization measures should reduce impacts to federally listed species and special status species or habitat known or that have the potential to occur.

The types of impacts to biological resources are summarized below:

- Beneficial – The Proposed Action would result in some benefit or overall improvement to or increased protection of native vegetation, wildlife, aquatic or wetland habitats, and special status species.
- Adverse – Adverse impacts may include the removal or degradation of the native vegetation, wildlife, aquatic or wetland habitats, and special status species. The degree or level of impact is directly related to the context, intensity, and duration of the impact and can either be significant or insignificant.
    - Significant Unavoidable – A significant impact typically endures over the medium term to long term, with a regional context and a high intensity, but can also potentially occur over the short term under any context given a high intensity. Significant adverse impacts are typically not recoverable over the short term and require long-term recovery processes with extensive mitigation or revision of a proposed action to avoid or minimize impacts. An example of a significant adverse impact would be destruction of large percentages of desert tortoise habitat. Potential significant effects that cannot be reduced to acceptable levels through mitigation or management measures would be considered an unavoidable adverse effect.
    - Significant Avoidable/Mitigatable – Impacts are similar as described above; however, these impacts can either be avoided or minimized through implementation of mitigations and/or management actions.
    - Insignificant – An insignificant impact is typically short to medium term under any context or intensity. Beneficial impacts that are not significant in nature may include restoration of small areas of desert tortoise habitat. Adverse but not significant impacts are typically

recoverable over the short-to-medium term with mitigations required to minimize level or potential for impact.

- Neutral or no effect – These are impacts that are typically of a low intensity such that they are imperceptible, regardless of context or duration. Such impacts, whether beneficial or otherwise, are recoverable over the short term without mitigation and result in no overall perceptible change to the resource.

3.8.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

3.8.2.2.1 Vegetation

Activities causing potential impacts to vegetation include ground disturbance associated with air-to-ground attack training, construction and maintenance of facilities and targets, placement of threat emitters, ground training (including access by vehicles and personnel), use and maintenance of roads and utility lines, and soil contamination and cleanup. Wildland fires can result from certain military activities, including exploding ordnance, aircraft crashes, and flares, impacting natural resources. Ground disturbance, including fires, may reduce or eliminate vegetation. The mission currently impacts about 5 percent of the total land area of the NTTR, and activities associated with the current land withdrawal are concentrated on playas, where vegetation cover and biological resource impacts should be low (U.S. Air Force, 2010).

Under Alternative 1, the current types of activities and locations would continue. Ground-disturbing activities with potential for direct impacts to vegetation, such as construction and maintenance of facilities and targets, placement of threat emitters, ground training (including access by vehicles and personnel), use and maintenance of roads and utility lines, would likely be restricted to disturbed areas and existing roads, as much as feasible. For any ground-disturbance activities, including construction or operation of facilities, targets, roads, etc., environmental impacts are assessed prior to initiation of any work according to NEPA regulations, Air Force guidance, and other relevant authority. In addition, cooperative environmental NTTR development planning is conducted to minimize impacts on natural resources. With regard to fire, the U.S. Air Force has a responsibility under P.L. 106-65 to take the necessary actions to suppress wildland fires caused by military operations. The vegetation types most susceptible to fires are pinyon-juniper, grass, and shrub lands. The Air Force has implemented procedures to prevent wildfires and is working to minimize human-caused fires at the NTTR, including updating and revising the comprehensive Wildland Fire Management Plan in consultation and coordination with the BLM (U.S. Air Force, 2010).

The direct impacts to vegetation from extending the withdrawal of the NTTR would be adverse but insignificant, because existing disturbed areas, which are widely dispersed across the NTTR, will be utilized to the maximum extent practicable. The land that is directly affected by ground disturbance activities associated with Alternative 1 represents a small fraction (5 percent) of the existing NTTR, and any new disturbances would be subject to review and mitigation under NEPA when warranted (U.S. Air Force,

2010). Any future impacts associated with military activities on vegetation, wildlife, aquatic and wetland habitats, and special status species within the existing NTTR withdrawn areas are expected to be similar to the impacts resulting from past activities on this land. Native desert scrub and woodland vegetation would remain dominant outside of training areas. There is minimum risk of large-scale changes in vegetation beyond the areas of immediate, ongoing impact (U.S. Air Force, 1999). Therefore, Alternative 1, extending the withdrawal of the NTTR, would have an adverse insignificant impact to vegetation on the NTTR.

Ground disturbance and off-road vehicle use may indirectly impact vegetation from fugitive dust; however, dust and sand movement across these areas is not uncommon given the nature of the environment, and dust control methods during construction activities would serve to minimize this potential. (See Section 3.3, Air Quality, for dust control methods). These activities, as well as fires and munitions deployment may indirectly contribute to the spread of weeds such as red brome or cheatgrass. The increased cover of these grasses and other weeds in desert scrub and woodland areas can lead to increased fire frequency, which can, over time, result in a "type conversion" from scrub and woodland to grassland vegetation. Invasive species, such as salt cedar, can also have a significant effect on aquatic and wetland habitats, especially since such habitats are small, widely spaced, and provide important habitat functions to both plants and wildlife, including special status species. The rapid growth and expansion of invasive plant species in Nevada can cause problems for military air operations and ground training, with particular concern for increased fire hazard from invasive plants that can ignite easily and burn rapidly (U.S. Air Force, 2014f).

To control or minimize populations of invasive species on the NTTR, the Air Force monitors, maps, and implements a pest management plan for the control of invasive species, as part of the NTTR natural resources management program. While the entire NTTR has not been surveyed, ongoing surveys and mapping of invasive plant species is identified as a management goal of the NTTR (U.S. Air Force, 2010): Invasive species management is implemented by the following:

- Incorporate mapping of populations of invasive plant species during ongoing vegetation surveys using GPS and enter data into the natural resource database for use in planning
- Manage encroachment of invasive plant species on the NTTR
- Implement invasive plant species control methods, monitor effectiveness, and re-treat as appropriate
- Survey invasive species distribution and identify treatment methods and priority areas

To minimize the spread of invasive plant species throughout the NTTR and proposed expansion areas, the Air Force will consider additional mitigation and management actions as outlined in Sections 2.9.2 and 3.8.3 (Proposed Resource-Specific Mitigations and Management Actions). These actions will be applicable to all action alternatives.

Air Force activities within the overlying airspace outside of the NTTR boundaries would have no effect on vegetation in this region, since they are confined to altitudes and locations where they are unlikely to cause disturbance.

To provide realism in training, threat simulation radio frequency (RF) electronic emitters (radars) are located throughout the electronic combat ranges. The majority of this equipment is radar that simulates a threatening aircraft. RF energy is absorbed by an animal or human body in the form of heat. At relatively low RF energy intensities, the heat induced can usually be accommodated by a body. Thus, any effects produced would generally be reversible. At high intensities, the thermoregulatory capabilities of any given species may be exceeded, which could lead to thermal distress or even irreversible thermal damage.

The radar units are normally placed on elevated ground and then emit skyward. They are not pointed at the ground or placed along roadways. Because of the nature of radar systems and the fact that they are elevated and pointed up to the sky, the hazard to people on the ground is nonexistent (U.S. Air Force, 2009). RF emitters (radar jamming) used on aircraft pose no hazard to the public due to the aircraft's altitude, the energy levels used by the equipment, and the speed of the aircraft. Protection levels and requirements associated with the use of emitters are outlined in AFI 48-109, *Electromagnetic Field Radiation (EMFR) Occupational and Environmental Health Program*.

Based on the operational parameters of electromagnetic radiation emitters, it is unlikely that vegetation would be affected by electromagnetic radiation activities. The transmission of RF waves occurs in a specific path/direction from one microwave telemetry system to another. In order for this to occur properly, and without interruption, the path must be completely free of obstructions. For this reason, any transmission of microwaves must occur either above the tree line or along a cleared path and, therefore, vegetation would not be exposed to electromagnetic radiation (U.S. Air Force, 2002). For radar testing events, a clear line-of-sight must be present in order for the system to work properly, without interruption. The line-of-sight must also be clear of obstructions, including trees or other vegetation. Additionally, laser testing requires the projection of a system-to-target beam, which travels along a selected path, or line-of-sight. Obstructions such as trees would interrupt the beam's trajectory, thereby affecting testing (U.S. Air Force, 2002). Due to these factors, exposure to vegetation from sources of electromagnetic radiation is highly unlikely and impacts to vegetation (i.e., rare plants, trees) are not further addressed. This would be the case for all alternatives.

An indirect environmental consequence of the existing NTTR withdrawal is the exclusion of mining, agriculture and grazing, and recreational use from the withdrawn lands. These activities can be a threat to desert vegetation, and the continued exclusion of these activities may provide a beneficial impact to biological resources.

3.8.2.2.2 Wildlife

Extending the existing NTTR withdrawal could result in direct, permanent (i.e., removal of habitat, direct mortality), and temporary (i.e., generation of dust, increased noise, and

altered behavior) impacts to wildlife within the withdrawal footprint. Direct effects of ground-disturbance activities (i.e., continuing use of range targets, ground facilities, training areas, and roads) within suitable wildlife habitat could alter existing wildlife habitat (e.g., cause disturbance to vegetation, destruction of burrows). Permanent and temporary impacts to wildlife could occur in activity-specific vicinities due to the presence of humans, increased noise levels, episodic noise, visual disturbances, and chaff and flare releases on ranges in accordance with their approved uses. Although direct mortality to individual animals of common, less mobile wildlife species, including reptiles and small mammals, may be adversely affected in the immediate vicinity of these activities, more than likely these activities would induce a startle response by wildlife species such as horses, burros, and pronghorn antelope. Little is known of the long-term effects of noise on the physiology of wild ungulates; however, behavioral changes resulting to sudden or loud noise, such as sustained running or avoidance behavior, could increase their expenditure of energy during critical periods and decrease the amount of time spent on life functions, such as seeking food or mates (Manci et al., 1988). Further discussion on wildlife and noise is provided below. Ground-disturbance activities could also temporarily mask auditory signals from other animals and put nests in the immediate vicinity at risk for abandonment and depredation (Manci et al., 1988). Wildlife species (e.g., mammals, birds, reptiles) on the NTTR would likely take cover or temporarily suspend activity when ground-disturbance activities are ongoing. Other wildlife species might avoid the area of activity entirely but may possibly return during more inactive conditions.

Other sources of noise at the NTTR could include subsonic noise, sonic booms, and noise from high explosives and ground activity, which could cause wildlife to become stressed, cause short-term physiological changes (e.g., increased heart rate), cause or lead to deafness or abnormal behavior such as avoidance behaviors that could diminish feeding opportunities and potentially lead to mortality (Manci et al., 1988). The use of explosive ordnance can cause localized dust and an increase in contaminant concentrations in the soil. If dust occurs due to explosives, contaminants will also be wind driven and could affect wildlife and vegetation. Areas where these contaminants could occur are assessed prior to any initiation of work and any actions follow the regulatory requirements (e.g., NEPA, CWA, ESA, etc.) and current natural resources management guidelines, requiring the same planning prior to mission and project activities to avoid and minimize impacts to biological resources (U.S. Air Force, 2010); hence, potential toxicity to wildlife due to contamination is not considered a significant risk on the NTTR at present.

Indirect impacts to existing wildlife habitats may also occur through the introduction of invasive nonnative plant species where ground surfaces are disturbed, providing opportunities for invasive nonnative plant species to establish and move into adjacent, undisturbed native habitats. Disturbance such as munitions deployment can destroy vegetation and lead to type conversion. The effects of type conversion on wildlife are complex and can result in habitat fragmentation, edge effects, and loss of prey population. As described above under Section 3.8.2.2.1 (Vegetation), the Air Force controls or minimizes invasive nonnative plant species on the NTTR, as part of the

NTTR natural resources management program. Although these measures may not eliminate the potential for adverse, indirect impacts associated with the spread of invasive nonnative plant species, continued monitoring and control in areas where active ground disturbance is occurring (e.g., along roads and after fires) would ensure impacts are insignificant.

Construction activities associated with extending the NTTR withdrawal could result in direct impacts, permanent impacts (i.e., removal of habitat caused by construction), and temporary impacts (i.e., generation of dust and noise during construction) to wildlife within the project footprint. Proposed construction could cause direct mortality to individuals within a species, behavior changes, or disturbance to existing wildlife habitat as described above. Direct impacts from construction activities would be greatest during active periods for specific wildlife species, such as during feeding or breeding periods. Effects related to dust and noise would be temporary and diminish with distance from the construction area. The most likely wildlife response to construction activities would be avoidance (flushing) of the area during the activity. Implementing the construction management guidelines currently practiced at NTTR, such as planning to avoid or minimize removal of native vegetation, avoid nesting or mating season, preserve migratory routes, etc. would ensure impacts to wildlife are insignificant (U.S. Air Force, 2010).

Aircraft operations could cause temporary impacts to wildlife (i.e., generation of dust and noise during aviation operations). Noise from aircraft activities could cause stress, potentially induce a startle response, and cause possible injury. Wildlife in the vicinity of a noise source would likely exhibit increased awareness or response, which would vary depending on animal group and other factors. Songbirds and raptors vary in their responses to military jet overflight, but documented responses have been limited to short-term behavioral responses, and no effects that would be measurable at a population level have been documented (Manci et al., 1988; Goudie & Jones, 2004; Bowles et al., 1999; Bowles, 1995). Helicopters generally create a greater response at a given altitude than do fixed-wing aircraft, including military jets.

Large mammals (e.g., wild horses, wild burros, pronghorn antelope, desert bighorn sheep, coyote, deer) that use the NTTR may avoid accessing resources during aircraft activity but may possibly return during more inactive conditions. There have been no direct studies for the NTTR that have examined the effects of military noise and responses to ongoing activities by wildlife. Other studies have examined wildlife responses to aircraft activity. For example, horses have been observed to react to overflights of jet aircraft. In 1995, Bowles cites Kruger and Erath as observing horses exhibiting intensive flight reactions, random movements, and biting/kicking behavior. However, no injuries or decrease in reproductive success occurred, and there was evidence that the mares adapted somewhat to the flyovers over the course of a month. Although horses were observed noticing the overflights, it did not appear to affect either survivability or reproductive success. There was also some indication that habituation to these types of disturbances was occurring. The reactions (physiological and behavioral) of pronghorn antelope to helicopter activity were assessed at different altitudes and

approaches (Manci et al., 1988). At an altitude of 400 feet and a slant range of 3,000 feet, no reactions to the aircraft were observed (Manci et al., 1988). As the aircraft moved toward the herd at a descent rate of 200 feet per minute and a forward air speed of 40 to 50 knots, mild reactions (muscle tensing and interruption of grazing) were observed, whereas strong reactions (running) began when the craft was at 150-foot altitude and a slant range of 500 feet (Manci et al., 1988).

Other studies have documented the reaction of ungulates such as bighorn sheep, pronghorns, barren-ground caribou (*Rangifer arcticus*), and buffalo (*Bison bison*), exposed to military aircraft overflights. Responses ranged from no reaction and habituation to panic reaction from overflights below 500 feet AGL (Weisenberger, 1996; Manci et al., 1988). For example, bighorn sheep (*Ovis canadensis nelson*) were exposed to jet (F-16 aircraft) overflights at the DNWR in Nevada, to determine if jet noise was having an impact. Results showed that the noise levels created by the F-16 did not alter behavior or use of habitat, or increase heart rates to the detriment of the sheep (Krausman, 1998).

Overall, behavioral responses for wildlife species, including various ungulate species, are generally minor and include individuals assuming an alert posture, rising, walking, or running short distances. Both the visual aspect and peak noise level of overflights diminish rapidly with increasing altitude of overflight. Similarly, wildlife responses diminish with increasing altitude of overflight (or increasing slant distance, which is a combination of aircraft height above ground level and the horizontal distance from the animal for an aircraft not directly overhead).

The aircraft noise could temporarily mask auditory signals from other animals and/or otherwise reduce the protection and stability of young animals (Manci et al., 1988). Small mammals, reptiles, bats, and birds would likely be present in the immediate vicinity of the activity and, thus, could be affected by noise associated with continued aircraft operations. Noise levels up to 80 dBA generate startle responses in birds and animals, and noise levels in excess of 90 dBA may cause negative impacts. Dooling and Popper (2007) note that physical damage to birds' ears occur with single blasts of 140 dBA and multiple blasts of 125 dBA (both assumed to be the maximum level with A-weighted frequency response and fast time constant, or LAFmax; sound level descriptor is not provided in the study). The study also notes that birds' ears can suffer physical damage at continuous exposure (greater than 72 hours) to noise above 110 dBA. Under laboratory conditions, reptiles experienced at least temporary threshold shifts or hearing loss following exposure to 95 dB for several minutes (Manci et al., 1988). The number of individual animals that could be lost due to ongoing activities would be based on the number of general wildlife species present during the activity.

Direct impacts from aircraft operations would be greatest when the aircraft is in close proximity to occupied wildlife habitats. During landing and takeoff activities, the area directly under the aircraft would experience substantially greater impacts due to focused downwash, engine exhaust heat, and landing gear. Effects related to dust generation and wind velocities from aircraft operations (i.e., rotor wash) would diminish substantially beyond 100 feet (30 meters) from the aircraft (Boeing, Bell, 2008). The

most likely wildlife response to aircraft operations activities would be avoidance (flushing) of the area during the activity.

Birds and bats can present hazards to low-flying jet aircraft, especially around man-made structures, seeps, springs, caves, and crevices, in the early evening around sunset, when bats are typically active. The potential for bird/wildlife-aircraft strikes would increase with the proposed lower altitudes to be flown, since most birds tend to fly at altitudes lower than 500 feet. However, long-distance migrants start out at about 5,000 feet and progressively climb to around 20,000 feet. The greatest number of Nellis AFB–reported bird strikes has occurred between April and May. Proactive management of BASH issues would continue on the NTTR, and the BASH Plan would be followed (U.S. Air Force, 2010). For example to avoid BASH issues, the location or scheduling of activities would be modified to avoid migratory route paths, seasonal populations, and nesting sites of birds and bats. When birds and bats are present, the takeoff or landing should be delayed or moved to another runway that is free of bird or bat activity. Flight operations may need to be modified in the presence of known or anticipated bird or bat activity.

Implementation of ongoing management activities on NTTR (e.g., management guidelines for bats, birds, reptiles and amphibians, small mammals, wild horses, and large mammals) would reduce effects on wildlife habitat. Various species of wildlife benefit from 99 CES/CEIE's basic strategy to limit non-mission essential activities and avoid unnecessary development (U.S. Air Force, 2010). The overall quality of wildlife habitat on the NTTR is high (i.e., the ability of the environment to provide conditions appropriate for individual and population persistence) (Hall et al., 1997), and during activities would provide habitat for mobile species to relocate to another area as needed. Therefore, no significant impacts on wildlife would occur.

Aircraft overflights and associated noise within the overlying airspace outside of the NTTR boundaries could be hazardous for birds and bats. Location or scheduling of activities would be modified to avoid BASH issues. (See Section 3.13.1.4, Flight Risks, for more discussion about BASH issues.)

Identified mitigations for wildlife management are outlined in both Sections 2.9.2 and 3.8.3 (Proposed Resource-Specific Mitigations and Management Actions). These actions will be applicable to all action alternatives.

3.8.2.2.3 Aquatic and Wetland Habitats

Mission activities typically do not impact surface waters associated with seeps and springs. However, many activities associated with the mission may impact ephemeral streams, which flow throughout the NTTR. Most of the streams on the NTTR flow into closed basins and are not connected to navigable waters of the United States, making them nonjurisdictional waters of the United States. Some of the streams on the west and south side of the NTTR flow into navigable waters (Amargosa River and Las Vegas Wash) and may be jurisdictional. Actions that result in fill of streams or wetlands, alteration of surface water flows, or degradation of wetland or riparian habitats would be considered a significant impact to these resources. Activities potentially impacting

wetlands and ephemeral streams, including some areas that may fall under the jurisdiction of USACE, include road construction, target construction, construction of buildings or other facilities, vehicle or pedestrian access, and erosion or weed invasion. As part of the NTTR natural resources management program, procedures have been developed to monitor and maintain all wetlands, seeps, springs, and water sources important for wildlife on the NTTR. These procedures include annual assessment of ecosystem health, delineation and mapping of ephemeral streams, ongoing assessment of USACE jurisdiction for wetlands, and annual monitoring and assessment of surface water quality. Mission activities are reviewed to ensure avoidance of direct and indirect impacts to all aquatic and wetland habitats on the NTTR whether they are jurisdictional features or not. For any activity that may directly or indirectly affect a potential jurisdictional wetland or waters of the United States, consultation with USACE is required as part of the planning process.

Air Force activities within the overlying airspace outside of the NTTR boundaries would have no effect on aquatic and wetland resources in this region. However, other biological resources such as birds or wildlife that may use surface waters or riparian areas could be affected by activities within the overlying airspace and are discussed under the wildlife section.

3.8.2.2.4 Special Status Species

Plants

No federal or state-listed plant species have been reported in the NTTR. However, nearly 50 plant species that are considered sensitive by the state of Nevada or other agencies are found within the existing land withdrawal areas of the NTTR. Actions that result in the removal or damage to individuals or a population of a rare plant species, or degradation of their habitat, may be considered significant depending on the number of individuals or percentage of the population or habitat affected and the ability of the species to recover following the disturbance. As stated above, the military mission impacts about 5 percent of the total land area of the NTTR, which means that most of the vegetation on the NTTR remains non-impacted and many rare plant populations are being conserved. Mission activities in mountainous areas on the NTTR may result in potential impacts to rare plant communities in those areas. However, continued monitoring of rare plant species and populations (U.S. Air Force, 2016c) and careful planning prior to mission activities, as part of current NTTR natural resource management program practices, would avoid and minimize impacts to vegetation and rare plant populations (U.S. Air Force, 2010). Impacts to special status plant species associated with Alternative 1, extending the withdrawal of the NTTR, may be adverse (if individuals of a rare plant species are present within the disturbance area), but would likely be isolated, represent a small portion of the locations/populations on the NTTR, mitigable through proper planning, monitoring and maintenance.

Air Force activities within the overlying airspace outside of the NTTR boundaries would have no effect on special status plant species in this region since they are confined to altitudes and locations where they are unlikely to cause disturbance.

The exclusion of mining, agriculture, and recreational use from the existing NTTR withdrawn lands may provide a beneficial impact to rare and endangered plants as these activities are threats to rare plant populations in Nevada.

Wildlife

Suitable habitat for special status wildlife, including MBTA-protected species, is present within the NTTR. Direct, permanent (i.e., removal of habitat, direct mortality) and temporary (i.e., generation of dust, increased noise and altered behavior) impacts from ground disturbance, construction and aviation activities would be similar as described above under general wildlife species.

Nests of MBTA-protected species, including golden eagles in the immediate vicinity of the NTTR would be susceptible to abandonment and depredation. Golden eagles have shown little effects due to aircraft flights. In their guidelines for aerial surveys, the USFWS (Pagel, Whittington, & Allen, 2010) summarized past studies by stating that most golden eagles respond to survey aircraft (fixed wing and helicopters) by remaining on their nests and continuing to incubate or roost. Surveys took place as close as 33 to 66 feet (10 to 20 meters) from cliffs (including hovering less than 30 seconds if necessary to count eggs) and no farther than 656 feet (200 meters) from cliffs depending on safety (Pagel, Whittington, & Allen, 2010).

Several studies on nesting raptors have indicated that birds become habituated to aircraft overflights and that long-term reproductive success is not affected by exposure to overflight (Grubb & King, 1991; Ellis, Ellis, & Mindell, 1991). For example, bald eagles (*Haliaeetus leucocephalus*) were more disturbed by human pedestrian activity than overflights by aircraft (Grubb & King, 1991). Nesting peregrine falcons (*Falco peregrinus*) in Alaska showed small differences in nest attendance and time-activity budgets between undisturbed nests and those that were overflown by military aircraft within 500 feet (152 meters); however, the differences were not correlated with specific overflights nor did they affect reproductive success (Palmer, Normeyer, & Roby, 2003). Furthermore, Palmer et al. (2003) did not observe a difference in nest-provisioning rates between disturbed and undisturbed nests.

Raptors and other birds protected under the MBTA and *Bald and Golden Eagle Protection Act*, could be affected by aircraft on approach, takeoff or during flight. As noted above, several studies on nesting raptors have indicated that birds become habituated to aircraft overflights and that long-term reproductive success is not affected by exposure to overflight; nonetheless, overflight activity has the potential to at least temporarily result in a behavioral change in nesting birds, and as a result, the NTTR may require breeding season limitations or seasonal restrictions at some landing areas near known raptor nests or routes of migratory bird species to minimize the potential for adverse impacts. Effects from noise associated with ongoing activities are expected to be minimal.

Migratory bird conservation should be incorporated into agency planning processes whenever possible. A take permit under the USFWS Migratory Bird Program is required for taking of golden eagles and their parts, nests, or eggs (USFWS, 2017b). Any take of

MBTA-protected species or golden eagles is expected to be incidental and would not result in significant impacts at the population level. The USFWS should be notified if unintentional take of migratory birds as a result of Air Force actions is having, or is likely to have, measurable negative impacts on migratory bird populations. Implementation of ongoing management activities on the NTTR (e.g., see management guidelines for threatened and endangered species in Section 2.9.2, Proposed Resource-Specific Mitigations and Management Actions Proposed to Reduce the Potential for Environmental Impacts, and the BASH program as discussed earlier in Section 3.8.2.2.2, Wildlife) would result in significant avoidable/mitigatable effects on sensitive wildlife and their habitat, including birds protected under the MBTA and golden eagles protected under the *Bald and Golden Eagle Protection Act*.

Desert Tortoise

Ground-disturbance activities that occur within suitable desert tortoise habitat could result in direct and indirect impacts to the Mojave desert tortoise. Potential impacts could include habitat degradation caused by vegetation removal, mortality or impacts from conflicts with vehicles, and the associated damage or destruction of burrows that could result in harm, injury, or mortality of eggs, juveniles, or adult tortoises. The likelihood of direct impacts to desert tortoise from ground disturbance (i.e., continuing use of range targets, ground facilities, training areas, troop movement and roads) would decrease with distance from the areas of activity. The Air Force complies with all state and federal regulations to accommodate or remove hazardous materials and depleted uranium from target sites, construction sites, etc. Therefore, the potential for tortoises to be affected by contamination is low. Foot patrols and vehicular traffic on and off existing trails/access roads would have the potential to harass, injure or crush a tortoise, and/or crush a burrow in the direct path. Indirect impacts associated with the establishment and spread of invasive, non-native plant species, could result in the loss or compaction of soil, generate increased particulate matter emissions, and affect desert tortoise habitat (Berry, 1990; USFWS, 2011). Furthermore, the removal of native plants makes finding shelter and food more difficult and reduces cover for individual tortoises, which could become more vulnerable to predation (particularly by predators attracted to human activity such as common ravens or coyotes). An increase in invasive, non-native plant species could modify existing plant communities and provide additional fuel that could pose a risk for wildfires. As described above under vegetation, there are ongoing management guidelines to control or minimize invasive non-native plant species on the NTTR and implementation of mitigation measures for desert tortoise, derived from the *Desert Tortoise Management Plan* would minimize or avoid significant impacts to desert tortoise (99 CES/CEIEA, 2015); see Appendix H (Biological Resources).

Direct impacts to desert tortoise may occur during construction activities within tortoise habitat. Construction impacts may include soil disturbance and/or habitat degradation caused by vegetation removal, mortality or impacts from conflicts with vehicles as described above. Use of heavy equipment during construction and maintenance of infrastructure generally produces noise and vibration that may have temporary, minor

impacts on desert tortoise in the immediate area. Application of water to minimize dust production during construction can result in attraction of desert tortoise to an area. Accumulation of trash in and around construction sites can result in attraction of certain predators, including ravens and coyotes. Pre-construction surveys would minimize adverse effects to desert tortoise during construction activities. Tortoises that are removed to avoid harm in a construction area and/or from existing trails and access roads may be affected directly by physical stress of the handling and relocation (such as loss of bodily fluid), and, if moved beyond its home range, by associated stresses, resulting from unfamiliarity with the area and not knowing the locations of cover sites, burrows, and foraging areas. Aircraft operations that occur in suitable desert tortoise habitat could affect tortoises. When desert tortoises are in burrows, caliche caves, or rock shelters, downwash impacts are expected to be minimal (except when directly under the aircraft). The area directly under the aircraft would experience substantially greater impacts due to focused downwash, engine exhaust heat, and landing gear. Burrows in nearby habitat could be collapsed or damaged by aviation activities.

Desert tortoises may be also impacted by dust and noise generated from aircraft operations. Increased noise, dust, and aircraft activity would be localized and temporary, but could occur. Dust generation due to aircraft operations at the designated landing areas would have a minor adverse impact on plant productivity, but over time could result in degradation of desert tortoise habitat, with potential damage to food plants, disturbance to soils, compaction of soils, which could impede burrowing, and potential replacement of native vegetation by invasive, non-native plants. Noise could elicit temporary behavioral responses by tortoises or could possibly affect hearing thresholds (Bowles et al., 1999). A desert tortoise would be expected to resume normal activities following departure of the aircraft from the immediate area of the tortoise. Implementation of mitigation measures for desert tortoise would minimize or avoid significant impacts to desert tortoise (99 CES/CEIEA, 2015).

Identified mitigations and management actions for special status species are outlined in both Sections 2.9.2 and 3.8.3 (Proposed Resource-Specific Mitigations and Management Actions). These actions will be applicable to all action alternatives.

3.8.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

The NTTR boundary under Alternative 2 would be similar to Alternative 1, but the Air Force would have “ready access” in both the North and South Ranges as a result of a Congressionally directed change in land management (see Section 2.3.2, Alternative 2, for a more detailed description of Alternative 2). Currently, a large portion of the South Range is not available for military activities due to existing land being managed as a National Wildlife Refuge and de facto wilderness. Air Force activities within the DNWR, which overlaps the South Range, are currently limited to areas below 4,000 feet and within the designated target impact areas. Existing roads (mountain roads/passages) and targets used prior to the *Wilderness Act* that are located in areas that were proposed as wilderness are also off limits. In addition, activities in range areas below

4,000 feet require coordination between the Secretary of the Air Force and USFWS through an MOU. Under Alternative 2, a Congressionally directed change in land management would effectively eliminate the need to manage the withdrawn lands as if they were wilderness. Primary jurisdiction of portions or all of the area of the DNWR that overlaps with the NTTR may be reallocated from the USFWS to the U.S. Air Force. The withdrawn lands would be managed using the same natural resources management requirements, guidelines, and biological constraints currently being implemented on the NTTR. Military activities, including any new construction projects, would require proper surveys and planning, including coordination with appropriate agencies, to avoid and minimize impacts to vegetation, wildlife, aquatic and wetland habitats, and special status species. Furthermore, applicable laws and regulations would apply the same as the current Air Force managed lands within the NTTR.

The conduct of military operations in the area of the South Range currently managed as de facto wilderness is not allowed; therefore, there are no defined projects associated with Alternative 2. However, should the requirement to manage portions of the South Range as de facto wilderness be removed, military activities would be allowed in these areas, and potential impacts to biological resources would be similar to but slightly greater than those described under Alternative 1 because the scope/scale and intensity of activities would increase. It is anticipated that aircraft operations, munitions expenditures, and motorized vehicular activity may be up to 30 percent greater as a result of ready access in the South Range than those stated for Alternative 1. Current military activities occupy an estimated 5 percent of the NTTR; conceptually, Alternative 2 would result in an increased use from 5 to less than 7 percent of the NTTR. Biological resources have the potential to be impacted by military activities, including ground disturbance associated with existing target impact area use, construction and maintenance of existing and new facilities and targets, placement of threat emitters, ground training (including access by vehicles and personnel), use and maintenance of roads and utility lines, soil contamination and cleanup of target impact areas, as well as impacts associated with non-native species invasion, accidental spills or fire. However, ready access would not exempt military actions or projects from existing laws, and any action would follow the regulatory requirements (e.g., NEPA, CWA, ESA, etc.) and current natural resources management guidelines, requiring the same planning prior to mission and project activities to avoid and minimize impacts to biological resources (U.S. Air Force, 2010). Impacts associated with Alternative 2 would likely be site-specific, represent a small portion of the area within the NTTR, and avoidable or mitigable through proper planning, monitoring, and maintenance. Adverse impacts associated with Alternative 2 may occur depending on the location of the military action and the sensitivity of the resources present or potentially affected by the action.

Air Force activities within the associated airspace outside of the NTTR boundaries from Alternative 2 would have no effect on vegetation, aquatic and wetland habitats, and rare plants in this region since they are confined to altitudes and locations where they are unlikely to cause disturbance. Potential effects on large mammals (e.g. wild horses, burros, pronghorn antelope, desert bighorn sheep, coyote, deer) include possible startle or behavioral responses to overflights. Animals may react to the sound of jet aircraft or the visual stimulus of the aircraft overhead by avoiding the area or altering their natural

behavior patterns. Associated airspace outside of the NTTR boundaries could be hazardous for birds and bats. Activities would be modified in location or scheduling to avoid BASH issues.

3.8.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

Potential direct or indirect impacts to biological resources are similar in context to those described under Alternative 2, which includes extending the existing NTTR Withdrawal. For the purpose of analyzing the potential impacts associated with the increase in overall range utilization under Alternative 3, a 30 percent increase in test and training activities is projected to provide a reference point for analytical comparisons (similar to Alternative 2). Military activities (such as construction, munitions use, and vehicle or personnel access) would also occur within the proposed expansion lands, as discussed in each of the Alternative 3 descriptions below.

In addition, fencing would be installed along the proposed boundaries that do not abut the current NTTR boundary for each Alternative 3 scenario. To conduct programmatic analysis for the affected resources discussed in this chapter, the following fencing specifications were used. The fencing would consist of four strands of wire. The bottom strand would be smooth while the three upper wires would be barbed. The maximum fence height would 40 inches. Wire spacing from the ground up would be 16 inches, and then spacing between wires would be 6 inches, 6 inches, and 12 inches (i.e., 16 inches, 22 inches, 28 inches, and 40 inches above ground level), which is the standard for BLM antelope fencing. Fencing would not be implemented at high elevations to allow large mammals to traverse through the landscape. The environmental consequences analysis for each applicable affected resource has been conducted using the total area to be fenced that abuts the current NTTR boundary to provide a conservative analysis; however, there may be instances where natural barriers will not allow for fence construction.

As stated above, the Air Force plans to construct fencing, if appropriate, depending on the topography and wildlife present, as outlined in Section 2.3.3 (Alternative 3 – Expand Withdrawal of Public Lands for the NTTR); while the specifications outlined above were used for the programmatic analysis, the Air Force recognizes that one type of fence constructed to allow passage for the most predominant large mammal may impact other species. These impacts could include physical injury or mortality and would apply to all alternatives.

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

Alternatives 3A and 3A-1 are approximately 18,000 acres and 15,000 acres, respectively, lying along the southwest boundary of the North Range of the NTTR. There would be no construction disturbance or munitions use in this area, as it would serve as a safety buffer for live weapons deployment on the interior of Range 77. The additional land would be managed the same as the existing NTTR withdrawn lands, and in accordance with the current natural resources management guidance and biological constraints. Impacts associated with the withdrawal of 18,000 (or 15,000) acres in the EC South Withdrawal area could be adverse (should construction or clearing of lands be proposed at a future date), but are likely to be low intensity and therefore less than significant.

Approximately 25 miles of fencing would be installed along the Alternative 3A or 3A-1 boundary, which would result in impacts to biological resources. Alternative 3A/3A-1 areas would mainly be utilized as buffer areas, and fencing along the boundaries has the potential to impact biological resources by removing native vegetation or special status plant species, fragmenting wildlife habitat, creating barriers for wildlife movement, causing injury to large mammals that run into or get caught in the fence, damming or altering streams, or creating corridors for weed dispersion.

In addition to fence installation, the boundary fence will require periodic monitoring and maintenance, which means a permanent loss of vegetation and potential direct impacts to other biological resources within the fence construction corridor. Indirect impacts on biological resources outside the fence and access corridors may occur if invasive plant species establish in areas disturbed by fence installation or access routes and subsequently spread into adjacent native habitats. Fences that cross ephemeral streams or canyons can also act as dams altering the flow of surface water, which could affect the biological resources in the vicinity of the dam as well as downstream aquatic resources or wetlands that depend on the surface water input. Although it is likely that the direct impacts (e.g., mortality of species, fragmentation of habitat) to biological resources associated with the fence installation and maintenance will represent a fraction of the NTTR withdrawal area, disturbance to a natural corridor has greater potential for far-reaching direct and indirect impacts as it can span many habitat types, leading to fragmentation, with indirect impacts that may be difficult to assess or control. Therefore, the installation, monitoring and maintenance of up to 25 miles of fencing along the Alternative 3A or 3A-1 boundary has the potential to cause adverse impacts depending on the biological resources affected and implementation of suggested mitigation measures described below.

In accordance with Air Force guidance and NEPA regulations, an assessment of environmental impacts associated with the fence installation is required prior to initiation of any work. Current operations include annual boundary/fence surveys conducted with the use of a helicopter and fence repairs, weed control, or other fencing or environmental maintenance requirements, implemented in accordance with current NTTR management guidelines. In addition, the following recommended actions and mitigation measures, adapted from the BLM Handbook H-1741-1: Fencing (BLM, 1989) may reduce impacts to biological resources from fence installation:

1. Minimize direct removal of vegetation and ground disturbance. Avoid bulldozer clearing or other major soil disturbing methods. In brushy areas, keep the cleared area to the minimum needed to allow construction. In areas with heavy vegetation, consider irregularly shaped fence line clearings rather than those with uniform width. Mechanical clearing can be successful if accompanied by rehabilitation actions that minimize soil loss and avoid long-term contrasts in vegetative cover.
2. Consultation with the USFWS is required if a proposed fencing project may affect a federally listed species. In addition, consultation with other cooperating agencies may be required if federally listed species, species proposed for listing, candidate species, state-listed species or other special sensitive species have the potential to occur within or otherwise be affected by a proposed fencing project.
3. In places where watershed conditions create the potential for a large amount of runoff, special drainage crossing structures (sometimes called “water gaps”) shall be used. Designs of this type of fencing vary, and need to consider the field situation and purpose of the fencing. The need for periodic reconstruction or major maintenance can be substantially reduced if this type of fence structure is used.
4. The fence should be periodically monitored and repairs implemented, as needed, to maintain the fence in a usable condition, consistent with the original as-built standards. In addition, monitoring of the fence line and access roads for invasive plant species could be conducted and corrective actions implemented as soon as possible if issues are identified.
5. Major reconstruction or replacement should occur only when construction or design inadequacies, or the normal effects of use and environmental influences, leads to sufficient wear and deterioration that replacement is required.

The proposed expansion of the existing withdrawal boundaries associated with Alternative 3A or 3A-1 would not substantially change military activities within the overlying airspace, compared with the existing NTTR withdrawn lands. Activities in this region are confined to altitudes and locations where they are unlikely to cause disturbance greater than existing conditions and would, therefore, have no significant effect on vegetation, wildlife, aquatic and wetland habitats, rare plants, sensitive wildlife, and MBTA-protected species and birds protected under the *Bald and Golden Eagle Protection Act*. Although desert tortoises have not been documented, potential suitable habitat desert is present within the boundaries associated with Alternatives 3A and 3A-1. No direct impacts to desert tortoise are expected, because this alternative does not involve any construction or activities that could cause mortality, destroy burrows. Any potential impacts due to installation of fencing or any construction or clearing of lands proposed at a future date, will be minimized through implementation of mitigation measures for desert tortoise (Appendix H, Biological Resources).

Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation

Alternative 3B is approximately 57,000 acres located immediately south of the South Range of the NTTR. No changes to airspace would occur, but implementation of this alternative could result in increased use and scheduling of the airspace around the South Range. The Alternative 3B area would be managed in accordance with the same natural resources management requirements, guidelines, and biological constraints currently implemented for the NTTR and would ensure impacts from any future military actions are minimized and mitigated. The land area would continue to be managed for the protection of biological resources and excluded from uses that could substantively reduce habitat for plant and wildlife species.

Approximately 30 miles of fencing would be installed along the Alternative 3B boundary, which would result in direct and indirect impacts (e.g., mortality of species, increased depredation due to supplemental perches, fragmentation of habitat) similar in nature to biological resources as described under Alternative 3A, though Alternative 3B would cover a larger area. Alternative 3B areas would mainly be utilized as buffer areas, and fencing along the boundaries has the potential to impact biological resources by removing native vegetation or special status plant species, fragmenting wildlife habitat, creating barriers for wildlife movement, causing injury to large mammals that run into or get caught in the fence, damming or altering streams, or creating corridors for weed dispersion.

The installation, monitoring and maintenance of 30 miles of fencing along the Alternative 3B boundary has the potential to result in a significant adverse impact to biological resources. An assessment of environmental impacts associated with the fence installation is required prior to initiation of any work, to avoid and minimize any impacts. In addition, implementation of the mitigation measures described under Alternative 3A may reduce impacts to biological resources from fence installation.

Suitable habitat for special status wildlife, including MBTA-protected species, is present within the Alternative 3B area. Direct, permanent (i.e., direct mortality), and temporary (i.e., generation of dust, increased noise, and altered behavior) impacts from additional aviation activities could occur. Wildlife, such as large mammals (e.g., desert bighorn sheep), golden eagles, and MBTA-protected species, in the vicinity of a noise source would likely exhibit increased awareness or response, which would vary depending on animal group and other factors (as described above). Raptors and other MBTA-protected species, including golden eagles, protected under the *Bald and Golden Eagle Protection Act*, could be affected by aircraft activity that has the potential to at least temporarily result in a behavioral change in nesting birds. As a result, breeding season limitations, seasonal restrictions in areas near known to be occupied by raptor nests, or routes of migratory bird species could be avoided to minimize the potential for adverse impacts. Nests of MBTA-protected species, including golden eagles in the immediate vicinity of the Proposed Action, would be susceptible to abandonment and depredation. Any take of special status wildlife, including MBTA-protected species or golden eagles, should be incidental and would not result in significant impacts at the population level. Implementation of ongoing management activities implemented on the NTTR (e.g.,

management guidelines for threatened and endangered species) would reduce effects on sensitive wildlife species and their habitats.

Alternative 3B includes desert tortoise habitat, and recent signs of desert tortoise have been documented (U.S. Air Force, 2017k). No direct impacts to desert tortoise are expected, because this alternative does not involve any construction or activities that could cause mortality, destroy burrows, or degrade habitat. Increased aircraft activity could result in indirect effects due to an increase in noise, though effects are likely to be insignificant. Any potential impacts will be minimized through implementation of mitigation measures for desert tortoise (Appendix H, Biological Resources).

Alternative 3B could add land to create a safety buffer and should not substantially change military activities within the overlying airspace, compared with the existing NTTR withdrawn lands, and effects should be insignificant for vegetation, wildlife, aquatic and wetland habitats, and rare plants in this region since these activities are confined to altitudes and locations where they are unlikely to cause disturbance greater than existing conditions.

Alternative 3B would also be beneficial to special status plants and wildlife, in that it would serve as a habitat corridor, which can provide a linkage to the NTTR. Therefore, impacts associated with the withdrawal of approximately 57,000 acres in Range 64C/D and 65D withdrawal areas could be adverse but are likely to be of low intensity.

Alternative 3C – Alamo Withdrawal

Alternative 3C would request the withdrawal of approximately 227,000 acres immediately east of the South Range of the NTTR in the DNWR to correspond with potential weapons safety footprints associated with target impact areas, which must be controlled for safety purposes; however, live munitions are only used specifically in the target impact areas.

Alternative 3C implements IW capabilities that would involve developing potential insertion points that would include one runway that would be a mockup location to provide special operations personnel a location to practice tactics, while a second runway would be an active runway, providing more realistic insertion training. Each runway would be 6,000 feet long and 90 feet wide, and it is anticipated that ground disturbance activities associated with construction of the runways would be less than 13 acres. The mockup runway would not be used for aircraft operations. However, it is anticipated that the active runway would be a dirt runway, and operational levels would occur at a tempo of 520 takeoffs and landings annually.

In addition, FARRP training, which consists of training activities associated with refueling and munitions loading of aircraft, would occur in an austere area, such as a dry lake bed. Analysis of this alternative focuses mainly on the proposed use of the area from a conceptual perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a Congressional decision on the withdrawal has been made.

As with the other two alternative proposed expansion areas, the additional land would be managed in accordance with the same natural resources management requirements, guidelines, and biological constraints as the existing NTTR. Construction projects, including the proposed 13 acres for insertion runways, represent an extremely small portion (less than 0.01 percent) of the withdrawal area and would require proper surveys and planning to avoid and minimize impacts to vegetation, wildlife, aquatic and wetland habitats, and special status species. Fuel spills could occur during FARRP activities and have the potential to poison or contaminate biological resources, either directly, if spills are left unattended in areas where wildlife is active, or indirectly, if contaminants are carried to surface waters during rainfall. FARRP activities would occur in a dry lake bed where vegetation is sparse and during a time when wildlife activity is generally low; runoff to surface waters would be unlikely, and spill response actions would be incorporated into training preparation. As mentioned above, natural resources management requirements, guidelines, and constraints would also apply to the Alternative 3C area as a whole, which would ensure impacts from the proposed insertion of training runways, or any future military actions are minimized and mitigated.

Approximately 60 miles of fencing would be installed along the Alternative 3C boundary, which will result in the same direct and indirect impacts to biological resources as described under Alternative 3A, though Alternative 3C would cover a larger area. The installation, monitoring, and maintenance of 65 miles of fencing along the Alternative 3C boundary has the potential to result in a significant adverse impact to biological resources. Alternative 3C areas would mainly be utilized as buffer areas, and fencing along the boundaries has the potential to impact biological resources by removing native vegetation or special status plant species, fragmenting wildlife habitat, creating barriers for wildlife movement, causing injury to large mammals that run into or get caught in the fence, damming or altering streams, or creating corridors for weed dispersion. An assessment of environmental impacts associated with the fence installation is required prior to initiation of any work to avoid and minimize any impacts. In addition, implementation of the mitigation measures for installation and maintenance of fencing described under Alternative 3A may reduce impacts to biological resources.

The expansion of the existing withdrawal boundaries associated with Alternative 3C would introduce military activities to the Alamo areas. These activities may result in impacts to vegetation, wildlife, aquatic and wetland habitats, and special status species in this region. However, implementation of mitigations and current management practices carried over to new lands would serve to minimize potential impacts.

Suitable habitat for special status wildlife, including MBTA-protected species, is present within the Alternative 3C area. Direct, permanent (i.e., removal of habitat, direct mortality), and temporary (i.e., generation of dust, increased noise) impacts from any ground disturbance, construction, and annual aviation activities could occur.

Noise from aircraft activities could cause stress, potentially induce a startle response, and cause possible injury. Wildlife, such as large mammals (e.g., desert bighorn sheep), in the vicinity of a noise source would likely exhibit increased awareness or response, which would vary depending on animal group and other factors (as described above).

Raptors and other MBTA, including golden eagles, could be affected by increased aircraft activity.

As noted above, many birds become habituated to aircraft overflights and long-term reproductive success should not be affected by exposure to overflight; nonetheless, overflight activity has the potential to at least temporarily result in a behavioral change in nesting birds, and as a result, the NTTR may require breeding season limitations or seasonal restrictions in areas near known raptor nests, golden eagles, or routes of migratory bird species to minimize the potential for adverse impacts.

Nests of MBTA-protected species, including golden eagles in the immediate vicinity of the Proposed Action would be susceptible to abandonment and depredation. Migratory bird conservation should be incorporated into agency planning processes. Any take of MBTA-protected species or golden eagles would be incidental and would not result in significant impacts at the population level. Implementation of ongoing management activities implemented on the NTTR (e.g., management guidelines for threatened and endangered species) would reduce effects on sensitive wildlife species and their habitats.

Alternative 3C contains suitable high-quality desert tortoise habitat. Signs of desert tortoise have been identified in the area (U.S. Air Force, 2017k). Aircraft operations that occur in suitable desert tortoise habitat could affect tortoises. However, if desert tortoises are in burrows, caliche caves, or rock shelters, downwash impacts are expected to be minimal (except when directly under the aircraft). Burrows in nearby habitat could be collapsed or damaged by aviation activities.

Desert tortoises may be also impacted by dust and noise generated from aircraft operations. Increased noise, dust, and aircraft activity would be localized and temporary but could occur. Dust generation due to aircraft operations at the designated landing areas would have a minor adverse impact on plant productivity and soil compaction, but effects would be minimal due to the small portion (less than 0.01 percent) of the total 220,000 acres in the proposed expansion.

Noise from aircraft activity could elicit temporary behavioral responses by tortoises, and tortoises may assume a protective posture by temporarily withdrawing their head and limbs into their shell and remain still, much as they do when a human or predator approaches. This posture provides protection from physical injury and minimizes exposure to blowing dust. Temporary behavioral responses include voiding their bladders, which can be life-threatening to tortoises. A desert tortoise would be expected to resume normal activities following departure of the aircraft from the immediate area of the tortoise.

Based on the operational information outlined in Section 3.8.2.2.1 (Vegetation), use of electromagnetic radiation, lasers, and microwave transmission would not likely affect the tortoise because the tortoise would not be in direct contact with the emitter beam for an extended period of time. Any effects on desert tortoises from aircraft overflight or use of threat emitters would be low and not likely to result in a permanent change to the habitat for the species. Implementation of mitigation measures for desert tortoise would

minimize or avoid significant impacts to desert tortoise (99 CES/CEIEA, 2015); see Appendix H (Biological Resources).

Because nearly all of the area within Alternative 3C is within areas of the DNWR managed to preserve wilderness characteristics, activities such as mining, agriculture and grazing are already limited or excluded from these areas, and the withdrawal is not likely to provide a significant beneficial impact to biological resources. Furthermore, under Alternative 3C, access to some of the areas would be reduced but the public would continue to have access to key recreational areas. The potential loss of any recreational areas associated with the Alternative 3C proposed expansion area could result in a shift of recreational activities to other locations in the region; however, given the recreational opportunities that will remain in the highest use areas adjacent to Alternative 3C boundaries (Hidden Forest Cabin, Corn Creek Field Station, Cow Camp trailhead, and Joe May trailhead, as well as springs such as Corn Creek, Cow Camp, Upper Deadman, Lower Deadman, and Sawmill), the effects of concentrating recreational use are anticipated to be less than significant. (See Section 3.4, Land Use, Recreation, and Visual Resources). Additionally, there are other opportunities outside the project boundaries that could be utilized. Potential direct and indirect impacts to biological resources resulting from recreational activities would not be expected to increase in magnitude or duration, and overall impacts to biological resources would be insignificant.

3.8.2.5 Alternative 4 – Establish the Period of Withdrawal

The proposed withdrawal periods associated with Alternative 4—Alternative 4A (20-year withdrawal period), Alternative 4B (50-year withdrawal period), and Alternative 4C (indefinite)—must be implemented in conjunction with one or more of the other alternatives or subalternatives. The Air Force recognizes that it is difficult to determine significance at the programmatic level for withdrawal periods and recognizes that there is the potential for impacts to biological resources over time due to mission changes, development pressures both within and outside the NTTR, and other unforeseen events that cannot at this time be quantified to provide any meaningful analysis. As a result, ongoing planning, and adaptive management actions, regulatory compliance, and future NEPA analysis as required for any future actions would assess and evaluate potential impacts, both singular and cumulative, over any period of withdrawal. Regardless, the Air Force has identified mitigation measures, as outlined in Sections 2.9.2 and 3.8.3 (Proposed Resource-Specific Mitigations and Management Actions), that would serve to minimize or avoid the potential for significant impacts to biological resources over time.

3.8.2.6 No Action Alternative

Under the No Action Alternative, BLM-administered public lands would be subject to the multiple resource management objectives of the FLPMA. Most of the North Range would be returned to BLM. Much of the South Range that overlaps the DNWR would be under the jurisdiction of USFWS.

Prohibitions previously placed in effect by the MLWA on appropriations under the public land laws would expire. However, segregation of these lands from appropriative land uses (such as mining, geothermal leasing, or livestock grazing) would continue until the Secretary of the Interior publishes an order opening the lands for such uses. An opening order could not be issued by the Secretary until the costs, benefits, and environmental consequences of competing land use could be fully evaluated through planning directed by FLPMA and analyzed in NEPA documentation. The results of new land management planning may or may not find that portions or all of the former NTTR lands managed by the BLM should be opened to some or all forms of appropriative land use. Management of the former NTTR lands would continue as currently directed until new management planning under FLPMA and NEPA regulations could be completed.

The DOI, through the USFWS, would continue to manage the DNWR to protect and preserve desert bighorn sheep and other species of wildlife. It is anticipated that the DOI, through the BLM, would employ multiple-use concepts on lands that do not pose a health threat to potential users. A detailed estimation of the former NTTR areas requiring remedial actions prior to final release or a determination of actions required would be necessary if Congress selected the No Action Alternative. Access to the DNWR would be under the jurisdiction of the USFWS. Access to all other lands would be under the jurisdiction of the BLM.

3.8.3 Proposed Resource-Specific Mitigations and Management Actions

The following mitigations would be implemented across all action alternatives unless otherwise specified.

General

The INRMP will be revised under authority of AFI 32-7064, *Integrated Natural Resources Management,* as implemented by Air Force Policy Directive 32-70, *Environmental Quality*, and DoD Instruction 4715.3, *Environmental Conservation Program*. The authority to establish natural resources management programs at DoD installations is provided by 16 USC 670 (the *Sikes Act*, Conservation Programs on Military Installations). A primary goal of the INRMP is to maintain ecosystem integrity and dynamics on the NTTR without compromising the military mission. The INRMP is a cooperative effort between other federal agencies as well as Nevada stakeholders, and the Air Force implements the biological resources guidelines of the INRMP. Through various existing program offices and current practices, NTTR planners, with user group support, will:

- Develop guidance on environmental restrictions and compliance requirements, to include mitigations and environmental constraints, and associated consultations, as well as the INRMP.
- Provide restrictions to unit commanders and training personnel (through NTTR Range Safety and Operations Procedures annual briefings, additional site-specific environmental briefings, and/or the Center Scheduling Enterprise).

- Document and resolve any issues related to environmental compliance with the cooperating agencies upon notice of any compliance issues.

The following specific biological resources mitigations would be implemented.

- Provide information to range users, prior to conducting training or testing activities, regarding restrictions based on biologically sensitive areas and impacts on wildlife. This mitigation minimizes impacts across all action alternatives.
- The Air Force and USFWS would explore jointly funding permanent position(s) that would be located at Nellis AFB to work directly with Air Force personnel on management of biological resources. This could be done under the Interagency Agreement for the Conservation of Natural Resources on Air Force Controlled Lands between USFWS and the Air Force.

Vegetation:

- Ensure the INRMP requires monitoring of any habitat restoration sites on the NTTR.
- Construction projects or military actions will evaluate implementation of the following vegetation management guidelines/mitigations to minimize or avoid direct impacts to vegetation during ground disturbance activities:
    - Mission actions could be planned and sited in a manner to avoid sensitive plant communities, species, and habitat whenever possible. Similarly, riparian vegetation communities associated with springs, seeps, and wetlands could also be avoided wherever possible.
- For activities involving soil disturbance or vegetation removal, the Air Force may consider the following:
    - For areas that would be temporarily disturbed or where restoration is proposed, the top 6 inches of soil may (if required by federal resource agencies) be excavated separately from deeper soils and stockpiled in a separate location. Any excavations should be backfilled with deep soils first, with the topsoil being backfilled as the final layer. This allows the site to have a final layer of soil that approximates original soil conditions and that contains a relatively healthy seed bank for regrowth of vegetation, thus rectifying potential soil displacement.
    - Soils may be lightly rolled or compacted to reduce the potential for wind erosion.
    - Native plants may be installed (seeded or planted) so they are allowed to germinate following the first storm event after project completion. Initial irrigation may be used to stimulate germination of seedling plants but ought not to be continued to prevent adaptation of the plants to an artificially wet environment. If nursery stock is used for replanting, all plants should be native and endemic to the specific area. This would rectify loss of vegetation during ground disturbance.

- To minimize the spread of invasive plant species throughout the NTTR and proposed expansion areas, the Air Force will consider the following:
    - Encroachment of invasive plants in disturbed or restored areas should be prevented, and any invasive plants that become established should be removed.
    - Excavation and construction equipment should be cleaned thoroughly before traveling from one area to another on the NTTR.
    - Off-road vehicle use should be minimized whenever possible to decrease the spread of invasive species such as red brome, Russian thistle, halogeton, and cheatgrass.
    - Wherever possible, maintenance of road shoulders ought to be minimized to prevent the spread of Russian thistle, halogeton, and cheatgrass. Those areas should be managed to develop native plant populations.
- To minimize impacts of grazing on vegetation communities, no new livestock grazing allotments and no forest product removal may be allowed on the NTTR and proposed expansion areas. However, the Air Force may work to accommodate those ranchers that have current livestock grazing allotments in proposed expansion areas.
- In order to further avoid, minimize, or reduce impacts over time, the Air Force will evaluate the development of a long-term monitoring program for NTTR and proposed expansion area vegetation. As an example, monitoring using high-resolution aerial photos (taken every five years) could be conducted. Natural resource managers can use monitoring to assess any major changes in vegetation characteristics (such as invasion of plant species, changes in hydrology, disturbance to soils, and other alterations of the native habitat). If significant changes are observed, the Air Force could evaluate the need to investigate and assess the areas to determine the cause of the change and take appropriate actions.
- Ensure the INRMP requires the habitat assessment and vegetation characterization for expansion areas if selected.

Special Status Plant Species:

- Construction projects or military actions will consider employing the following management guidelines for special status plants species (those considered sensitive or rare):
    - In order to avoid direct impacts to special status plant species from ground disturbance, the GIS database could be reviewed during project planning to determine if the site of the action contains sensitive or rare plant species, including cacti and Joshua trees, or their habitats. If sensitive plant populations are identified, the action may be

modified to avoid or minimize impacts to the rare plants where practical.

- If impacts to rare populations cannot be avoided, methods of mitigation should be evaluated, which may include transplanting the plant population to another suitable habitat or planting substitutes to compensate for any loss. A location should be selected such that it can be avoided by future impacts if practical.

Special Status Wildlife Species:

- Ensure the INRMP requires annual surveys of the desert bighorn sheep population level on the NTTR. For example, surveying could be conducted by air, of the major mountain ranges within the NTTR, including the Sheep Range on the DNWR.
- Based on Intergovernmental Executive Committee direction, ensure the INRMP requires monitoring desert bighorn sheep movements. For example, collaring and health checks could be conducted on the sheep population as well as modeling/mapping spatial and temporal movements and location of high use and critical areas such as preferred corridors between mountain ranges. Desert bighorn sheep movements, establishment of a 1-mile buffer area around lambing areas, food and water sources, or other areas critical to their well-being could be identified for consideration in planning military activities.
- Ensure the INRMP requires an annual survey of water sources. For example, a five-year cumulative survey of the NTTR could be conducted for natural water sources. The Air Force would continue to support USFWS efforts to assess man-made water sources maintained by non-DoD users, such as Fraternity of the Desert Bighorn, to ensure they are adequate for desert bighorn sheep and are not concentrating animals into areas incapable of sustaining them.
- Ensure the INRMP prescribes procedures for surveys on the NTTR for amphibians and reptiles include the Amargosa toad.
- Ensure the INRMP prescribes procedures for surveys on the NTTR for birds include the greater sage grouse.

Construction projects or military actions would consider employing the following management guidelines for special status wildlife species (which include bats, reptiles and amphibians, mammals, and wild horses):

- To avoid, reduce, or eliminate potential direct impacts to bats:
  - If an action potentially impacts mines, wooded areas, seeps, springs, or abandoned structures, the areas could be surveyed to determine if bats are present and if those bats are species of concern that should be conserved.

- Potential locations of unimproved runways could be surveyed to assess bat activity, especially in mines, abandoned buildings, and springs or seeps. If necessary, bat roosts in common flying areas could be closed and bats moved to another area, if possible. Closing areas such as mine shafts, etc., that do not have bat presence would mitigate direct impacts, by not allowing new use.
- In areas that do not conflict with the military mission, the Air Force could consider using management guidelines for bats documented in the Nevada Bat Conservation Plan (Nevada Bat Working Group, 2006). Any relocation attempt should adhere to established guidelines to minimize impacts to bats (Ruffell, Guilbert, & Parsons, 2009).

- To avoid, reduce, or eliminate potential direct impacts to special status reptiles, amphibians, small mammals, or wild horses:
  - Prior to the implementation and planning of any construction activity, the site will be surveyed to determine the presence of any of these species. If possible, construction plans could be altered to avoid impacts to any specials status, sensitive, rare, or uncommon species. The NDOW protocol for protection of the banded Gila monster (see Appendix H, Biological Resources) should be implemented when possible.
  - During any other surveys or projects, biologists and other qualified personnel could document the location and species of any reptiles and amphibians observed.
  - The Air Force will continue to support the BLM management process for wild horse population surveys.

Migratory Birds, Bald and Golden Eagles:

- To comply with Incidental Take and Eagle Nest Take Regulations, activities would be located and scheduled to avoid or minimize adverse impacts to golden eagles, known nests and migratory birds, and BASH issues (USFWS, 2016a).
  - In order to avoid, reduce, or eliminate potential direct impacts to migratory birds and bald and golden eagles, the Air Force could evaluate whether low-level flight paths used by aircraft traverse areas where habitat conducive to nesting or foraging by significant populations of birds may be present. If information is not available, the 99 CES could survey the areas. Flight paths could then be adjusted to avoid these areas.
  - All projects and proposed mission actions may also be reviewed to determine if they will impact nesting areas of raptors.
- Ensure the INRMP requires annual surveying of migratory birds, golden eagles, and raptors on the NTTR. For example, surveying could include the

migratory bird and raptor habitat and subset of habitat occupied by non-raptor species within the NTTR.

- Ensure the INRMP requires monitoring of nesting and fledgling success for golden eagles on the NTTR. Ensure the BASH component of the INRMP requires that a procedure for identifying species is outlined in the BASH Plan. The Air Force would continue to avoid low-level flights with the potential to affect migratory birds in and around the Pahranagat Wildlife Refuge, the headwaters of the Amargosa River, and Crystal Springs, as long as circumstances indicate it is necessary.

Desert Tortoise:

- Ensure the INRMP requires an annual survey of the Mojave desert tortoise population level on NTTR. For example, surveying could be conducted, in coordination with the Desert Tortoise Recovery Office, of Mojave desert tortoise habitat within the NTTR and areas of critical importance to the desert tortoise within each survey area identified.
- Ensure the INRMP requires cooperation with USFWS to address potential contaminants impacting Mojave desert tortoise. For example, procedures could be established for collecting remains or other materials for analysis to determine whether contaminants are impacting Mojave desert tortoise, and if so, determine a solution.
- Specific mitigations measures, derived from the current NTTR Desert Tortoise Management Plan (99 CES/CEIEA, 2015), are described in Appendix H, Biological Resources, and proposed conservation measures associated with the Biological Assessment resulting from the Section 7 Consultation process are included in Appendix B, Agency Consultation and Coordination. These conservation measures would characterize a plan of action if the desert tortoise or its habitat is compromised, although avoidance of the desert tortoise habitat typically would be the preferred mitigation practice
- It is anticipated that the USFWS will issue a Biological Opinion, which will identify terms and conditions for operating on any withdrawn lands.

Fencing:

- The following mitigation measures, adapted from the BLM Handbook H-1741-1: Fencing (BLM, 1989), would be implemented to reduce potential adverse impacts to biological resources from fence installation in proposed expansion areas:
    - Minimize direct removal of vegetation and ground disturbance. Avoid bulldozer clearing or other major soil disturbing methods. In brushy areas, keep the cleared area to the minimum needed to allow construction. In areas with heavy vegetation, consider irregularly shaped fence line clearings rather than those with uniform width. Mechanical clearing can be successful if accompanied by rehabilitation

actions that minimize soil loss and avoid long-term contrasts in vegetative cover.

- Consultation with the USFWS is required if a proposed fencing project may affect a federally listed species. In addition, consultation with other cooperating agencies may be required if federally listed species, species proposed for listing, candidate species, state-listed species or other special sensitive species have the potential to occur within or otherwise be affected by a proposed fencing project.
- In places where watershed conditions create the potential for a large amount of runoff, special drainage crossing structures (sometimes called “water gaps”) would be used. Designs of this type of fencing vary, and need to consider the field situation and purpose of the fencing. The need for periodic reconstruction or major maintenance can be substantially reduced if this type of fence structure is used.
- Periodic monitoring of the fence and maintaining the fence in a usable condition, consistent with the original as-built standards, would be conducted. In addition, monitoring should include the fence line and access roads for invasive plant species.
- Major reconstruction or replacement would occur only when construction or design inadequacies, or the normal effects of use and environmental influences, leads to sufficient wear and deterioration that replacement is required.

3.8.4 Native American Perspective on Biological Resources

The CGTO knows the NTTR contains ancient playas, surrounded by mountain ranges. The runoff from these ranges serves to maintain a healthy desert floor and environment. Animals frequent the area, and there are numerous animal trails. Animals and the places where they live play a significant part in Indian history and lifestyle. The CGTO knows Indian people have lived on these lands since Creation and value all plants and animals, yet some of these may have more cultural significance in our lives. It is widely known that many Indian people still collect and use plants and animals that are found within the NTTR region. We describe these plants, animals and insects in this section in an effort to demonstrate their importance to our well-being and survival, and their role in maintaining ecological balance to our Holy Land.

The CGTO knows, based on previous ethnobotany studies in the region, that there are at least 364 American Indian traditional use plants on the NTTR. (See *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017* – Table 1 *Three Hundred and Sixty Four Native American Traditional Use Plants on NNSS and NTTR*). Plants are still used for medicine, food, basketry, tools, shelter, clothing, fire, and ceremonies - both socially and for healing purposes. One example is Sage, which is used for spiritual ceremonies, smudging and medicine. Indian ricegrass and wheatgrass are used for nutritional

supplements.. Joshua tree is important for hair dye, basketry, footwear, and rope. Globe mallow had traditional medicinal uses, but in recent times is also used for curing European contagious diseases. In order to convey the Native American meaning of these plants, a series of ethnobotany studies were conducted and the findings used to establish a set of criteria for assessing the cultural importance of each plant and of places where plant communities exist. The CGTO provided these cultural guidelines so that National Environmental Policy Act analyses and other agency decisions could be assessed from a Native American perspective.

The CGTO knows, based on previous ethno-fauna studies in the area that there are at least 170 Indian-use animals on the NTTR (See *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017* - Table 2 *One Hundred and Seventy Native American Traditional Use Animals on NNSS and NTTR*). All are culturally important to Indian people. The CGTO knows if they care for the earth and its resources, the Creator will always provide for them. The area comprising the NTTR and proposed land expansion was among the tribes' places to hunt and trap a variety of animals. It is known that special leaders within each tribe would organize large hunts where many Indian people participated. The Indian people would use these animals for many purposes, including food, clothing, bones for tool making, fur for warm blankets, and ceremonial purposes as referenced in traditional winter stories.

Indian people refrain from eating coyote, wolves, and some birds because these animals are fundamental to stories and songs that teach us life lessons to heal, to build character and to become better people. The relationships between the animals, the Earth, and Indian people are represented by the respectful roles they play in the stories of our lives then and now. For example, the NTTR contains some valleys where important spiritual journeys occurred. One such journey involved Wolf (*Tavats* in Southern Paiute, *Bia esha* in Western Shoshone, *Wi gi no ki* in Owens Valley Paiute) and is considered a Creation or origin story. Out of respect to our traditional teachings, only parts of this story are represented here. When Wolf and Coyote had a battle over who was more powerful, Coyote killed Wolf and felt glorious. Everyone asked Coyote what happened to his brother Wolf. Coyote felt extremely guilty and tried to run and hide but to no avail. Meanwhile the Creator took Wolf and made him into a beautiful Rainbow (*Paro wa tsu wu nutuvi* in Southern Paiute, *Oh ah podo* in Western Shoshone, *Paduguna* in Owens Valley Paiute.) When Coyote saw this special privilege he cried to the Creator in remorse and he too wanted to be a Rainbow. Because Coyote was bad, the Creator changed Coyote to a fine, white mist at the bottom of the rainbow's arch. This story and the spiritual trails discussed in the full Winter version are connected to the Spring Mountains and the large sacred cave within the NTTR in addition to the surrounding lands. These areas comprise the home of Wolf, whose spirit is still present and watches over Indian people and our Holy Land.

Stink bugs, willows, frogs, hummingbirds, and *snow fleas* are all important to Indian people and are used to show our respect for the rain and snow. (For additional information on these plants and animals, please see Section 3.11.4, Native American

Perspective on Water Resources). The desert bighorn sheep and the desert tortoise are both culturally sensitive animals to Indian people. When used ceremonially, these animals have special qualities that enable them to alter the weather when needed to nourish the land. The desert tortoise has further significance to Indian people because of its healing powers, longevity, and wisdom. It is integral to our traditional stories, well-being and perpetuation of our native culture. (See *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017* for more details).

The CGTO knows the current 100-year drought has increasingly stressed the physical and spiritual nature of the plants and animals on the NTTR. Its environmental impacts are unprecedented in the history of the operation and management of these lands. The CGTO knows the 100-year drought has modified the abundance and distribution of all animals and plants. The quality, quantity, and distribution of indigenous plants, animals, and insects necessary to sustain a healthy environment and to maintain a productive animal habitat are clearly affected.

Water - both as free flowing springs and absorbed by plants and distributed to animals - has diminished. Certain springs have dried up making animals travel into other unfamiliar lands. Food foraging becomes difficult and land dries up. Wildlife has less body fat, which results in shorter hibernation cycles. Native Americans have observed that ground squirrels are becoming cannibalistic to survive. Other animals are changing their habits as the environment continues to be impacted by this drought. For example, rabbits are now forced to eat unusual foods like Yucca. According to one tribal elder, "*The cries of some birds have changed since the drought began."*

Traditional use of plants and animals are an important aspect for Native Americans. The loss of important species dates back to the arrival of early settlers. Invasive species continue to threaten the natural ecosystem and resources on the lands which creates negative impacts on the growth of natural plants, trees and wildlife habitats.

The mitigation measures presented by the Air Force focus on avoidance of biological resources, relocation of animals species and monitoring plants, animals, and their habitats. The CGTO recommends the Air Force mitigate adverse impacts to biological resources through interaction with the CGTO with the goal of avoidance, culturally appropriate revegetation efforts, reintroduction of native animals, and traditional plant and animal management methods. Native Americans have extensive traditional ecological knowledge and deep concern for the biological resources of the area and should participate directly with the Air Force to mitigate impacts and protect their resources.

According to tribal elders, "*Prior to re-vegetation efforts, we must talk to the land to let it know what we plan to do and ask the Creator for help. We choose our seeds from the sweetest and best plants and store them for the winter to dry. When the winter is over, we place the seeds in a moist towel or sock until they are ready to transplant into the ground. This is a long and delicate process, requiring patience, skill and knowledge passed down from our ancestors. If the plants are struggling to grow, we tag them and*

move them to face the same direction of the sun." The Air Force would benefit from this knowledge to enhance their re-vegetation efforts. The CGTO knows the Air Force struggles with success rates regarding the density and diversity of native plants during re-vegetation efforts. A co-stewardship approach with the CGTO continues to enable the Air Force to enhance revegetation efforts, thus saving time, money, and resources.

Mitigation measures presented by the Air Force includes notifying the US Fish and Wildlife Service (FWS) of incidental taking of desert tortoises. The desert tortoise is a culturally significant reptile to Native Americans because of its healing powers, longevity and wisdom. It is an integral part of traditional winter stories, along with our well-being and the perpetuation of our native culture. Incidental taking of this traditionally important animals is particularly disturbing to Native Americans. Accordingly, the Air Force must initiate action to concurrently notify the CGTO in tandem with FWS so traditional ceremonies can be conducted to prepare our tribal people and the environment for this loss.

According to the LEIS, over the past 14 years, various initiatives have been undertaken to restore animal habitats and reintroduce certain animals including desert bighorn sheep on portions of the NTTR without ceremonial intervention from the CGTO. Modification of habitats or the restocking of certain species is considered a highly culturally sensitive religious act and requires involvement from Native Americans through the CGTO. For these activities to be successful, it is essential to have tribal representatives involved throughout the process allowing proper access to conduct ceremonial activities. (See *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017* for more details).

3.9 CULTURAL RESOURCES

3.9.1 Affected Environment

3.9.1.1 Description of Resource

Cultural resources consist of prehistoric and historic sites, structures, artifacts, and any other physical or traditional evidence of human activity considered relevant to a particular culture or community for scientific, traditional, religious, or other reasons.

For the Native American perspective on information in this section, please see Section 3.9.4.1 and Appendix K, paragraph 3.9.1.1.1.

As defined under 32 CFR 800 (l)(1), "Historic Property means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria."

This section describes known historic properties within the affected areas that are potentially eligible for the NRHP and evaluates whether elements of the LEIS would potentially affect these resources. Also presented are potential resources as described under a predictive model implemented over some of the proposed expansion areas. These resources may include any archeological resources considered eligible, potentially eligible, or currently listed on the NRHP. This may include historic structures, historic districts, any known historic cemeteries, traditional cultural properties, or sacred sites. In addition, areas where adequate effort to identify cultural resources have not occurred are discussed.

3.9.1.2 Region of Influence

Cultural resources were analyzed by assessing each resource's NRHP eligibility and condition, then evaluating the resource as it overlaps with the area of potential effects (APE). The ROI for this LEIS is equivalent to the APE designation as described in the NHPA.

For the Native American perspective on information in this section, please see Section 3.9.4.2 and Appendix K, paragraph 3.9.1.2.1.

As defined under 36 CFR 800.16, "Undertaking means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval. Also, as defined under 36 CFR 800.16, "the Area of Potential Effects is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The area of potential effects is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking."

The APE is influenced by the scale and nature of the alternatives proposed and may differ according to the types of effects caused by the action. The APE for this proposed action is assumed to not extend beyond the footprint of the activity boundaries as defined for Alternatives 1, 2, 3A, 3A-1, 3B, and 3C and associated airspace. Alternative 4 deals with the time period of the withdrawal and, as such, does not influence the APE.

A literature and records search was conducted for the proposed expansion lands and surrounding areas within 1 mile. Data from multiple sources were examined, including information from the Nevada Cultural Resource Information System, Southern Nevada and Battle Mountain districts of the Nevada BLM, Desert Research Institute, among others. General Land Office maps were reviewed for information regarding historic roads. Files at the Nevada Bureau of Mines and Geology were examined for historic mining resources (Duke, 2016a).

The literature and records search found 201 cultural resources sites (157 prehistoric, 36 historic, 1 multi-component prehistoric and historic, 1 ethnohistoric, and 1 unknown affiliation), and 95 cultural resources projects within all of the proposed expansion areas (Duke, 2016a).

3.9.1.3 Cultural Resources

For the Native American perspective on information in this section, please see Section 3.9.4.3 and Appendix K, paragraph 3.9.1.3.1.

Cultural resources described in this subsection include historic structures, districts, traditional cultural properties, sacred sites, and other areas ethnographically important to prehistoric and modern populations within the region. Traditional cultural properties can include properties, sites, or other resources associated with the cultural practices or beliefs of a living community that link the community to its past and help maintain its cultural identity and that are eligible for or listed on the NRHP. Traditional cultural resources are areas associated with the cultural practices or beliefs of a living community that link the community to its past and help maintain its cultural identity but that have not been evaluated for NRHP eligibility.

Sacred sites are well-known areas associated with cultural practices or beliefs of a living community. Most traditional cultural properties, resources, or sacred sites on and around the NTTR are associated with Native American tribal groups. Cultural landscapes are geographic areas where cultural and natural resources and wildlife have been associated with historic events, activities, or people or which serve as an example of cultural or aesthetic value.

Archival and field studies designed to characterize and, in part, identify resources and existing conditions within the proposed expansion areas are currently underway. To this end, the following studies have been completed or are currently underway: a literature and records search, research of previous ethnographic studies and Native American involvement, background search of previous oral histories, and testing of an archeological model through associated surveys (Duke, 2016b). This subsection addresses historic resources, traditional resources, ethnographic studies, and oral traditions, while Section 3.9.1.4 (Archeological Resources), discusses previous and current archeological studies and the archeological record.

A review of the primary ethnographic literature pertinent to the proposed expansion lands, including ethnographic studies, was conducted for the NTTR. Sources reviewed include studies conducted in collaboration with Native American tribes as part of Nellis AFB's Native American Program. Other sources of primary literature include Julian Steward's ethnographic documentation of the region and Isabel Kelly's field notes on the Southern Paiute (both circa 1930s) (Duke, 2016b).

Current Native American tribe members were solicited for information on important places within the proposed expansion lands (Duke, 2016b). Tribe members were invited to participate in the survey project as monitors, allowing for information gathering on landscape features that may be culturally important. Local special interest groups, such as Friends of Nevada Wilderness, were consulted regarding key landscapes that have been important historically.

Cultural properties and ethnographically important locations are currently being researched for each of the alternative areas. This information will be added to the LEIS and/or included in the consultation process as the survey data becomes available. Oral

traditions of regional Native American tribes were collected from Native Americans who were participants in field survey efforts. In addition, as part of the ethnographic study, academic specialists will compile interviews regarding oral traditions and local histories. These represent the primary sources of information identifying oral traditions (Duke, 2016b).

Existing NTTR Boundary (Alternatives 1 and 2)

Historic features are not extensive on NTTR equating to 13 percent of the 2,889 total cultural resources that have been recorded to date. A total of 364 locations are historic or historic with prehistoric components (Duke, 2016b). Historic-period use of NTTR lands was limited by lack of extensive ore deposits for mining, substantial water sources for ranching and agriculture, and primary travel routes. These features include remnants of abandoned towns associated with the mining and ranching history of Nevada. Mines and 15 mining districts, many of which have campsites related to the operation nearby, are located on what is now the NTTR. These were created and operated during the late 19th and early 20th centuries. Seven structures on the NTTR in Lincoln and Clark Counties are listed on the NRHP. More than 100 historic ghost towns, most containing architectural features, are located underneath the MOAs and restricted air space. No World War II and Cold War-era structures on the NRHP have been identified within the NTTR or underneath associated airspace (U.S. Air Force, 2011).

Traditional cultural properties located on the NTTR may include traditionally used wildlife and plants (such as piñon nuts) and certain geographic areas. Types of resources that have been specifically identified in recent studies include rock art sites, landscape features (such as mountains or caves), burial sites, gathering places, traditional landscapes, and lithic raw material. Since 1997, Nellis AFB's Native American Program and ethnographic studies have identified ceremonial and sacred sites on the NTTR and have worked to protect them (U.S. Air Force, 2011). Any traditional cultural property designation is initiated by Nellis AFB in coordination with various Native American groups.

Consultations between the NTTR and the Native American Program occurred early in the planning process. This early engagement helps to ensure that traditional cultural properties are not affected by the proposed project. Throughout the LEIS process, the Native American Program has participated in informational as well as scoping meetings regarding this proposed action. Issues of concern include the potential for impacts due to potential restriction of access to areas of interest, physical damage to resources, and noise and vibration effects on sacred or traditional resources.

The ethnohistoric record for the NTTR is extensive. Of the 364 historic-era sites on the NTTR, 51 are defined as ethnohistoric (Duke, 2014). This record aligns with the historic record of the region in general. Many sites are related to ethnohistoric-era pine nut harvesting that took place well into the 20th century. This shows a continuous utilization of this important resource in the Belted and Kawich mountain ranges.

The Oasis Valley area and a large portion of the western half of the NTTR was documented as the traditional home of various Shoshone tribal groups. The Shoshone in this area also had close associations with the Shoshone families living in the Belted Range and northern Death Valley areas. Although subsistence methods varied from band to band, there were general subsistence patterns common to all Shoshone bands. Seasonal movement of small family groups in search of gathering and hunting areas occurred spring through fall. During the winter, groups would gather into dispersed camps. Oasis Valley was one of these winter camp areas. The valley continues to be culturally significant to Shoshones (Bengston, 2005).

A 2008 ethnography consisted of interviews with Southern Paiutes, Owens Valley Paiutes, and Western Shoshone tribes. The focus of the study was the Thirsty Canyon and the Black Mountain Caldera, the traditional uses of this area, and examination of oral tradition and previous scientific study by Julian Steward. The study recorded the sacred trails and ceremonial sites and how these were tied together by the landscapes throughout the study area (Stoffle et al., 2008).

The NTTR region includes part of a huge trail system that ran from Hot Creek Valley in central Nevada to the Amargosa Valley in southern Nevada, with important connections to the Spring Mountains, Las Vegas, Moapa, and the Colorado River on the south and east and connections to Oasis Valley, Beatty, Black Mountain, and Death Valley on the west. These are considered sacred trails as they connect at least six ceremonial ritual deposit areas, including the First Menses site, Juniper site, Aqueduct Mesa, McKinnis site, Piapi Canyon, and Apache Tears sites (Zedeno et al., 2005). This trail system is marked by rockshelters with pictographs and petroglyphs and open campsites with petroglyphs. There are also two major trail junctions on the south end of the Belted Range: Ammonia Tanks and upper Fortymile Canyon. The trail and these sites are located near the territorial boundaries of Shoshone and Paiute groups (Zedeno et al., 2005).

AFI 32-7065 and EO 13007, *Indian Sacred Sites*, require that installations should provide federally recognized Native American tribes access to and use of traditional cultural properties and sacred sites on Air Force–controlled lands. Under this instruction, the Air Force can set terms that protect human life and do not allow for interference with the current mission. In addition, it is the Air Force's responsibility to protect the integrity and confidential location of such sites. If future Air Force activity may impact such access or protections, then reasonable notice must be provided to federally recognized tribes.

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

Previous ethnographies have documented culturally significant trails that traverse the Tolicha Peak area (CGTO, 1997). The region is discussed in traditional Shoshone stories, although specific information cannot be presented in this document due to its sensitive nature.

An ethnography was conducted in 2018 of the Alternative 3A proposed withdrawal area (Stoffle et al., 2018a). The group that developed the ethnography included academics

and members of 17 tribes from which a representative Writers Committee was selected. Places of importance to the tribes were identified in each area to consider for the study. In the Alternative 3A area, Timber Mountain, Shoshone Mountain, Forty-Mile Canyon, Buckboard Mesa and Scrugham Peak, and Water Bottle Canyon were considered by the group. The analysis of each place contains a description of the place and why it was chosen for assessment. The Writers Committee then provided cultural identifications, and assessments and tiering[6] information were considered.

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

The Southern Paiutes are recorded as having an extensive connection to the Spotted Range and north end of the Spring Mountains (CGTO, 1997). Subsistence activities, such as collecting pine nuts and hunting deer and bighorn sheep, were common to this area. The Spotted Range was also known as a good place for catching chuckwallas, which were used for medicine by the Southern Paiutes.

An ethnography was conducted in 2018 of the Alternative 3B proposed withdrawal area by the same group that examined the proposed withdrawal areas associated with Alternatives 3A and 3C. The ethnography is included in the Air Force's land withdrawal application.

Alternative 3C – Alamo Withdrawal

Several culturally important locations are present in the Alamo areas (Stoffle et al., 2004). A particularly significant feature called the Honeymoon Trail runs both east and west from the Sheep Range. The trail called the Honeymoon Trail because of its use by men from the Pahrump villages traveling to Moapa in search of wives and the Moapa men when they were seeking wives. This trail is also significant as it connects important natural and cultural places, including pine nut harvesting sites, caves, the Virgin River, the Colorado River, a Ghost Dance site, Pintwater Range, Pahranagat Valley, and sheep hunting areas, in all the local mountains.

An ethnography was conducted in 2018 of the Alternative 3C proposed withdrawal area by the same group that examined Alternative 3A. Places of importance to the tribes were identified for the study. It was decided during project scoping meetings that the field studies for Alternative 3C would include Eagle Head, a known archaeology site; the Desert Lake Playa, a prominent topographic feature; White Rock Spring, another known archaeology site that combines archaeology with a spring and shift to upland ecology; and the Joshua Tree Forest (Stoffle et al., 2018b).

The ethnography also analyzed animals and plants found in various locations, such as hawks, eagles, mountain sheep, snakes, yucca, Indian tobacco, Indian ricegrass, and pine/cedar trees. Cultural landscapes were suggested as way of understanding the whole area. The analysis of each place contains a description of the place and why it

[6] Tiering involves a commitment to use past studies involving similar topics and/or places as those that are being considered in the study (Stoffle et al., 2018a).

was chosen for assessment. The Writers Committee then provided cultural identifications and assessments and considered tiering information.

3.9.1.4 Archeological Resources

For the Native American perspective on information in this section, please see Section 3.9.4.4 and Appendix K, paragraph 3.9.1.4.1.

In addition to previously identified resources, an archeological survey for the Alternative 3A/3A-1 and 3B areas was conducted in the summer of 2017 to further characterize the archeological record and identify resources (Roberson, Duke, & Rice, 2018). As a cooperating agency, for the purposes of complying with NHPA Section 106, 36 CFR 800.4, the USFWS did not issue an Archaeological Resources Protection Act permit and expressed that the existing archaeological record was sufficient to characterize the potential archaeological historic properties within the APE for Alternative 3C and, therefore, no archaeological surveys were conducted for the Alternative 3C area. Ethnographic studies were conducted within the Alternative 3C area (Stoffle et al., 2018b) and, should the Alternative 3C be implemented, future archaeological studies may be required.

Sampling for cultural resources surveys of large land areas can be accomplished using a statistically based sampling methodology. Typically, 5 to 10 percent of the lands under consideration would be subjected to such a methodology. Surveys would be required under Section 106 for specific developments (e.g., emitter pads, landing fields, other construction, etc.) on unsurveyed lands in the future (Duke, 2016b).

A predictive archeological survey model was developed in GIS. The model strata were defined using a combination of topographic, land cover, and hydrography GIS datasets. The topographic, land cover, and hydrography data were then combined to create the final model strata. The final six strata include lowlands, playa bottom, uplands, pinyon uplands, and steep slopes (Duke, 2016b). The effectiveness of this model was tested in summer 2017 by comparing the results from the proposed expansion area survey against existing survey data from the NTTR (Duke, 2016b). The projected site densities of the implemented model range from a low of 2.6 sites per 1,000 acres in the steep slopes stratum to a high of 18.3 sites per 1,000 acres in the pinyon uplands stratum (Duke, 2016b).

Sample random survey units were based on a 500- by 500-meter (61.8-acre) grid within the proposed expansion areas (Duke, 2016b). Each block was assigned to a single physiographic characterizing stratum, according to whichever model stratum occurred most frequently within the block. A 6 percent stratified random sample consisting of 227 blocks (14,024 acres) made up the random sample field effort. The non-random survey allowed investigation of areas of interest observed outside of survey blocks during the random-sample survey. Also, additional areas for formal survey may be defined by Native American tribes, Air Force, BLM, and/or the USFWS. The survey areas were selected using blocks from the sample grid (Duke, 2016b).

Existing NTTR Boundary (Alternatives 1 and 2)

At present, approximately 5.7 percent, or 167,882, of the 2,939,540 acres that compose the NTTR have been surveyed for archeological resources (Duke, 2014). Some of these surveys were conducted under Section 106 of the NHPA, while additional surveys were conducted as part of the regular Section 110 responsibilities of the Nellis AFB cultural resources program.

Of the 2,889 resources known to occur on the NTTR, 364 are considered historic resources. Of these historic resources, 183 are historic only and 181 are multi-component with prehistoric resources. Along with the military historical resources found on the NTTR, many important historic places are located in the areas surrounding the NTTR and the proposed expansion lands (Duke, 2016b). Fifty-three of the resources are defined as ethnohistoric (Roberson, Duke, & Rice, 2018).

Of the prehistoric archeological sites identified in the area, 2,369 are either prehistoric or multi-component prehistoric/historic-era sites and are true sites (i.e., not isolated finds previously recorded as sites) (Duke, 2016b).

Of particular note among these identified cultural resources is the Sheep Range Archaeological District (#74001145). This historic district was added to the NRHP in 1974 due to its potential to provide information on prehistoric and historic Native American cultures. The district is approximately 622,000 acres in size and consists of a variety of sites such as camp sites, roasting pits, and rock art that date from the Paleoindian period through the historic period.

Alternative 3

The probability model utilized for the fieldwork supporting the LEIS predicted a total of 2,663 sites within the expansion areas proposed by Alternative 3 as a whole. This represents an average density of 9.15 sites per 1,000 acres. The largest projected site count was projected within the Lowlands stratum (N=1,239), with the highest density of sites per acre expected within the pinyon uplands stratum (18.28 sites per 1,000 acres) (Duke, 2016b).

There are 201 known sites within the proposed expansion lands and the 1-mile record search buffer. Of these, 33 sites are eligible for listing on the NRHP, 101 are not eligible, and 67 sites are unevaluated or have unknown status for the NRHP. Most sites, including the majority of eligible sites, are situated along the western slopes of the Sheep Range and the margins of Desert Dry Lake in the DNWR, within the Alternative 3C proposed expansion area and 1-mile buffer, which was not included in the current archaeological surveys. Among the eligible sites, 3 are historic-era, 3 are multi-component, and 27 are prehistoric. The historic-era sites are two segments of the LV&T Railroad (26CK1649 and 26NY13764) and one unassociated debris scatter (26CK4332) (Roberson, Duke, & Rice, 2018).

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

Eleven previous cultural resource studies have been conducted in the Range 77 withdrawal area. Within the Alternative 3A proposed expansion area and 1-mile buffer, there are only two NRHP-eligible sites previously identified (26NY371 and 26NY13729), both prehistoric rockshelter sites containing charcoal and few artifacts (Roberson, Duke, & Rice, 2018). Tables listing cultural resource studies conducted and the archaeological sites identified can be found in Appendix I (Cultural Resources).

Of the 17,937 acres in the Range 77 withdrawal area, the probability model projected 151 archeological sites. Of these, 127 sites are projected to occur within lowlands stratum and 24 sites are projected within uplands stratum (Duke, 2016b). The site densities per 1,000 acres are estimated at 8.17 and 9.81, respectively. During the 2017 archaeological survey, site densities in the surveyed units were higher than expected (Roberson, Duke, & Rice, 2018). Based on the data model, site density in the lowland and upland landscape strata should range between 8 and 10 sites per 1,000 acres. In the Alternative 3A proposed expansion area, the 2017 inventory recorded 47 sites within approximately 618 surveyed acres in lowland units, and another 5 sites within 124 acres of upland units. This amounts to approximately 76 sites and 41 sites per 1,000 acres, respectively. The abundance of sites in the Alternative 3A area is thought to be due to the local availability of raw materials.

The 2017 archaeological survey of the Alternative 3A area shows a high number of quarry sites, toolstone testing, and initial core reduction sites occurring with the availability of raw materials from the desert pavement and alluvium covering site surfaces and surrounding landforms. Numerous un-utilized cobbles and naturally fractured angular fragments occur as well, in various densities (Roberson, Duke, & Rice, 2018). Two sites recommended as eligible for listing on the NRHP were identified (26NY15979 and 26NY15995) during this most recent survey. Site 26NY15979 was a multi-component prehistoric/ historic high density artifact and feature scatter and site 26NY15995 is a prehistoric rockshelter with associated artifacts.

Three historically significant early twentieth-century mining districts, the Bullfrog, Bare Mountain, and Transvaal, are located near and/or in the Alternative 3A proposed expansion area in Oasis Valley. These districts encompass important townsites and camps as well. Substantial silver and gold discoveries at Tonopah and Goldfield occurred in 1902. A second discovery of gold in the region occurred northwest of Beatty in 1904. Rhyolite and Beatty were the main townsites with the smaller camps occupying lands close to the numerous mines. At its peak, between 1907 and 1908, Rhyolite had a large population of 12,000. Beatty was founded as a transportation center with three railroads servicing the town. Beatty is the sole surviving town of the Bullfrog Mining District (Roberson, Duke, & Rice, 2018).

The Bare Mountain District is located southeast of Beatty. Gold was found on Bare Mountain in 1905 and the Telluride Mine was formed along with a small associated fleeting tent camp. Around 1908, fluorspar was discovered on the west side of the mountain and a short-lived camp sprung up around the mine. A number of subsequent

mines were formed in the area producing mercury, kaolin, opal, and cinnabar. Marble was also later mined in the area (Roberson, Duke, & Rice, 2018).

The Transvaal District is northeast of Beatty and covers the west side of Timber Mountain. Gold was discovered in Beatty Wash in 1906, and prospectors soon entered the hills northeast of Beatty. A camp eventually formed with around 700 to 800 residents, and prospecting hopefuls; however, within a few months, no substantial veins were found and the prospecting ended (Roberson, Duke, & Rice, 2018).

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

Twenty-three previous cultural resources studies have been conducted for the Range 64C/D and 65D withdrawal area. Two NRHP-eligible cultural resources, two sites of undetermined eligibility, and one site unevaluated as to eligibility were identified during these surveys. Five previously recorded sites within the Alternative 3B proposed expansion area include five that are recommended as eligible for listing on the NRHP: the LV&T Railroad (26CK1649), the Charleston Wye (26NY13764), a sheepherding camp (26CK4332), a prehistoric flaked and ground stone scatter (26CK1557), and one multi-component prehistoric flaked and ground stone scatter/historic-era debris scatter 26CK3906) (Roberson, Duke, & Rice, 2018). Tables listing cultural resource studies conducted and the archaeological sites identified can be found in Appendix I, Cultural Resources.

Of the 61,006 acres under the Range 64C/D and 65D withdrawal areas, the probability model had a projected site count of 525 archeological sites. Of these, 6 sites were projected to occur within the playa bottom stratum, 259 sites were projected to occur within lowlands stratum, 251 sites were projected within uplands stratum, and 8 sites are expected within the steep slopes stratum (Duke, 2016b). The site densities per 1,000 acres are estimated at 14.17, 8.17, 9.81, and 2.61, respectively.

The 2017 archaeological survey identified four new sites in the Alternative 3B proposed expansion area, all in lowland settings. They are roughly commensurate with expectations, at 7.2 sites per 1,000 acres. Only one site was identified as eligible for listing on the NRHP. Site 26NY16031 was a prehistoric rockshelter containing rock alignments, milling gear, and other artifacts (Roberson, Duke, & Rice, 2018).

The nearest mining districts to the project area include the Johnnie District to the south at the northwestern terminus of the Spring Range and the Charleston District on its northeast flank. Efforts in the Johnnie Mining District started in 1869 but accelerated in 1891 when gold outcrops were discovered in the Spring Mountains. In 1905, a post office opened and by 1907 Johnnie had 300 residents. The mine persisted until the 1930s and was finally abandoned by 1942 (Roberson, Duke, & Rice, 2018).

Originally the Charleston District was divided at Charleston Peak into two separate districts, the Yellow Pine to the south and the Timber Mountain to the north. The Yellow Pine District, now known as the Goodsprings District, is the oldest lode mine in Nevada. The Timber Mountain District was formed in 1869. This district came to be known as

Charleston. Lead, zinc, silver, and gypsum were all mined in the district (Roberson, Duke, & Rice, 2018).

Alternative 3C – Alamo Withdrawal

Fourteen previous cultural resource studies have been conducted for the Alamos withdrawal area. These surveys identified 25 NRHP-eligible cultural resources and 56 sites that are unevaluated as to eligibility. Included in these resources is the Sheep Range Archaeological District (#74001145). Tables listing cultural resource studies conducted and the archaeological sites identified can be found in Appendix I (Cultural Resources).

Of the 231,994 acres under consideration within the Alamos, the probability model projected 1,987 archeological sites. Of these, 134 sites were projected to occur within the playa bottom stratum, 853 sites are projected to occur within the lowlands stratum, 841 sites were projected within the uplands stratum, 87 sites were expected within pinyon uplands stratum, and 72 sites were expected within the steep slopes stratum (Duke, 2016b). The site densities per 1,000 acres are estimated at 14.17, 8.17, 9.81, 18.28, and 2.61, respectively.

3.9.2 Environmental Consequences

The Air Force recognizes that it is difficult to determine significance at the programmatic level. Under Alternatives 2 and 3, some portions of the South Range that overlap with the DNWR are not currently used to support military activities and are therefore either minimally or not affected by military activities. In consideration of any potential for significant impacts to cultural resources, and when considering the context of conducting activities on the NTTR, allowing ready access within the South Range, utilizing previously unused expansion areas to support military activities, the programmatic analysis, and public, tribal and agency comments, the Air Force has committed to mitigations to minimize the potential for significant impacts evaluated at a programmatic level (see Section 1.1, Introduction, and 2.9, Mitigation). The Air Force has determined these mitigations, in conjunction with implementation of the ICRMP, would reduce impacts programmatically to a less than significant level. Should any of the alternatives be adopted, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made.

3.9.2.1 Analysis Methodology

The impact assessment evaluated the potential impacts of the proposed land withdrawal extension and expansion to cultural resources. As specific actions for specific locations on the land proposed to be withdrawn have not yet been

For the Native American perspective on information in this section, please see Section 3.9.4.5 and Appendix K, paragraph 3.9.2.1.1.

determined, impacts to these resources are discussed in a general sense; site-specific evaluations of cultural resources would be conducted on a per-project basis in the future, and potential impacts and associated consultation efforts would be conducted at that time.

Potential impacts to cultural resources are evaluated with respect to the extent, context, and intensity of the impact in relation to existing regulatory guidance and historic properties present within the APE. Determining significance of impacts (40 CFR 1508.27) requires the action to be analyzed with respect to the setting of that action and consideration relative to the severity of the impact.

NEPA regulations (40 CFR 1508.27[b]) also provide for the consideration of the severity of an impact (i.e., intensity). There are numerous factors to consider when determining the intensity of potential impacts. For cultural resources, the degree to which a proposed action may adversely affect historic properties or objects listed in or eligible for listing in the NRHP or could lead to a loss or destruction of significant scientific, cultural, or historical resources are a primary point of consideration. Other considerations include but are not limited to: unique geographic areas, the potential for significance determinations to establish future precedents, the potential for cumulative impacts, and whether an action may violate a federal, state, or local law concerning the protection of cultural resources and the environment. Together, these factors define the intensity of potential impacts.

NHPA obligations (as described herein) for a federal agency are independent from the NEPA process and must be complied with even when environmental documentation is not required. When both are required, the Air Force may coordinate NEPA compliance with their NHPA responsibilities to ensure that historic properties, as defined under 36 CFR 800.16(l)(1), are given adequate consideration. As per AFI 32-7065 Section 3.3.1, and 36 CFR 800.8(a), the Air Force has chosen to incorporate NHPA Section 106 review into the NEPA process, rather than substituting the NEPA process for a separate NHPA Section 106 review of alternatives (AFI 32-7065 Section 3.3.2, and 36 CFR 800[c]).

The regulatory NHPA Section 106 compliance process consists of four primary stages. These include: initiation of the Section 106 process (36 CFR 800.3); identification of historic properties (36 CFR 800.4), which includes identifying historic properties potentially affected by undertakings; assessment of adverse effects (36 CFR 800.5), which determines whether the undertaking will affect historic properties and if effects to those properties might be adverse; and resolution of adverse effects (36 CFR 800.6) between affected and consulting parties such as the SHPO, the Advisory Council on Historic Preservation, Indian tribes and interested individuals. Additional stipulations are provided for in the NHPA should a failure to resolve adverse effects occur during this process (36 CFR 800.7).

As this LEIS effort encompasses large amounts of land where multiple, future development and training activities will take place, identification of historic properties will

be a time-consuming and labor-intensive effort. As per 36 CFR 800.4(b)(2), Phased Identification and Evaluation:

> Where alternatives under consideration consist of corridors or large land areas, or where access to properties is restricted, the agency official may use a phased process to conduct identification and evaluation efforts. The agency official may also defer final identification and evaluation of historic properties if it is specifically provided for in a memorandum of agreement executed pursuant to § 800.6, a programmatic agreement executed pursuant to § 800.14 (b), or the documents used by an agency official to comply with NEPA pursuant to Section 800.8.

Formal initiation of the NHPA Section 106 process began on July 18, 2016, with notification to the Nevada SHPO, consulting parties and Advisory Council on Historic Preservation of the Proposed Action and anticipated impacts. Also, 17 tribal groups were notified of the Proposed Action on August 23, 2016. Ethnographic and archaeological survey and recordation efforts to inform this consultation were also initiated in summer 2017. These efforts will occur in a phased approach in an effort to better involve and coordinate cooperative efforts between the U.S. Air Force, consulting parties and tribal groups. The Air Force is conducting a study of the APE (under 36 CFR 800.4) to identify historic properties of cultural and religious significance to Native American tribes. The study will use data collection methods that include field investigations of the APE and interviews with tribal members. These investigations may identify archaeological sites along with other cultural resources and cultural landscapes. Such sites and resources may be significant not just for their scientific value, but also because of religious and cultural significance to regional tribal groups. Consultations with agencies and tribal organizations are discussed in Section 1.5 (Environmental Impact Analysis Process). More information regarding these consultations and notifications is provided in Appendix B (Agency Consultation and Coordination).

An archaeological inventory was initiated by the Air Force in June 2017 with the intent of characterizing potential archaeological and cultural resources within the proposed expansion areas associated with the NTTR land withdrawal. A portion of this effort is to test the efficacy of an archaeological model previously developed for the existing NTTR boundaries. Additionally, this field effort includes an ethnographic study to identify areas of interest to regional tribal groups, further determine areas of high priority for cultural resources and serve as an identification effort under the NHPA. The primary goal of this effort is to identify resources within the NTTR and alternative areas and secondarily to guide future cultural resources studies within the NTTR.

Guided by studies such as these, properties identified in the APE by the Air Force are evaluated according to the NRHP criteria, in consultation with the SHPO and other parties. Typically, if the SHPO and other parties and the Air Force agree in writing that a historic property is eligible or not eligible for listing on the NRHP, that judgment is sufficient for purposes of fulfilling requirements of Section 106 (36 CFR 800.4[c][2]). Relevant procedures and criteria can be found in 36 CFR 63, Determinations of Eligibility for Inclusion in the National Register of Historic Places.

Effects (i.e., impacts) to cultural resources are defined as "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register" (36 CFR 800.16(i)). For the purposes of this analysis, there are three types of effects when considering historic properties. These include "no historic properties affected," which applies when there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them; "no adverse effect," which means that there is a direct or indirect effect to a historic property, but the effect does not diminish the qualities that make the property significant; and "adverse effect," which "is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, and association" (36 CFR 800 5(a)(1)).

3.9.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

For the Native American perspective on information in this section, please see Section 3.9.4.6 and Appendix K, paragraph 3.9.2.2.1.

Aircraft operations would have minimal to no direct impact on archeological resources within the current boundaries of NTTR withdrawal areas under Alternative 1. As operations would remain at status quo, the intensity of operations would not increase, and the severity of the impact would be low given the resource is not likely to be affected by the current operations. Safety footprints required in conjunction with current and future aircraft operations would necessarily restrict public access to the range providing a level of protection for extent resources. Although direct physical impacts are not anticipated, the potential for aircraft mishaps (crashes) or an off-target munition to directly impact cultural resources exists but is highly unlikely. (Further discussion on mishaps, their rate of occurrence, and procedures is located in Section 3.13, Health and Safety). In addition to the potential for direct impacts, the potential for indirect auditory and visual impacts exists with aircraft operations.

Visual intrusions can include aircraft overflights that enter the viewshed of a historic property. Effects from such overflights tend to be temporary and sporadic, and no physical changes occur to the historic properties as a result of the overflights. The potential for impacts depends on several factors, including the speed of the aircraft, the size of the operational airspace, and the specific location of the cultural properties in relation to the flight activities. At lower altitudes, the aircraft's visual presence is amplified and could adversely affect the character and feeling associated with a historic property (U.S. Air Force, 2014g).

During tribal events or ceremonies, overflights of any type can serve as a visual intrusion regardless of speed and altitude. Potential reductions or avoidance for such impacts could include the establishment of reasonable avoidance areas around the resources or landscape for reasonable time periods to reduce or eliminate any intrusion and protect the sanctity of the cultural or spiritual event (U.S. Air Force, 2014g).

Individuals attending ceremonies or visiting sacred spaces or traditional cultural properties can experience auditory effects as well. Annoyance is the most common effect of aircraft noise on humans, as it noticeably interferes with activities such as conversation, using a telephone, and sleeping, among other social and relaxation activities. Interference from sources such as jet aircraft can contribute to individuals becoming annoyed. Annoyance of 12 percent of the population occurs at approximately 64 dB and below, while the percentage of people annoyed increases to 12 to 21 percent at 65 to 70 dB (see Appendix C, Noise, which provides additional detail regarding noise metrics, analysis methodology, and impacts).

Previous studies have shown that little probability exists that runway operations noise causes structural damage to buildings. In fact, several studies of the effects of noise on historic buildings located in high aircraft-noise zones have found that vibrations resulting from the activities of tour groups, and even vacuuming, generated more structural vibration than aircraft noise (NRC/NAS, 1977; NASA, 1976; NASA, 1978). Subsonic sounds of less than 130 dB is highly unlikely to damage structural elements (Sutherland, 1990). Despite this, vibrations from flight operations may lead to increased rattling of structural elements, adding to annoyance factors for occupants. Sutherland (1990) documented that the probability of damage to a wood frame building is less than 0.3 percent, even when the building is directly under a large, high-speed aircraft flying only a few hundred feet above ground level.

Although sonic booms do occur over the NTTR and within the proposed expansion areas, such events would be expected to occur a maximum of one to three times a day in any given area of the range. The most prominent cultural resource at risk from sonic booms are buildings and other structures. Most damage recorded during sonic boom events is to fragile structural features, such as glass and plaster, and much of the variability in degree of the damage depends on the pre-existing condition of a structure (Sutherland, 1990; U.S. Air Force, 2014g).

Battis (1983) indicates that sonic booms are unlikely to cause damage to archeological features. The expected motions produced by sonic booms are comparable to those produced by local earthquakes. At these levels of motion, structurally sound features will be unaffected by seismic waves and are unlikely to initiate either fracture or spalling in rocks. However, where natural erosive mechanisms have had an effect on features, it is possible that sonic booms could accelerate the processes to some small or insignificant degree.

A second study conducted by Battis (1988) considered vibrational effects on structural elements of archeological sites from jet aircraft overflights at altitudes ranging from 60 to over 300 meters AGL. It was concluded that these tested aircraft overflights had no significant vibration effect on structural elements. Given this, the potential for impacts to more fragile manmade features, rock art, or other archeological features would be considered highly unlikely.

Use of ordnance on the NTTR would typically result in some degree of ground disturbance and, in turn, may potentially damage archeological resources. Current

target impact areas would remain the same, and the Air Force does not plan to create any new target impact areas as part of this withdrawal effort. Because this alternative would retain the current boundaries of the NTTR and not increase the intensity of munitions use, no additional impacts beyond the scope of existing conditions are anticipated with respect to cultural resources within the NTTR. The continued use of existing ranges would ensure that any potential disturbance or contaminants introduced from munitions use would be confined to currently approved areas of use.

Construction, the use of vehicles, and overland troop movement on the NTTR would typically result in some degree of ground disturbance and, in turn, may potentially damage cultural resources. Current target areas would remain the same. Because this alternative would retain the current boundaries of the NTTR and not greatly increase the intensity of activities, no additional impacts beyond currently approved activities and those currently covered by standard operating procedures in the Nellis AFB ICRMP are anticipated with respect to cultural resources within the NTTR.

The Nellis AFB ICRMP Section 5.2.3, Archaeological Resource Protection, provides for the monitoring and protection of cultural resources (U.S. Air Force, 2012b). Archaeological resources requiring protection on the NTTR are subject to regular monitoring in an effort to note negative impacts, identify the source, and work to reduce or eliminate the causes of the deterioration.

It is anticipated that any construction projects in the future would be selected to avoid impacts to significant cultural resources. Section 5.2.4 of the Nellis AFB ICRMP requires a treatment plan when a historic property is identified as threatened. This requires an investigation and evaluation to be conducted according to procedures in 36 CFR 60. A draft treatment plan shall be composed by the Cultural Resources Manager followed by consultation. If possible, avoidance shall be selected as the preferred treatment measure. Because avoidance of resources is the preferred method of treatment, it is anticipated that sites would be selected that provide resources with a sufficient buffer that prevent direct impacts to cultural resources. In addition, depending on the scope of the activities, proposed actions may be subjected to additional consideration under NEPA and the NHPA.

Under AFI 32-7065, inadvertent discoveries of Native American cultural items require installations to comply with the *Native American Graves Protection and Repatriation Act* and 43 CFR 10, Native American Graves Protection and Repatriation Act Regulations. (U.S. Air Force, 2012b). If an inadvertent discovery is made during development or training activities, personnel should implement the following as per Section 5.2.1 of the Nellis AFB ICRMP (U.S. Air Force, 2012b): (1) activities shall immediately cease and efforts will be taken to ensure protection until arrival of the Cultural Resources Manager, (2) the resource shall be marked to provide an efficient relocation, (3) artifacts shall be left in place, (4) the Cultural Resources Manager shall be notified within 24 hours of the discovery, and (5) personnel should take efforts to be available to assist in relocating the resource.

As per Section 5.2 of the Nellis AFB ICRMP, if human remains are discovered or if there is sufficient reason to suspect that human remains are present, the Cultural Resources Manager or Asset Management Flight Chief shall be immediately notified. If a federal action is underway near the burial materials, all activity within or near the location shall cease. If the discovery is determined to be human remains of possible Native American origin, the Cultural Resources Manager shall invite consultation with Native American tribes. If there is an inadvertent discovery of human remains that are thought to be non-Native American, Section 106 consultation with the SHPO and possibly notification of installation or local law-enforcement authorities is required (U.S. Air Force, 2012b).

Potential emitters would be placed along existing roads or two tracks. Any construction activities have the potential to adversely affect cultural resources. As a result, any future undertaking in this area could require additional consultation under NEPA and Section 106 of the NHPA, depending on the scope and location of the activity. As the emitter operations pose no threat to cultural resources, no impacts to cultural resources would be anticipated from operations at emitter sites. Placement of the emitter depending on the future locations selected may adversely affect cultural resources resulting from site preparation activities. Section 5.2.4 of the Nellis AFB ICRMP requires a treatment plan when a historic property is identified as threatened. This requires an investigation and evaluation to be conducted according to procedures in 36 CFR 60. A draft treatment plan shall be composed by the Cultural Resources Manager followed by consultation. Because avoidance of resources is the preferred method of treatment, it is anticipated that sites would be selected that provide resources with a sufficient buffer that prevent direct impacts to cultural resources.

If an inadvertent discovery of cultural resources or human remains occurs during any ground-disturbing activity, procedures set forth in the Nellis AFB ICRMP and AFI 32-7065 and discussed above for ordnance use would be implemented.

3.9.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

For the Native American perspective on information in this section, please see Section 3.9.4.7 and Appendix K, paragraph 3.9.2.3.1.

As Alternative 2 would have the same footprint and a similar range of activities as discussed for Alternative 1 with a 30 percent increase in operations, impacts to cultural resources from air operations with Alternative 2 would be similar to those discussed under Alternative 1. An increase in flight operations of 30 percent would occur; however, as discussed for Alternative 1, minimal impacts to archeological resources would be anticipated from this activity as the severity of the impact would remain low given the nature of the resource. The potential for aircraft mishaps (crashes) or an off-target munition to directly impact cultural resources exists but is highly unlikely. (Further discussion on mishaps, their rate of occurrence, and procedures is located in Section 3.13, Health and Safety).

Auditory and visual effects from aircraft operations are similar to those described for Alternative 1. Although the potential exists for increased annoyance from a 30 percent increase in flight operations, the Air Force could potentially ameliorate negative effects through scheduling of air operations away from sensitive cultural locations or utilization of specific times for operations near these locations. For Alternative 2, it is anticipated that sound levels would be approximately 66 to 70 dB in the northern part of the NTTR and that sound levels would be lower, approximately 45 to 67 dB, in the southern part of the NTTR (see Section 3.2, Noise, Figure 3-2, Subsonic Noise Exposure Within the NTTR). With the implementation of avoidance areas around specific traditional cultural properties and sacred sites and scheduling of mission activities around tribal events, no adverse effects to cultural resources would be anticipated from aircraft operations.

Alternative 2 would have the same range of activities as discussed for Alternative 1 with a 30 percent increase training activities, as outlined in Section 2.3.2 (Alternative 2). Alternative 2 would provide ready access, which includes a Congressionally directed change in land management that effectively eliminates the need to manage the withdrawn lands as if they were wilderness. As such, impacts to cultural resources from munitions, ground disturbance, and emitter operations would have the potential to increase above those discussed under Alternative 1 because ready access would provide a greater area for military activities to occur as compared to Alternative 1. Access to the wilderness area would occur under this alternative; however, any future undertaking in this area could require additional consultation under NEPA and Section 106 of the NHPA.

It is anticipated that any construction projects and emitter placement in the future would be selected to avoid impacts to cultural resources. With the emitters, an estimated 7.5 acres of disturbance would be required under this alternative to construct the emitter location, with another 4 acres of disturbance to improve roadway access. Both of these activities have to potential to adversely affect cultural resources. As a result, any future undertaking in this area could require additional consultation under NEPA and Section 106 of the NHPA, depending on the scope and location of the activity. If an historic property is threatened, base personnel would follow procedures found in Section 5.2.4 of the Nellis AFB ICRMP that requires the completion of a treatment plan.

If an inadvertent discovery of cultural resources or human remains occurs during any ground-disturbing activity, procedures described for Alternative 1 and set forth in the Nellis AFB ICRMP and AFI 32-7065 would be implemented.

3.9.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

For the Native American perspective on information in this section, please see Section 3.9.4.8 and Appendix K, paragraph 3.9.2.4.1.

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal

- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

Aircraft operations with a 30 percent increase in intensity would likely have no direct impact on physical cultural resources (structural, archeological) within the proposed expansion areas for Alternatives 3A, 3A-1, 3B, and 3C. The potential for aircraft mishaps (crashes) or an off-target munition to directly impact cultural resources exists but is highly unlikely. (Further discussion on mishaps, their rate of occurrence, and procedures is located in Section 3.13, Health and Safety). Given the type of operations under Alternative 3 and the context of the resource, the likelihood of a severe impact would be low. Auditory and visual effects from aircraft operations for Alternatives 3A, 3A-1, 3B, and 3C would be similar to those described for Alternative 2 as this alternative would expect the same level of increase in operations. For Alternatives 3A and 3A-1, it is anticipated that sound levels would be approximately 45 to 67 dB in the proposed expansion area. For Alternative 3B, it is anticipated that sound levels would be approximately 60 to 61 dB in the proposed expansion area. For Alternative 3C, it is anticipated that sound levels would be approximately 60 to 61 dB in the proposed expansion area. Additional details regarding noise impacts can be found in the noise section of this document (see Section 3.2, Noise, Figure 3-2, Subsonic Noise Exposure Within the NTTR). With the implementation of avoidance areas around specific traditional cultural properties and sacred sites and scheduling of mission activities around tribal events, no adverse effects to cultural resources would be anticipated from aircraft operations for Alternatives 3A, 3A-1, and 3B.

No munitions use would occur in the proposed expansion areas for Alternatives 3A, 3A-1, 3B and, as such, munitions use would have no effect on cultural resources with these subalternatives. Ordnance and munitions use would continue within current ranges. Munitions to be utilized within the proposed expansion area for Alternative 3C would include blanks, smoke grenades and hand flares, among others. Use of ordnance on the currently used NTTR areas would typically result in some degree of ground disturbance and may, in turn, cause potential to damage cultural resources. However, current target areas would remain the same and are unlikely to contain undisturbed or accessible cultural resources. With respect to the Alternative 3C proposed expansion areas, the closest target area where live munitions use would occur is the target area located on 62A. It is not anticipated that these activities would have an impact on cultural resources within the proposed expansion areas for Alternative 3C. Therefore, munitions use would have no impact on cultural resources within the proposed expansion areas for Alternatives 3A, 3A-1, 3B, and 3C.

For Alternatives 3A, 3A-1, and 3B, approximately 25 and 30 miles, respectively, of new fencing would be installed. Additional compliance with NEPA and the NHPA would be required prior to fence construction. If areas of potential disturbance are anticipated

within any unsurveyed area, additional Section 106 compliance would be required. Under Alternatives 3A, 3A-1, 3B and 3C, public access to the Alamo areas would be restricted other than the limited access allowed under current Air Force procedures. It is anticipated that the limitation of access would reflect a beneficial impact to cultural resources by restricting traffic through the area and preventing intentional or accidental damage to resources. Similarly, fences on the property, once in place, would provide the ability to deny access to the public and would serve as a beneficial impact to sensitive cultural resources such as archeological sites and traditional cultural properties.

Construction, a 30 percent increase over the baseline in the use of vehicles, and overland troop movement on the NTTR would typically result in some degree of ground disturbance and, in turn, may potentially damage archeological resources. With Alternative 3C, an increase in foot traffic in mountainous areas would occur from IW activities. In terms of IW activities, a small number of troops would participate and operations are designed to leave no evidence of troop presence. Munitions are limited to items such as blank small-arms ammunition, flares, and other training munitions such as paint balls. Access to the South Range would likely be more restricted, and access protocols would need to be developed.

In addition, 65 miles of fencing would be constructed, with subsequent maintenance and monitoring, and approximately 13 acres of construction-related ground disturbance may occur from runway construction. The associated FARRP area would be used during training activities. These training activities consist of refueling and munitions loading of aircraft and would occur in austere areas such as a dry lake bed. Completion of the Section 106 process of the NHPA would be required prior to the implementation of these or any other future undertakings. If Section 106 is completed prior to these or other similar future activities, no significant impacts from ground disturbance are anticipated with respect to cultural resources for Alternative 3C.

If future ground-disturbing activities occur subsequent to the withdrawal process, it is anticipated that sites would be selected to avoid impacts to known cultural resources or changes in design or location by the Air Force may be enacted to avoid impacts to resources. As stated under Alternative 2, Section 5.2.4 of the Nellis AFB ICRMP would require a treatment plan if an historic property may be threatened.

Conceptual emitter operations would not occur within proposed expansion areas for Alternatives 3A, 3A-1, and 3B, and, as such, there would be no impact on cultural resources due to emitter operations for these alternatives. For Alternative 3C, emitters would be placed along existing roads or two tracks, and the emitter operations pose no threat to cultural resources; therefore, no impacts to cultural resources would be anticipated from operations at emitter sites. With the emitters, an estimated 7.5 acres of disturbance would be required under this alternative to construct the emitter location, with another 4 acres to improve roadway access. Placement of an emitter, depending on the future locations selected, may result in disturbance to cultural resources from site

preparation. However, in compliance with procedures set forth in the Nellis AFB ICRMP, sites would be selected to avoid impacts to cultural resources. Depending on the scope of the activities, may be subject to additional consideration under NEPA, the NHPA, and other appropriate regulations.

When a unit proposes a mission, it is required to submit its plans to 99 CES/CEA for review. The Cultural Resources Manager then reviews the documentation and makes recommendations for protection/avoidance of resources (U.S. Air Force, 2012b). For Alternatives 3A, 3A-1, 3B, and 3C, if an inadvertent discovery of cultural resources or human remains occurs during any activity, procedures described for Alternative 1 and set forth in the Nellis AFB ICRMP and AFI 32-7065 would be implemented.

The Archaeological Resources Protection Act of 1979 provides criminal and civil penalties for any individual who removes, damages, alters, defaces, excavates without authorization, or attempts to injure archaeological resources located on public or Native American lands. The installation commanders will take action to initiate prosecution under the Act for offenders who collect artifacts or disturb features (U.S. Air Force, 2012b).

3.9.2.5 Alternative 4 – Establish the Period of Withdrawal

For the Native American perspective on information in this section, please see Section 3.9.4.9 and Appendix K, paragraph 3.9.2.5.1.

For Alternative 4, the period of withdrawal would be established and combined with other alternatives, conjunctively determining the temporal and spatial limits of the withdrawal. The longer the term of the withdrawal and the greater the geographic extent of the withdrawal, the greater the opportunity for beneficial impacts to cultural resources due to a lack of access to the general public. This lack of access would decrease the likelihood of direct impacts to cultural resources within the NTTR and/or the proposed expansion areas from foot or vehicular traffic and vandalism or looting. Military personnel accessing or utilizing the withdrawn areas would be required to follow any standard operating procedures determined by project-specific Section 106 consultation with the SHPO and tribal entities or similar procedures as mandated by the Nellis AFB ICRMP and AFI 32-7065.

Alternative 4A (20 years) would have the potential to beneficially affect cultural resources. Alternative 4B (50 years) would also have the potential to beneficially affect cultural resources. Protections to cultural resources within the NTTR and proposed expansion areas offered by Air Force land access control would be beneficial in nature for a longer period than that for Alternative 4A. The indefinite withdrawal period proposed under Alternative 4C would represent a longer term withdrawal period than proposed under Alternative 4A or 4B. Protections to cultural resources within the NTTR and proposed expansion areas offered by Air Force land access control would be beneficial for an indefinite period, thereby protecting resources for a longer period than that for Alternative 4A or Alternative 4B.

Although there would be benefits to limiting the public's direct access to cultural resources, the Air Force acknowledges that it is difficult to determine significance at the programmatic level for long-term withdrawal periods and recognizes that there is the potential for impacts to cultural resources over time as a result of ongoing military mission changes, development pressures both within and outside the NTTR, and other unforeseen events that cannot at this time be quantified to provide meaningful analysis. As a result, ongoing planning, and adaptive management actions, regulatory compliance, and future NEPA analysis as required for any future actions would assess and evaluate potential impacts, both singular and cumulative, over any period of withdrawal. Nonetheless, implementation of mitigation measures and ongoing management actions associated with the ICRMP, as outlined in Sections 2.9.2 and 3.9.3 (Proposed Resource-Specific Mitigations and Management Actions), would minimize or avoid significant impacts to cultural resources.

3.9.2.6 No Action Alternative

For the Native American perspective on information in this section, please see Section 3.9.4.10 and Appendix K, paragraph 3.9.2.6.1.

In the event that the land withdrawal for the NTTR is not renewed, much of the approximately 2.9 million acres currently closed to the public would potentially be open to use under BLM and USFWS administration. The potential for the public to interact with known cultural resources, traditional properties, or cultural landscapes would increase. Currently protected tribal resources could potentially be unprotected and open to potential damage from looting or vandalism. Appropriate environmental documentation and safeguards would be the responsibility of the permitting federal agency, which in this case would be the BLM and USFWS.

3.9.3 Proposed Resource-Specific Mitigations and Management Actions

The identified resource-specific mitigations and/or management actions for cultural resources that would be implemented across all action alternatives include the following:

- The Air Force will consider, as per the installation (Nellis, Creech, and the NTTR) ICRMP (2012b), specific mitigations, management actions, and/or BMPs that would be presented as part of a treatment plan if cultural resources are threatened, although avoidance of the resource typically would be the preferred mitigation practice. For example, continue to restrict access and military operations around sensitive cultural sites, such as the Pintwater Cave. If the Air Force finds an undertaking may have an adverse effect on historic properties, Nellis AFB will consult with the Nevada SHPO, tribes, interested parties, and the Advisory Council on Historic Preservation to prepare a treatment plan to resolve adverse effects.

- In accordance with the ICRMP, conduct annual site monitoring of eligible cultural areas, which includes Pintwater Cave and Kawich Range (e.g., the Basket Site).
- In conjunction with the LEIS baseline ethnographic studies, the Air Force, in coordination with the tribes, will continue to develop ethnographic information along with archaeological studies.
- The Air Force recognizes the rights of Native American tribes and other entities with historical ties to access religious sites, objects, and historical resources on lands under Air Force control, within the limitations of the military mission. The Air Force will continue to provide a process for continued access as outlined in Section 2.9.2 and 3.4.3 (Proposed Resource-Specific Mitigations and Management Actions, for Land Use).
- The Air Force will continue to provide information to range users, prior to conducting training or testing activities, regarding restrictions and avoidance areas derived from culturally sensitive areas (specific cultural features will not be identified). This mitigation minimizes impacts across all action alternatives.
- The Air Force will continue to host a semi-annual meeting with federally recognized tribes through the CGTO or other appropriate forum. This process was created through dialogue with the tribes during the 1999 Withdrawal process.
- The Air Force will continue to conduct government-to-government consultation with federally recognized tribes as appropriate for any activities that have the potential to adversely affect cultural resources. As a result, any future undertaking in this area could require additional consultation under NEPA and Section 106 of the NHPA, depending on the scope and location of the activity.

3.9.4 Native American Perspective on Cultural Resources

3.9.4.1 Native American Perspective: Cultural Resources Description of Resource

The CGTO knows cultural resources are interconnected. They encompass more than physical structures and are not limited to sacred sites. Natural resources within the NTTR are considered culturally sensitive and include but are not limited to plants and animals, natural formations, waterways, weather and astronomy that must all be kept in balance in culturally appropriate ways. Native Americans rely on these resources to sustain life and to interact with the spiritual world as described in our traditional beliefs to keep the world in balance. If balance is not sustained, the land will react and change will occur, thus impacting cultural resources on the NTTR. The CGTO knows the complex views of tribal people must be respected in order to protect the area from

contamination and other adverse effects that may destroy the cultural integrity of the landscape.

3.9.4.2 Native American Perspective: Cultural Resources Region of Influence

Although land withdrawal alternatives have been identified in the LEIS, the CGTO cannot give specific comments on any of the areas as stated in the 2017 LEIS proposal on page 3-183, line 11-13 "…land proposed to be withdrawn have not yet been determined…" More information is needed for the CGTO to provide a corresponding response. Once information is received, tribal text will be developed by the tribal writers using a similar evaluation process for other sections of the LEIS.

The LEIS defines the APE for the proposed action to be assumed not to extend beyond the footprint of the activity boundaries as defined for Alternatives 1, 2, 3A, 3A-1, 3B and 3C and associated airspace (LEIS 3.9.1.2 Region of Influence). The CGTO knows NEPA extends beyond proposed activity boundaries and requires systematic evaluations of "visual, auditory, social, and land use effects; impacts on community cultural integrity; impacts to cultural uses of the biophysical environment; and so on." (National Preservation Institute).

Native Americans describe cultural resources differently than federal agencies because of our epistemological view of the personified environment that encompasses life. To list and describe all the items that are considered a resource would be extremely difficult to describe. However, some examples include foods and medicines, unobstructed visual horizons of the cultural landscape to include view of the mountains or sunrise for morning blessings, water, rock shelters, and the wind to breathe air needed for songs or for the mountains, trees and insects to hear them. Connections between places are culturally critical because they constitute the foundations of cultural landscapes, which in turn define how the world is significantly interwoven into a whole. Like a net, if one place or combination of places is broken, the whole is proportionally weakened. There is no secular way to describe how the cultural resources sustain and interact to support each other -- it is only noticed once something dies or ceases to exist.

3.9.4.3 Native American Perspective: Cultural Resources Affected Environment

Native Americans consider cultural resources to include not only archaeological remains left by our ancestors but also natural resources and geologic formations in the region, such as plants, animals, water sources, minerals, and natural landforms that mark important locations for keeping our history alive and for teaching our children about their culture. The CGTO knows, based on its collective knowledge of Native American culture and the universal tribal view of cultural resources and their interconnectedness is considered inseparable. In 2008, an ethnographic study of the Black Mountain area on NTTR was conducted that reaffirmed ceremonial trails, sacred sites and how they are tied together (Stoffle, Arnold, Van Vlack, O'Meara and Medwied-Savage 2009).

Contrary to descriptions in the LEIS relating to cultural affiliation by a single group rather than all, the NTTR and nearby lands are significant to Western Shoshone, Southern Paiute, Owens Valley Paiute/Shoshone and Fort Mojave people. The lands are central in the lives of these people and were mutually shared for religious ceremony, resource use, and social events (Stoffle et al., 1990a and b). When Europeans encroached on these lands, the numbers of Indian people and their relationship with one another changed, and the condition of their homelands began to be out of balance. European diseases killed many Indian people; European animals replaced Indian animals and disrupted fields of natural plants; Europeans were guided to and then assumed control over Indian minerals; and Europeans took Indian agricultural areas. Indian people believe that the natural state of their homelands was what existed before European contact, when Indian people were fully responsible for the continued use and management of these lands.

The withdrawal of Nevada's lands for military purposes occurred in the 1940's, followed by the continued process of Euro-American encroachment on Indian lands and impacts on our resources. The forced removal of Indian people from the land was combined with their involuntary removal to distant reservations. Land-disturbing activities followed, causing some places to become unusable our out of balance for Indian people. On the other hand, many places were protected by the land withdrawal because "pothunters" were kept from stealing artifacts from rock shelters and European animals were kept from grazing on Indian plants. The forced removal of Indian people from the land was combined with their involuntary registration and removal to distant reservations in the early 1940s. Indian people were thus removed from their homelands that had been central to their lives for thousands of years.

Nellis Air Force Base has supported several cultural resource studies relating to NTTR, most occurring as a result of recommendations made by the CGTO and commitments made by the Air Force. Many of these studies are cited throughout this document. These studies were also designed to comply with various federal laws and executive orders, including the American Indian Religious Freedom Act, Native American Grave Protection and Repatriation Act, Executive Order 13007, Indian Sacred Sites and Air Force Instruction 90-2002 Interactions with Federally Recognized Tribes. Through these studies, the CGTO reaffirmed that American Indians used traditional sites on the NTTR to make tools, stone artifacts, and ceremonial objects; Many sites are also associated with traditional healing ceremonies and power places

Several areas within the NTTR and the proposed land expansion areas are recognized as traditionally or spiritually important. For example, the Kawich, Belted, Spotted, Desert, and Pahranagat Ranges along with Black Mountain and Mount Helen, contain a number of significant vantage points with different panoramas including but not limited to Mount Charleston, Scrugham Peak, and Buckboard and Pahute Mesa. Black Mountain and an inter-related cinder cone comprise an important religious site that is considered to be a portal to the underworld. Prow Pass on the nearby NNSS is considered an important ceremonial site and, because of this religious significance,

tribal representatives have recommended the DOE make attempts to minimize disturbance that may affect this area (Stoffle et al. 1988). Oasis Valley near Beatty, Nevada is considered another important area for trade and ceremonies. In 1993, tribal members visited a rockshelter site containing perishable basketry and crookneck staff on the NNSS, and recommended that the items be left in place, with annual monitoring to assess their condition. Similarly, Gold Meadows near the NTTR and NNSS boundary is extremely important to the Indian people. Other areas are considered important based on the abundance of artifacts, traditional-use plants and animals, rock writing, and possible burial sites. (See *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017* for more details).

The CGTO recommends the Air Force make provisions for Native Americans to continue to identify culturally significant locations so potentially impacted resources can be identified, alternative solutions discussed, and adverse impacts averted. These studies will address and guide the Air Force in developing culturally appropriate Best Management Practices to protect cultural resources and more effectively implement mitigations measures in accordance with Council on Environmental Quality regulations (40 CFR 1508.20 1 through 5). To accomplish best practices, Native Americans must be involved with the following actions:

- Assess and determine culturally appropriate measures to protect geological formations important to the spiritual landscape.
- Implement culturally appropriate environmental restoration techniques that require minimal ground disturbance.
- Restore impacted plant and animal species essential to the spiritual and cultural landscape.
- Provide Native Americans access to CGTO designated areas so we can conduct purification and balancing ceremonies in an attempt to restore the natural and spiritual harmony of the NTTR landscape.
- Develop and implement systematic American Indian ethnographic studies to better understand the interconnectedness of the cultural landscape, and implement culturally appropriate methods to protect the landscape and sustain spiritual and cultural balance.
- Initiate tribal re-vegetation efforts to help restore disturbed areas on the NTTR.

In addition, the CGTO recommends areas near the NTTR/NNSS boarder be set aside for exclusive Indian use because of significant cultural resources.. Efforts should be made to forego any additional land disturbances within these areas and provide access to Native Americans.

The CGTO agrees site monitoring is essential to preserving cultural resources on the NTTR, and recommends Native Americans continue to serve as site monitors. As a minimum, the CGTO recommends annual tribal visits to monitor the condition of

sensitive cultural sites located within the NTTR. The CGTO further recommends visits to areas designated or potentially designated for repatriation. Finally, the CGTO recommends Native Americans conduct periodic assessments in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA) and other federal mandates.

3.9.4.4 Native American Perspective: Archeological Resources – Alternative 3C Alamo Withdrawal

The CGTO knows the Nuwuvi Working Group (NWG) is comprised of 7 Southern Paiute/Chemehuevi Tribes that work closely with the US Fish and Wildlife and Forest Services. The NWG is a separate entity of tribally appointed representatives of which many are active participants in the CGTO. In February 2017, federally recognized tribes working with the NWG wrote a letter to the Air Force and US Fish and Wildlife expressing concerns about the impending LEIS and the proposed land expansion into the Desert National Wildlife Refuge Complex. In preparation for the LEIS, the Air Force developed a Historic Property Identification Plan (HPIP) that did not address nor consider Southern Paiute or other tribal concerns relating to religious ties to the area or impacts to traditional tribal song and storyscapes. The NWG expressed additional concerns about an outdated methodology using predictive modeling to identify areas of cultural significance in pre-determined locations.

In response to NWG concerns, the University of Arizona-Tucson entered into a contract with Far Western Anthropological Research Group (FWARG) in September 2017 at the request of the Nellis Air Force Base to conduct an ethnographic study for the proposed land expansion areas. This region of influence is known to contain many important culturally sensitive resources, objects and places. Some key examples of these resources include religious trail systems that connect the Spring Mountains to the Pahranagat Valley and ceremonial locations that fall within a geologic constriction that lead into Desert Dry Lake playa. Other areas include numerous other important power spots and related locations that are commonly used to support traditional religious and ceremonial activities.

3.9.4.5 Native American Perspective: Cultural Resources Analysis Methodology

The CGTO knows it is difficult to describe the impact on physical sites without identifying locations of specific sites. However, Native Americans are able to comment on the impact of increased activities that support simulated combat directly or indirectly within the NTTR as it relates to the natural, physical, and spiritual worlds.

Native Americans have and always will rely on the entire environment for life, including air, wind, water, animals, plants, trees, rocks and anything within the cultural landscape that is visible and not visible, including unobstructed landscapes. It is essential that consultation with Native Americans through the CGTO must be maintained to discuss the impacts of any proposed or actual land disturbing activities that increase air traffic or

alteration to the land. Disturbance to any one element affects the connectedness of all. For example, limiting access or tribal involvement perpetuates tribal separation from the land and negatively affects the natural balance of the land and all living things. Our languages, traditional prayers, songs and stories help maintain the natural balance and are necessary to sustain harmony.

3.9.4.6 Native American Perspective: Cultural Resources Environmental Consequences – Alternative 1

According to the LEIS, "Battis (1983) indicates that sonic booms are unlikely to cause damage to archeological features." The CGTO knows sonic booms can disturb the cultural balance and physical environment by bringing harm to the spirits of the land and to culturally sensitive sites. The Air Force acknowledges the potential impact and disturbance from sonic booms over populated areas. Similarly, the CGTO believes the same impacts and disturbance occur to the living landscape.

There is no accurate way to describe the impact on animals and the spiritual world to include air currents when considering the results of Battis study without a systematic ethnographic study that involves Indian people. It is important to note that the Battis study is based on measurements taken 33 years ago when different technology was used. Today aircraft produce louder noise at different frequencies than in the past. Current data is needed to accurately assess the proposed impacts of sonic booms to the cultural landscape so the CGTO can develop a corresponding response.

Construction of new sites or activities used to support military operations always creates new risks. While government agencies seek to "mitigate" possible disturbance, the CGTO looks for ways to avoid, prevent or minimize additional disturbance to the cultural landscape. Tribal consultation with the CGTO is required throughout the planning and implementation process associated with new undertakings that may impact the cultural landscape.

It is impossible to continue operation on the NTTR without disturbing the spiritual world and the interconnectedness to which Native Americans are charged with keeping the land in balance.

3.9.4.7 Native American Perspective: Cultural Resources Environmental Consequences – Alternative 2

The CGTO knows a 30% increase in flight operations will have increased impacts on the land. The presence of additional aircraft will increase stress to the entire cultural landscape both visible and non-visible. There is no way to measure the true cultural impacts on air movement, effects on animal behavior, and impacts of increased operations that may further restrict Native American access to the NTTR for traditional ceremonies and other religious activities.

3.9.4.8 Native American Perspective: Cultural Resources Environmental Consequences – Alternative 3

The CGTO disagrees that a 30% increase in flight operations will have minimal impacts. The presence of additional aircraft will increase stress to the entire cultural landscape both visible and non-visible. There is no way to measure the true cultural impacts on air movement, effects on animal behavior and increased operations that may further restrict Native American access to the NTTR for traditional ceremonies and other religious activities.

3.9.4.9 Native American Perspective: Cultural Resources Environmental Consequences – Alternative 4

Restricting public access to culturally sensitive sites has a potential benefit for protecting those sites and resources, however it severely restricts access of tribal people to sites of importance when ceremonial use is needed. Currently, the Archaeological Resources Protection Act and other regulations protect lands and sites from desecration. Protection resulting from restrictive measures further limits Native American access to certain locations when needed. Protective measures should be consistent with the American Indian Religious Freedom Act and E.O. 13007 Access to Sacred Sites and in compliance with AFI 90-2002 Tribal Consultation with Federally Recognized Tribes and lastly, E.O. 13007 Access to Sacred Sites.

3.9.4.10 Native American Perspective: Cultural Resources Environmental Consequences – No Action Alternative

Native American lands have been exploited, desecrated or impacted from the time of the first settlers. Regardless of the proposed alternative, the CGTO believes it does not give the right for anyone to cause irreparable harm to our traditional homelands including the resources or the deities that protect the land. It is our responsibility to co-exist and nurture the land for those who follow us as we have done for thousands of years. Involvement with the Air Force is an example how Native Americans can live, use and visit the land that contains archaeological evidence of our past and present existence over thousands of years. While the land has changed as a result of military presence, many of the areas remain nearly the same as they have for thousands of years.

3.10 EARTH RESOURCES

3.10.1 Affected Environment

The NTTR is located within the southern part of the Great Basin and is generally characterized by north-south trending mountain ranges that are separated by internally draining alluvial basins or playas. The valley bottoms of the South Range vary in elevation from approximately 1,900 to 3,600 feet mean sea level, and the valley bottoms of the North Range are approximately 4,500 to 5,500 feet mean sea level. Mountain range elevations exceed 6,000 feet on the South Range and are over 8,500 feet on the North Range (U.S. Air Force, 2010).

3.10.1.1 Description of Resource

For the Native American perspective on information in this section, please see Section 3.10.4.1 and Appendix K, paragraph 3.10.1.1.1.

Earth resources include geologic resources, soil, minerals, tectonic features, landforms, and paleontological resources located within the study area, any of which can have scientific, economic, and recreational value. For purposes of this LEIS, the term "soil" refers to unconsolidated material and "rock" refers to consolidated material. This LEIS analyzes data on the area's geologic setting, as well as the various earth resources of the NTTR (U.S. Air Force, 2017m).

3.10.1.2 Region of Influence

Physiography and Topography

The NTTR is located in the southern part of Nevada within the Basin and Range Province. This physiographic province is characterized by north-trending mountain ranges that are separated by alluvial basins (U.S. Air Force, 2010; USGS, 2017). Within the Great Basin subprovince, water is captured in basins and only discharges to groundwater or to the atmosphere via evaporation (U.S. Air Force, 2017m). The Great Basin subprovince occupies a 375- by 375-mile tract, which predominantly lies within the state of Nevada. Nineteen named mountain ranges, mountains, hills, and one mesa are partially or fully within the existing NTTR boundaries (USFWS, 2017c).

Most of the Great Basin is an area of internal drainage. The majority of surface water runoff within the study area collects in eight seasonal playa lakes within the NTTR boundary. These include Mud Lake, Antelope Lake, and Lambs Pond in the North Range and Groom Lake, Papoose Lake, Three Lakes Valley playa, Dog Bone Lake, and the Indian Springs playa in the South Range (U.S. Air Force, 2017m). The land area under the Alamo airspace contains the Desert Lake playa.

3.10.1.3 Geology

For the Native American perspective on information in this section, please see Section 3.10.4.2 and Appendix K, paragraph 3.10.1.3.1, Geology (page K-16) and paragraph 3.10.1.3.1, Volcanism and Seismic Activity (page K-37).

Existing NTTR Boundary (Alternatives 1 and 2)

The geologic terrain of the NTTR can be divided into a southeastern area of largely Paleozoic sedimentary rocks and a northwestern area of mainly volcanic rocks of late Cenozoic age (U.S. Air Force, 2010). Surface exposed rock formations across the NTTR vary in age from Precambrian (older than 570 million years before present) to Quaternary (less than 1.6 million years before present).

Volcanic rocks are a predominant feature of the North Range. Other volcanic features include the Black Mountain, Cactus Range, and Silent Canyon calderas and the Mount Helen dome. The mountain ranges in the South Range are dominated by carbonate rocks with lesser amounts of quartzite, sandstone, and shale. Valleys contain thick deposits of alluvium from erosion of adjacent mountain ranges. Lacustrine and fluvial sedimentary rocks deposited in shallow basins occur in several areas within the NTTR (U.S. Air Force, 2010).

Volcanism and Seismic Activity

The NTTR is located within an area of moderate seismic hazard and is within a 16 to 48 percent ***g*** zone (USGS, 2008). This percentage is referred to as peak ground acceleration and is representative of seismic horizontal shaking that has a 2-in-100 chance of being exceeded within a 50-year period. The peak horizontal acceleration is the measurement of horizontal movement at a given geographic point. This horizontal shaking is expressed as a percentage of ***g*** where ***g*** represents the acceleration of a falling object due to gravity (USGS, 2008). The zone within which the NTTR falls represents the potential for light to moderate damage to structures resulting from earthquakes.

Several faults are present within the NTTR. The Yucca fault, located in the central portion of the NTTR, is considered active. The Carpetbag fault, located to the west of the Yucca fault, and the Pahranagat fault system, located in the South Range, have also displayed displacement within the past several million years. Most of the faults on the NTTR are considered inactive (U.S. Air Force, 2010) (Figure 3-32).

Several late Cenozoic era calderas are located on the NTTR. The area containing these calderas is referred to as the southwestern Nevada volcanic field. The Stonewall caldera, located in northwestern area of the NTTR, dates to 7.5 million years B.P. During the past 10 million years, mild eruptions occurred in the region, resulting in basaltic cinder cones and lava flows. The nearest examples of volcanic cones and lava flows are at Crater Flat, located in the southwestern area of the NTTR (U.S. Air Force, 1999; 2010).

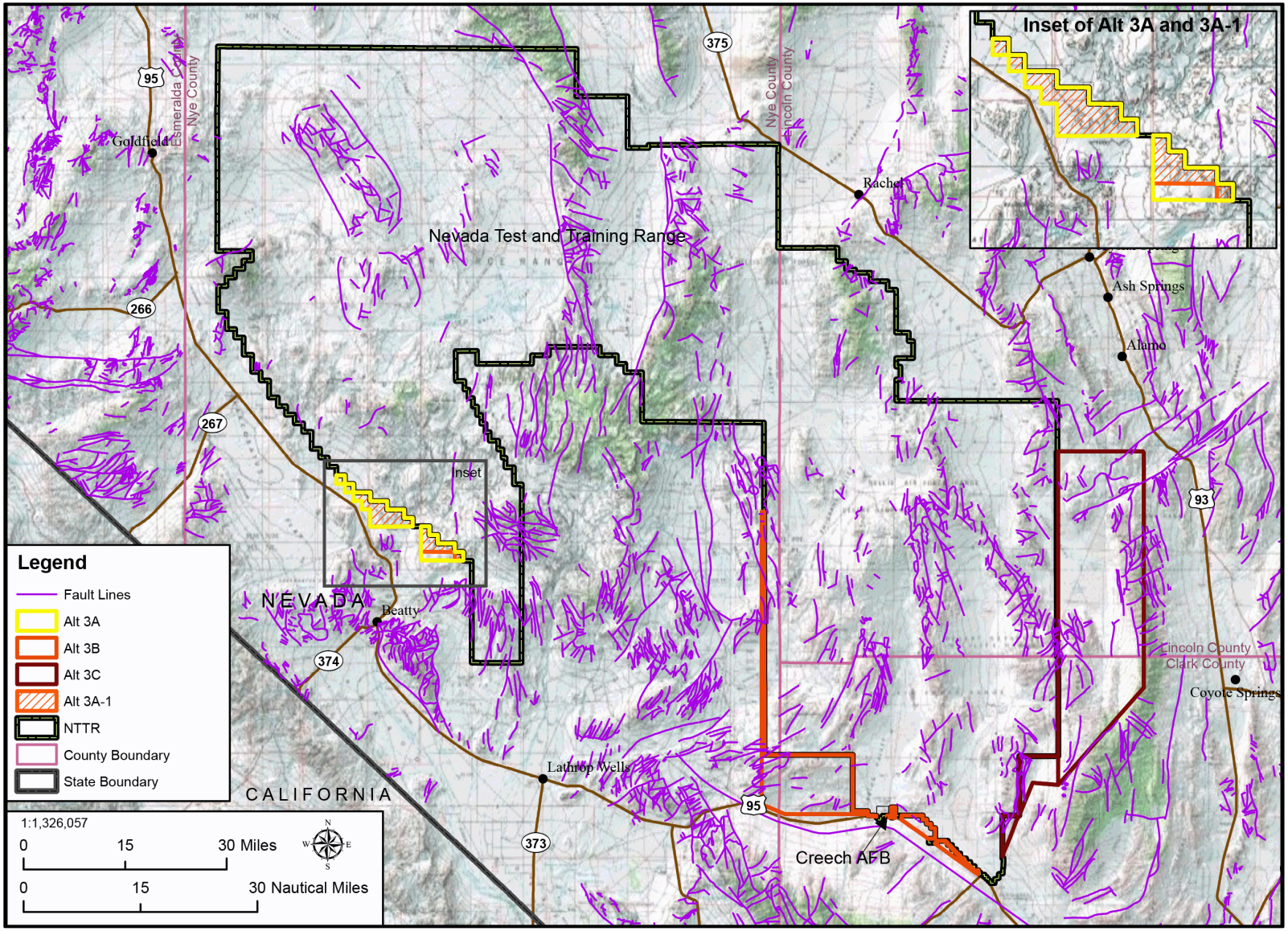

Figure 3-32. Faults Within the NTTR and Potential Expansion Areas

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

The Range 77 withdrawal area is within part of the Oasis Valley and the Transvaal Hills, on the western edge of the Southwestern Nevada Volcanic Field. To the east is the Timber Mountain Caldera Complex. Much of the Range 77 withdrawal area is in the center of Oasis Valley and is covered by Quaternary and Tertiary alluvium. Volcanic rocks outcrop in the east on the Rainer Mesa/Ammonia Tanks caldera margins and to the north along the Thirsty Mountain Shield Volcano (U.S. Air Force, 2017m).

Examples of volcanism in the area are characterized by a rhyolite-basalt association, with few examples of intermediate composition rocks present. The primary bedrock exposed in the Range 77 withdrawal area is extensive ash-flow tuff sheets erupted from the overlapping Rainier Mesa and Ammonia Tanks calderas during the Timber Mountain stage of the Southwestern Nevada Volcanic Field. These tuffs are interspersed with rhyolite and basalt lava and tephra from cinder cones. Alluvial and lake sediments and breccia deposits are also present. Within the Range 77 withdrawal area, the Cenozoic sequence is underlain by Proterozoic to late Paleozoic sedimentary rocks consisting of limestone, dolomite, argillite, and quartzite (U.S. Air Force, 2017m).

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

The 64C/D and 65D area is bordered to the north by the Cross Grain Valley, to the east and south by the Indian Springs Valley, and to the west by the Mercury Valley. The Spotted Range is composed of Paleozoic sedimentary rocks with sediments from Late Proterozoic to Middle Devonian. Late Devonian and Late Mississippian sediments were deposited in a shallow marine setting and consist of carbonates and shales. Tertiary age lacustrine sediments and reworked ash-fall tuffs are found in the interior valleys of the Spotted Range, representing volcanism in the nearby Southwestern Nevada Volcanic Field (U.S. Air Force, 2017m).The oldest structure in the Spotted Range, the Mercury Klippe consists of upper plate Cambrian carbonates thrust over Devonian and Mississippian carbonates. The lower plate sequence is composed of over 1,870 meters of dolomite, limestone with minor quartzite, and shale. The upper plate is approximately 1,645 meters thick and almost all limestone and dolomite (U.S. Air Force, 2017m).

Alternative 3C – Alamo Withdrawal

The Alamo areas primarily occupy the internally drained Desert Valley, with western portions of the eastern DNWR, the Sheep Range on the east, and the Pahranagat Range on the north. Elevations vary from approximately 977 meters at Desert Lake to 2,448 meters in the Sheep Range. Exposed bedrock consists of Paleozoic rocks, with mixed Tertiary volcanic and Paleozoic rocks at the north portions of the Alamo withdrawal area (U.S. Air Force, 2017m).

Surficial geology of the Alamo areas is predominantly Cambrian to Devonian sedimentary sequences that formed along the western margin of North America. During this period, rocks were deposited in an offshore carbonate shelf and intertidal depositional settings. In addition to the sedimentary sequence, the northern portion of the Alamo areas has Tertiary volcanic rocks (U.S. Air Force, 2017m).

Paleozoic carbonate sequences are the oldest rocks exposed in the Alamo areas, with formations consisting of limestones, shales, and sandstone. The stratigraphic thickness of the Paleozoic section in the Alamo area is over 3,000 meters. Of those 3,000 meters, nearly 2,000 meters are dolomitic and 120 meters are quartzite; the remaining section is a mixture of limestones, dolomites, sandstone, and shales (U.S. Air Force, 2017m). The northern portion of the Alamo areas, between the Pahranagat and the Sheep Ranges, has four mapped units of Oligocene and Miocene ash-flow tuffs that erupted from calderas outside the study area (U.S. Air Force, 2017m).

3.10.1.4 Soils

Existing NTTR Boundary (Alternatives 1 and 2)

Descriptions of soil series were available from the USDA and the State Soil Geographic Dataset (2017) (Figure 3-33). The NTTR consists of 33 general soil associations. One of the most prevalent, the St. Thomas series, consisting primarily of shallow, well-drained soils that formed in colluvium and residuum from limestone and dolomite, are the primary soil types found in the mountains. These soils generally occur on hills and mountains with 8 to 75 percent slopes (Natural Resource Conservation Service, 2017; U.S. Air Force, 2010).

The Crosgrain and Arizo soil series are located on the fan piedmonts. The Crosgrain series are shallow, well-drained soils that formed in mixed alluvium on older fan piedmonts, with slopes of 4 to 30 percent. The Arizo series are very deep, excessively drained soils that formed in mixed alluvium on recent alluvial fans with slopes of 0 to 15 percent (Natural Resource Conservation Service, 2017; U.S. Air Force, 2010).

The basin floors generally consist of the Mazuma and Ragtown soil series. The Mazuma series are very deep, well-drained soils that formed in alluvium and lacustrine materials from mixed rock sources with slopes of 0 to 15 percent. The Ragtown series are very deep, moderately well-drained soils that formed in moderately fine and fine-textured lacustrine materials that occur on lake plain terraces with slopes of 0 to 4 percent (Natural Resource Conservation Service, 2017).

The alluvial soils found within fans and basins, in conjunction with the fine soil particles from lacustrine sources, are susceptible to wind erosion. This problem is made worse by soil disturbance or loss of topsoil due to wildfires, vehicle movement, or grazing activities (U.S. Air Force, 1999; 2010). Activities within NTTR target impact areas would potentially increase the likelihood of erosion from removal of topsoil. The permeability of the soils and strata underlying subsidence craters (induced by underground nuclear testing) on Pahute Mesa may have increased over natural conditions due to rock damage associated with detonations. Contamination of soils is another result of conventional and nuclear detonations. Radioactive contamination, conventional ordnance residues, and other spill contamination have been identified on the NTTR (U.S. Air Force, 1999).

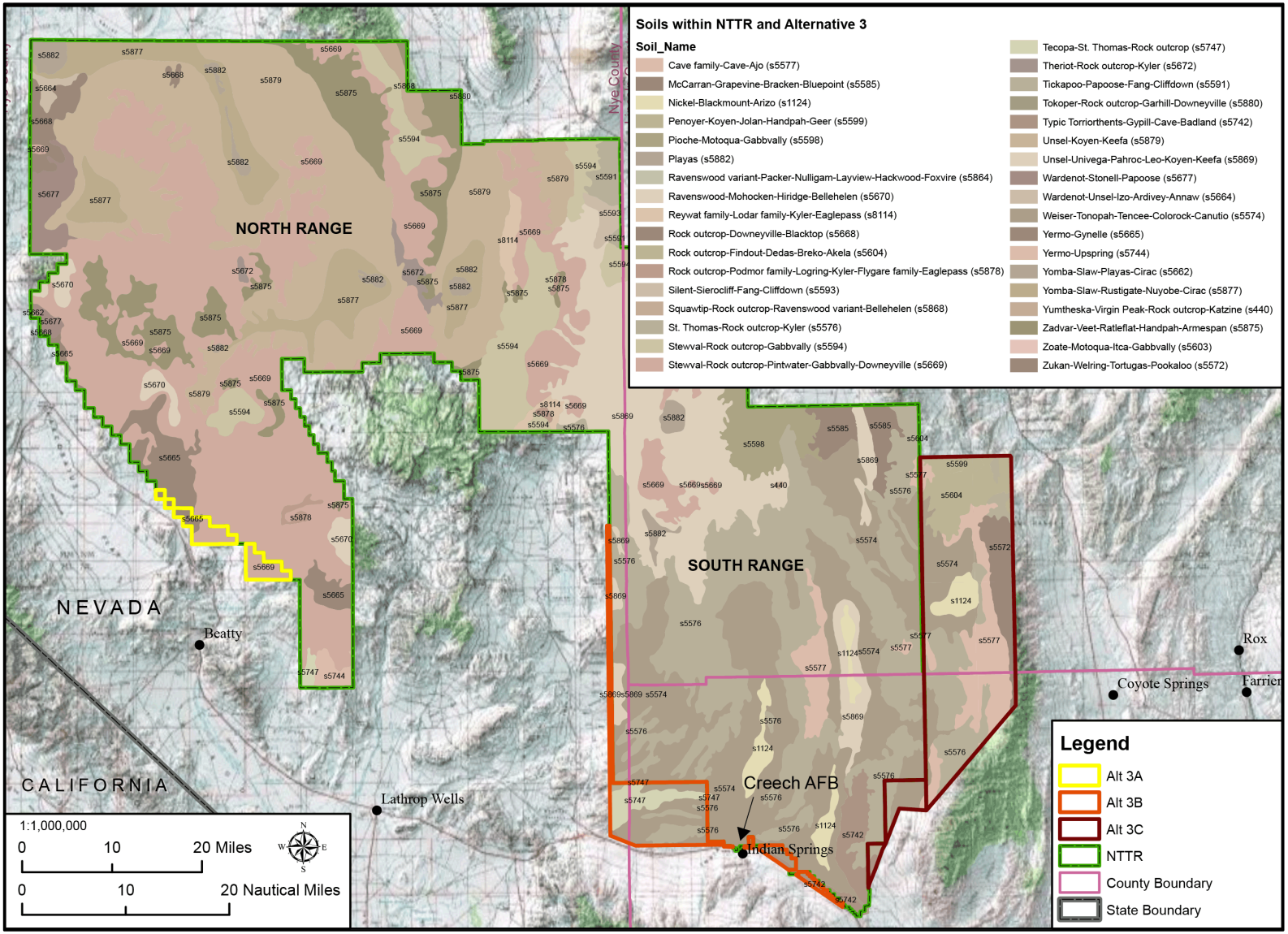

Figure 3-33. Soil Types Within the NTTR and Potential Expansion Areas

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

The primary soil type within the Range 77 withdrawal area is the Stewval series (Table 3-42). The Stewval series consists of shallow and very shallow, well-drained soils found on mountains. The series is formed in colluvium derived from volcanic rocks with slopes typically ranging from 15 to 50 percent. The pedon is typically a gravelly, fine sandy loam (USDA, 1985).

Table 3-42. Soil Types Within Alternative 3A Range 77 – EC South Withdrawal Area

Soil Series	Acres
Stewval-Rock outcrop-Pintwater-Gabbvally-Downeyville (s5669)	13,683
Yermo-Gynelle (s5665)	4,223
Total	**17,906**

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

The predominant soil type within the 64C/D and 65D withdrawal areas is the Weiser series (Table 3-43). The Weiser series consists of very deep, well-drained soils on erosional fan remnants. Elevations are generally 2,000 to 3,800 feet with slopes of 2 to 8 percent. These soils are formed in alluvium, typically from limestone parent material (USDA, 1985). Another common soil type in this area is the St. Thomas series, consisting primarily of shallow, well-drained soils that formed in colluvium and residuum from limestone and dolomite, which the primary soil types found in the mountains. These soils generally occur on hills and mountains with 8 to 75 percent slopes.

Table 3-43. Soil Types Within Alternative 3B 64C/D and 65D Withdrawal Area

Soil Series	Acres
St. Thomas-Rock outcrop-Kyler (s5576)	11,910
Tecopa-St. Thomas-Rock outcrop (s5747)	14,042
Typic Torriorthents-Gypill-Cave-Badland (s5742)	3,297
Unsel-Univega-Pahroc-Leo-Koyen-Keefa (s5869)	2,615
Weiser-Tonopah-Tencee-Colorock-Canutio (s5574)	28,007
Total	**59,871**

Alternative 3C – Alamo Withdrawal

The predominant soil type within the Alamo withdrawal areas is the Cave family of soils (Table 3-44). The Cave family consists of shallow and very shallow, well-drained soils. These soils typically occur on erosional and nonburied fan remnants and are found at elevations of 1,900 to 3,800 feet with slopes of 0 to 15 percent. Another common soil type in this area is the Weiser series, which consists of very deep, well-drained soils on erosional fan remnants. Elevations are typically 2,000 to 3,800 feet with slopes of 2 to 8 percent. These soils are formed in alluvium, typically from limestone parent material (USDA, 1985).

Table 3-44. Soil Types Within Alternative 3C Alamo Withdrawal Area

Soil Series	Acres
Cave family-Cave-Ajo (s5577)	55,783
Nickel-Blackmount-Arizo (s1124)	10,270
Penoyer-Koyen-Jolan-Handpah-Geer (s5599)	2,874
Rock outcrop-Findout-Dedas-Breko-Akela (s5604)	34,658
St. Thomas-Rock outcrop-Kyler (s5576)	53,729
Typic Torriorthents-Gypill-Cave-Badland (s5742)	1,545
Weiser-Tonopah-Tencee-Colorock-Canutio (s5574)	47,558
Zukan-Welring-Tortugas-Pookaloo (s5572)	25,575
Total	**231,992**

3.10.1.5 Mineral Resources

Existing NTTR Boundary (Alternatives 1 and 2)

The creation of the NTTR in the 1940s and subsequent withdrawals removed large amounts of public land from the potential for resource exploration. In accordance with the *Engle Act of 1958* (43, USC 155 et seq.), all mineral exploration within land withdrawal areas must be compatible with military use. In 1986, the Secretary of the Air Force was given authority for exclusive military use of the NTTR by enactment of P.L. 99-606 and the MLWA of 1986 (U.S. Air Force, 1999). On September 2, 2016, BLM published a Notice of Application for Withdrawal Extension; Notice of Application for Withdrawal Expansion; and Opportunity for Public Meeting regarding the segregation of lands in relation to the NTTR land withdrawal in the *Federal Register*. This notice temporarily segregates the proposed withdrawal lands (including proposed expansion areas) from all forms of appropriation under the public land laws, including mining laws, mineral leasing laws, and geothermal leasing laws for a period of two years.

As part of the withdrawal extension process, a mineral resource analysis was required to be prepared by a qualified geologist; the Air Force completed this analysis in 2017 (U.S. Air Force, 2017m).

Mineral Resources on the NTTR

Mining activity on the NTTR began in the mid-1800s and ended in 1942, when the range was closed to mining activity. Most of the known gold and silver deposits were discovered in the early 1900s (U.S. Air Force, 1999). With the exception of the Groom Mountain Range, little or no mineral exploration or related activity has been allowed in the last 50 years. The Air Force compiled a list of active mining claims in the proposed expansion areas, collected from the BLM Land & Mineral Legacy Rehost 2000 System database (U.S. Air Force, 2017m).

Minerals previously discovered on the NTTR include gold, silver, copper, lead, zinc, mercury, tungsten, and turquoise. In addition, industrial resources such as sand, gravel, and limestone occur on the NTTR (Nevada Bureau of Mines and Geology, 2014). Other

potential commercially viable resources, including sodium, potassium, alunite, and potash, also occur in this area (U.S. Air Force, 1999; 2017m) (Figure 3-34).

Metallic Minerals

Gold and silver deposits are located primarily in the northern part of the NTTR. Large areas of high resource potential were defined in the Nellis Air Force Range Renewal LEIS (U.S. Air Force, 1999) and supported by the most recent reinvestigation (U.S. Air Force, 2017m) for the following areas and mining districts: Jamestown, Cactus Range, Mellan Mountain, near Cedar Pass and north and south of the Gold Reed and Gold Crater, Stonewall, Wilsons, Silverbow, Quartz Mountain, and north of Limestone Ridge in the Belted Range.

Areas of potential copper and molybdenum deposits include the northern Cactus Range, the northern Pahute Mesa, the Cactus Peak prospect, and Cactus Springs mining district. Other anomalies occurred in the Kawich Range and in the Corral Springs, Gold Reed, and Quartzite Mountain prospect areas (U.S. Air Force, 2017m).

Several areas within the NTTR have high potential for lead and zinc deposits. The Groom district has produced both lead and zinc. A high potential for lead and zinc were also observed in the eastern Goldfield, Cactus Springs, Antelope Springs, and Jamestown and Gold Crater mining districts (U.S. Air Force, 2017m). No large mercury-producing districts are present in the vicinity of the NTTR, although the Gold Reed district and the Transvaal Hills are areas with the potential for mercury (Nevada Bureau of Mines and Geology, 2014; U.S. Air Force, 1999; 2017m) (Figure 3-35).

Nonmetallic (Industrial) Minerals

A variety of nonmetallic minerals of economic importance with various industrial uses occur on the NTTR. These resources are described in the previous land withdrawal LEIS (U.S. Air Force, 1999) and recent resource assessment updates (U.S. Air Force, 2017m). Following are descriptions of specific resources in the vicinity of the NTTR.

No barite or borate deposits are known to occur within the boundaries of the NTTR. No substantial deposits of halite or other evaporate minerals have been found on the NTTR, although the Clayton Valley on the range has shown trace amounts in surface sediments (U.S. Air Force, 2017m).

The potential exists for extraction of building stone materials from ash-flow tuffs in the southwestern part of the NTTR (Nevada Bureau of Mines and Geology, 2014). In addition, slate quarries in the Desert Range are the only known mining sites for building stone in the southern NTTR. Greenstone-flagstone was reportedly produced in this area in the 1920s (U.S. Air Force, 1999). These deposits may have potential for use as structural slate or as paving stone or flagstone (U.S. Air Force, 2017m). Within the NTTR, two areas of clay deposits occur along the west side of Pahute Mesa (Figure 3-35).

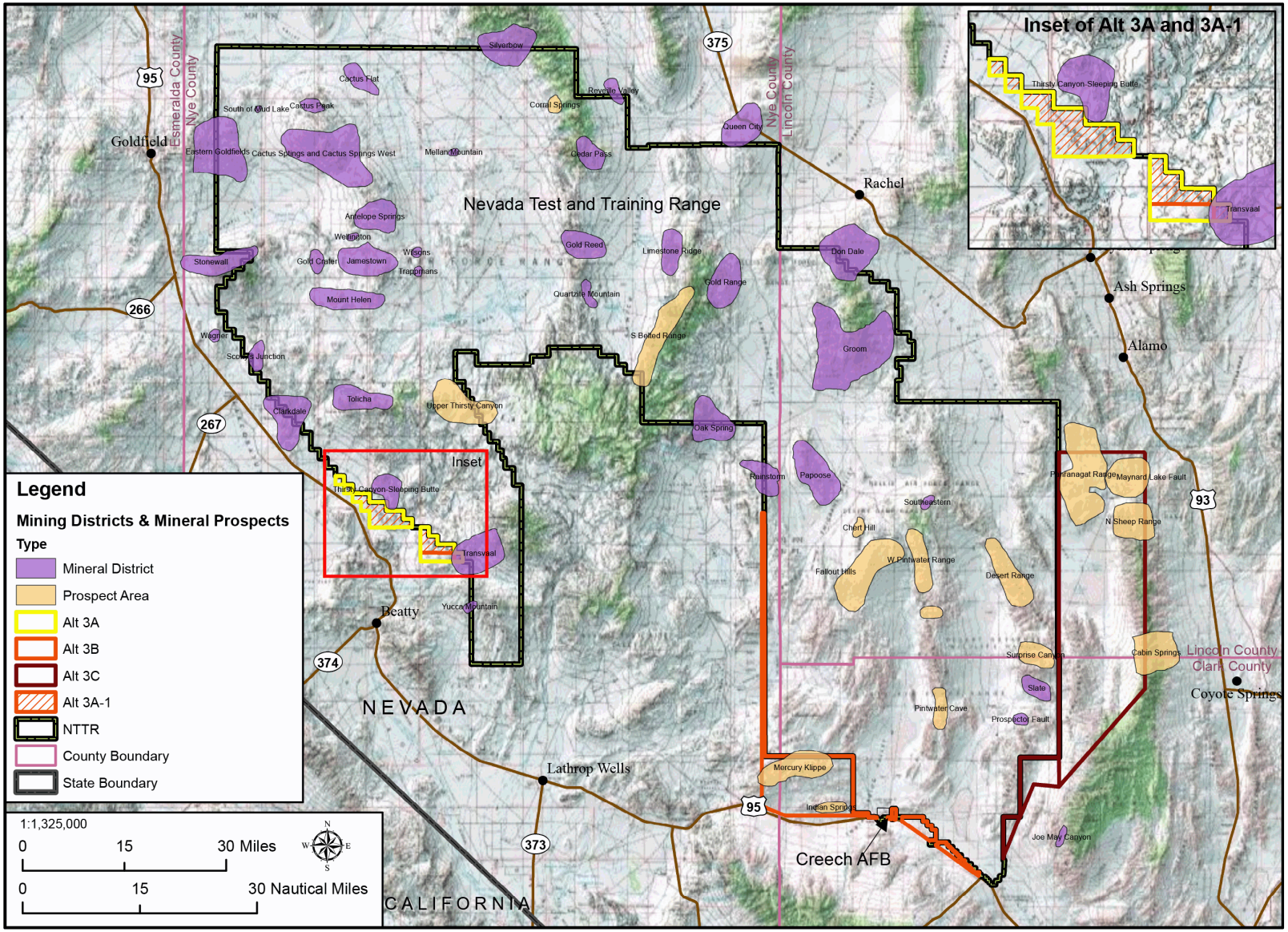

Figure 3-34. Mining Districts on the NTTR

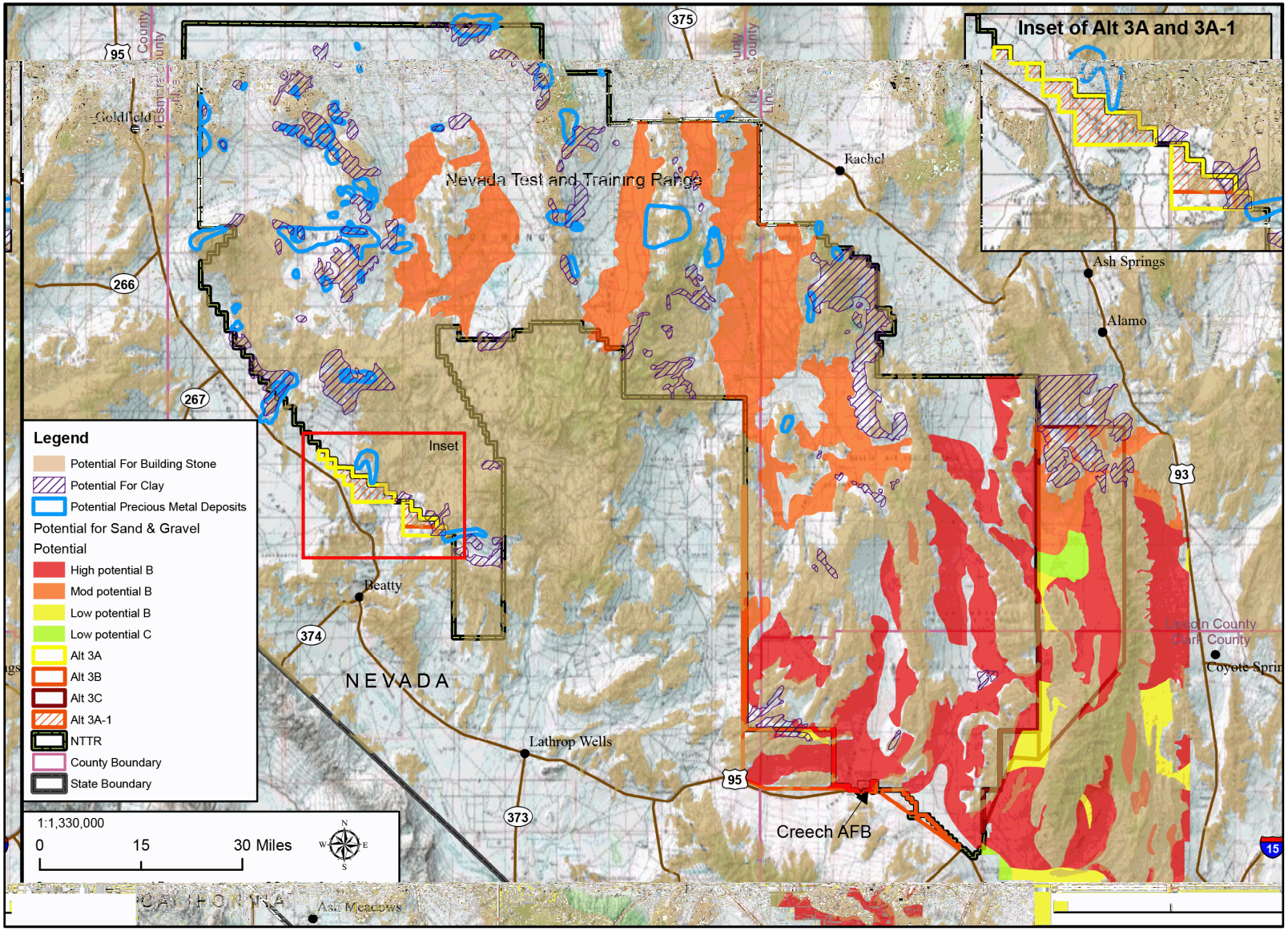

Figure 3-35. Potential for Mineral Deposits and Construction Materials on the NTTR

The potential for deposits of clay minerals in the northern portion of the NTTR is moderate to high; however, no major sources of high-grade clay have been identified (U.S. Air Force, 2017m). The potential for a variety of construction aggregate materials to occur within the NTTR is also moderate to high (U.S. Air Force, 2017m). Paleozoic rocks in the southeastern area of the NTTR, as well as within the valleys and alluvial fans in the northern area of the NTTR, contain high-quality sand and gravel and crushed stone. Another type of construction aggregate, volcanic cinder, occurs near the southwestern boundary of the NTTR. The two primary deposits of volcanic cinders are located in close proximity at Sleeping Butte and Little Black Peak (U.S. Air Force, 2017m).

There is the potential for 100 million tons of cement and or high-calcium limestone on the NTTR (U.S. Air Force, 2017m). Limestone and dolomite are present in the southern portion of the NTTR with deposits of Tertiary tufa in the Spotted Range potentially suitable for cement limestone. The southern area of the NTTR probably contains significant amounts of material suitable for lime or cement production. These deposits are not easily accessible, which minimizes the potential for economic development. No significant source of gypsum has been discovered on the NTTR (U.S. Air Force, 2017m).

No substantial concentrations of lithium were discovered in playas examined on the NTTR (U.S. Air Force, 2017m). Several locations on the NTTR contain fluorspar (fluorite). These include a small prospect pit 1 kilometer north of Little Black Peak in the southern portion of the NTTR, the Zabriskie shaft in the Limestone Ridge area, and the eastern Goldfield mining district in the northern area of the NTTR (U.S. Air Force, 2017m).

A single occurrence of perlite is located on the western end of the NTTR 1 mile east of Obsidian Butte, in an area referred to Tolicha Wash. The deposits occur in an area 1 kilometer in diameter, but accessing the perlite would require removal of the overburden, making it economically impractical (U.S. Air Force, 2017m).

Sources of silica such as the Eureka Quartzite are exposed in many areas of the southern NTTR. However, samples from the Eureka Quartzite contain impurities, so it is generally unsuitable as a source of silica. Samples of quartzite from other units on the NTTR generally have higher amounts of impurities than the Eureka Quartzite, making these sources commercially nonviable as well (U.S. Air Force, 1999; 2017m).

The northern portion of the NTTR has a high potential for high-grade zeolite deposits of considerable size. However, these zeolite deposits are relatively impure with low commercial value and are not desirable for exploitation (U.S. Air Force, 2017m).

Energy Resources

No economically significant uranium deposits are located within the NTTR. Areas overlying Cenozoic volcanic rock strata and adjacent sedimentary basins are classified as having a low potential for uranium deposits (U.S. Air Force, 2017m). The potential for uranium deposits are lower in areas overlying Paleozoic rocks, such as those in the

South Range. Therefore, the potential for uranium recovery in significant concentrations is low.

Furthermore, the potential for other energy resources on the NTTR is low. No discoveries of oil and gas, coal, tar sand, or oil shale have been reported in the region (Nevada Bureau of Mines and Geology, 2014). The occurrence of coal is limited in Nevada and has not been identified within the study area. The only geologic unit that could possibly contain any coal material is the Chainman Shale east of the Hot Creek Valley/Eleana Range line in the NTTR, but it is unlikely (U.S. Air Force, 2017m).

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

The Range 77 area was open to mineral location, but with the implementation of the BLM segregation notice, it is currently not available for mineral exploration.

The Transvaal Hills have been identified as having moderate potential for hot spring-type mercury deposits and also the potential for deeper deposits. There are no records of drilling in the Transvaal mining district; as such, information concerning the presence of more deeply deposited mercury is available only from geophysical studies (U.S. Air Force, 2017m).

As the alluvial materials in the EC South area are derived from the weathering of volcanic rocks, they are less likely to be useful as construction aggregate and additionally are considered to have a low potential for sand and gravel deposits. Limestone and dolomite do not outcrop within the EC South area, demonstrating no potential for either cement or high-calcium limestone or dolomite. The EC South area has a moderate potential for clay deposits based on the presence of altered Tertiary volcanic rocks and alluvial deposits derived from the erosion of these rocks (U.S. Air Force, 2017m).

There is a low potential for several nonmetallic minerals to occur within the EC South area. The EC South area is considered to have a low potential for borates, lithium, and fluorspar (U.S. Air Force, 2017m). At present, there is one active mining claim within the proposed Range 77 expansion area (U.S. Air Force, 2017m). This claim, Tank #15 (NMC635691), was originally made in 1991 and remains active.

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

Portions of the 64C/D and 65D area and the Administrative Incorporation area were open to mineral location, but with the implementation of the BLM segregation notice, they are currently not available for mineral exploration.

There are no known mining districts within the 64C/D and 65D area, nor are there well-documented records of past prospecting in the area (U.S. Air Force, 2017m).

There is a moderate potential for several construction aggregates within the 64C/D and 65D areas. Paleozoic carbonate rocks outcrop over a large portion of the Indian Springs Parcel (in the western portion of the area) and in the Administrative Incorporation area. The highest potential for economically viable sand and gravel deposits is adjacent to areas of Paleozoic carbonate rocks, which outcrop in the 64C/D and 65D area. In

addition, limestone deposits are found in the northern portion of the Indian Springs Parcel in the 64C/D and 65D area. There is moderate potential for cement limestone in the 64C/D and 65D area. There is moderate potential for high-calcium limestone in the area as well. Limestones in this area tend to be coarsely crystalline, which adversely impacts their use in lime manufacture. There is also moderate potential for cement limestone in the 64C/D and 65D area (U.S. Air Force, 2017m).

The Paleozoic carbonate rocks in the 64C/D and 65D area represent potential host rocks for fluorspar and breccia deposits. In the 2014 assessment of the eastern DNWR, no fluorspar prospects were identified in the 64C/D and 65D area. The 64C/D and 65D area is considered to have a low potential for clay deposits, dolomite, borates, and lithium (U.S. Air Force, 2017m).

Alternative 3C – Alamo Withdrawal

Within the vicinity of the Alamo areas, the only recorded mining production occurred at the June Bug Mine in the Gass Peak mining district, where lead-zinc ore was mined in 1916 and 1917. Metallic mineral deposits within the eastern DNWR are within the Gass Peak thrust fault (U.S. Air Force, 2017m).

Paleozoic carbonate rocks commonly outcrop in the Alamo areas and are considered to have a high potential for sand and gravel deposits suitable for use as construction aggregate. In addition, there are a few outcrops of upper Devonian to lower Mississippian carbonates in the southwestern portion of the Alamo areas that have moderate potential for high-calcium limestone, although the majority of the Alamo areas has a low potential for cement limestone based on the prevalence of dolomitic carbonates. One isolated outcrop of cement limestone was identified within the southern portion of the Alamo areas (U.S. Air Force, 2017m). The majority of the Alamo areas is underlain by pre-Tertiary rocks that have low potential for clay deposits. The exception is in the northern portion of Alamo areas, where suitable sediments occur.

The Alamo areas are considered to have low potential for recoverable deposits of several nonmetallic minerals. In previous assessments of the eastern DNWR (1993 and 2014), no fluorspar prospects were identified in the Alamo areas. Similarly, the potential for lithium in these areas is considered low (U.S. Air Force, 2017m). Favorable host rocks for borates do not occur in the Alamo areas and, as such, the potential for borates in the Alamo areas is considered low. The Alamo areas are also considered to have a low potential for dolomite suitable for industrial uses (U.S. Air Force, 2017m).

The 2014 Nevada Bureau of Mines and Geology assessment (Nevada Bureau of Mines and Geology, 2014) did not identify any commercially exploitable resources. The potential for metallic mineral deposits is still low. Except for very low potential for lithium in the Desert Lake playa, no new areas of mineral and energy potential were identified in the study. There is low potential for geothermal systems in the DNWR. If they exist, there is a high probability that the temperature would be too low for electricity generation. However, this temperature would be suitable for direct-use applications

such as heating buildings or greenhouses. The potential for large high-value resources, such as precious metals or large base metal deposits, is very low.

3.10.1.6 Paleontological Resources

Existing NTTR Boundary (Alternatives 1 and 2)

Fossils are present within many sedimentary rock formations on the NTTR. These fossils are predominantly marine in origin; however, terrestrial plant and animal fossils also occur (U.S. Air Force, 1999). Fossils are present in four general ages of sedimentary rocks, representing aquatic and terrestrial life from the Cambrian period through the Cenozoic 600 million years before present (B.P.) to the last 1.6 million years B.P. Characteristic fossils recovered over this period include brachiopods, corals, pelecypods, and trilobites (Dickerson, 2013).

Previous efforts have documented Lower Paleozoic rocks (450 to 600 million years B.P.) in the Belted Range in the northern part of the NTTR. During the Paleozoic Era through the Devonian Period, a shallow sea gradually flooded the area with the water, deepening into an ocean basin to the northwest. Fossils represent the reef communities that occupied the shallow warm water. By the Permian Period, sea levels began to recede and portions of Nevada emerged as dry land (Dickerson, 2013; U.S. Air Force, 1999).

Upper Paleozoic (245 to 300 million years B.P.) rock outcrops are widespread on the NTTR. These strata compose the bulk of the Eleana Range, where fossils have been discovered. Pleistocene deposits, representing the last 1 million years, outcrop along washes and alluvium. No fossils have been discovered in these materials; however, older gravels and sands could potentially contain fossils (U.S. Air Force, 1999).

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

Unlike the eastern NTTR, the western side of the NTTR is less likely to contain fossil-bearing bedrock layers, owing to the volcanic origin of many of the formations. There are, however, sedimentary outcrops in the nearby Cactus Range that contain fossils such as broyozoans, cephalopods, brachiopods, corals, and gastropods (Dickerson, 2013). A 2018 review of the paleontology of the Alternative 3A proposed expansion area examined the Miocene through Quaternary age deposits. It was concluded that tuffaceous sediments deposited in ancient lacustrine and alluvial fan environments would typically produce significant fossils (Fisk, 2018).

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

Fossil outcrops within the Range 64C/D and 65D withdrawal area are predominantly Paleozoic in age. The Spotted and Pintwater Ranges to the north contain a wide variety of Paleozoic fossils in sedimentary and metamorphic bedrock layers. The Halfpint Range, although formed of igneous, sedimentary, and metamorphic bedrock layers, contains a variety of fossil types found in only sedimentary formations. These include, but are not limited to, stromolites, trilobites, cephalopods, brachiopods, corals, and gastropods (Dickerson, 2013). A 2018 review of the paleontology of the Alternative 3B

proposed expansion area examined the Cambrian through Holocene age deposits. It was concluded that the more recent Holcene through Miocene deposits are unlikely to contain fossils while older tuffaceous sediments and ancient lacustrine and fluvial environments would typically produce significant fossils. Mississippian and older age deposits are known to produce significant invertebrate fossils of brachiopods, gastropods, corals, pelmatozoans, and stromatoporoids, conularids, trilobites, echinoderms, and ichnofossils (burrows), among others (Fisk, 2018).

High concentrations of natural, cultural, and paleontological resources have been identified in the Las Vegas Wash, which is a Pleistocene epoch formation that runs northwest from the city of Las Vegas between the Spring Mountains and Sheep/Las Vegas Ranges. This formation is partially located in the vicinity of the southern portion of the NTTR and Alternative 3B areas. The fossil remains recovered at the Las Vegas Wash are extensive and include extinct species such as Columbian mammoth, ground sloth, camel, bison, horse, saber-toothed cat, lynx, dire wolf, marmot, harvest mouse, wood rat, snake, and frog (Fisk, 2018). Other similar Pleistocene and Holocene deposits are found in the Alternative 3C area. In addition, woodrat midden paleobotanical resources have been identified throughout the South Range in carbonate rock and in the North Range, most often in welded tuff.

Alternative 3C – Alamo Withdrawal

Fossil outcrops within the Alamo areas are predominantly Paleozoic in age. The East Desert Range and Sheep Range have demonstrably been shown to contain a variety of fossil types found in sedimentary formations (USFWS, 2009). These include, but are not limited to, stromolites, cephalopods, brachiopods, corals, and gastropods (Dickerson, 2013). A 2018 review of the paleontology of the Alternative 3C proposed expansion area examined the Cambrian through Holocene age deposits. It was concluded that the more recent Holcene deposits are unlikely to contain fossils. A late Pleistocene deposit similar to the Las Vegas formation runs through the area and contains significant resources of plants, vertebrate, and invertebrates. Pre-Pleistocene deposits such as air-fall tuffs would typically produce significant fossils. Devonian and older age deposits are known to produce significant invertebrate fossils of brachiopods, gastropods, corals, pelmatozoans, and stromatoporoids, sponges, trilobites, echinoderms, and ichnofossils (burrows), among others (Fisk, 2018).

3.10.2 Environmental Consequences

The Air Force acknowledges that it is challenging to determine significance at the programmatic level. If the areas associated with the alternatives withdrawn for military use, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made. However, at a programmatic level, the Air Force has identified minimal to no adverse impacts to earth resources connected with the proposed alternatives overall.

3.10.2.1 Analysis Methodology

The analysis methodology involved evaluating impacts from the alternatives to earth resources on the NTTR and potential expansion areas from four typical categories of activity that currently occur on the NTTR. This assessment focuses on potential economic, physical, and chemical damage to geology, paleontology, mineral resources, and soils.

Physical damage includes disturbances to the structural and/or biological properties of earth resources that could potentially compromise their current condition and function. Examples include, but are not limited to, compaction or other damage from direct impacts (foot traffic, munitions use), rutting, and human-induced soil erosion. Chemical damage occurs when resources are altered due to the introduction of hazardous materials (e.g., contamination of soil from chemical fluid leaks or spills).

Soil erosion involves the detachment of surface material, subsequent transport, and deposition by water or wind. Erosion is difficult to control and can be greatly exacerbated by various activities. Accelerated erosion caused by human activity occurs at rates much greater than under typical natural conditions.

Impacts to these resources can be evaluated according to type, context, intensity, and duration of the activities under consideration. Together, these attributes help define the potential significance of the impacts.

3.10.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

Aircraft operations would have minimal to no direct impacts on earth resources (geologic, soil, or paleontological) for Alternative 1. As intensity of operations would remain at status quo levels, the severity of the impact would be low given the durable nature of the resource and low probability of impacts based on previous studies.

Battis (1983) indicated that sonic booms are unlikely to cause damage to geologic features. The expected motions produced by sonic booms are comparable to those produced by local earthquakes. At these levels of motion, structurally sound rocks are unaffected by seismic waves, and sonic booms are unlikely to initiate either fracture or spalling in rocks. However, it is possible that in rocks where natural erosive mechanisms have had an effect, sonic booms could accelerate the processes to some small or insignificant degree.

A second study conducted by Battis (1988) considered vibrational effects to features on the ground from jet aircraft overflights at altitudes from 60 to over 300 meters AGL. It was concluded that these tested aircraft overflights had no significant vibration effects and as such, impacts to geologic features would be considered highly unlikely.

An extension of the current NTTR lands could restrict economic opportunity associated with extraction of some mineral resources. Potentially valuable deposits of mineral resources are present throughout the NTTR. Safety footprints required to support the various military missions on the ranges in conjunction with current and future aircraft

operations would necessarily restrict public and industrial access to the NTTR. In terms of mineral exploration, the extension of the NTTR land withdrawal would prevent the discovery and use of economically viable resources, as is the current situation.

Use of ordnance on the NTTR would typically result in some degree of ground disturbance and, in turn, may expose soils to erosion or potentially damage paleontological resources. A current assessment and mapping of the conditions of soils and areas of erosion have not been completed for most of the NTTR (U.S. Air Force, 2010). Without a mapping and subsequent ground-truthing effort, it is difficult to assess the current baseline condition of soils. In general, the most sensitive areas prone to ground-disturbing activities should be avoided through BMPs and avoidance of these sensitive areas. These areas may include, but are not limited to, ephemeral streams and drains, as well as watershed areas (U.S. Air Force, 2010). In the absence of specific evidence, significant adverse impacts to soils have not been identified under the baseline condition, and that would be expected to continue for Alternative 1.

As is current practice under the NTTR natural resources management program, the following guidelines could be implemented by the Air Force before and during any ground-disturbing activity to prevent or minimize soil loss through erosion.

- Using field observations and soil maps assess erosion conditions and use BMPs to reduce erosion and sedimentation during construction projects. This is especially critical along and around ephemeral streams and drains, as well as watershed areas.
- Rapidly re-establish vegetation as soon as possible to avoid potential problems with blowing dust and water erosion.
- If a mission activity requires excavation, the top 6 to 12 inches of soils should be removed and stockpiled separate from any deeper soils where practical. Upon completion of the action, the stockpiled soil should be spread as a final layer over any exposed areas (not covered by facilities or impermeable surfaces).

Landscaping on soils should be restricted to native plants that are adapted to the soils on the site. Plants requiring extensive use of irrigation and addition of soil amenities should be avoided.

Current target impact areas would remain the same and are generally located on or near playas away from sedimentary formations that typically contain fossil resources. Because this alternative would maintain the current boundaries of the NTTR and not increase the intensity of munitions use, no significant impacts are anticipated with respect to earth resources within the NTTR. The continued use of existing ranges would ensure that any potential chemical contaminants introduced into the soil from munitions would be confined to currently approved areas of use.

Impacts to mineral resources through a change in public/industrial access to the NTTR lands would be the same as discussed above for aircraft operations.

Construction, the use of vehicles, and overland troop movement on the NTTR would typically result in some degree of ground disturbance and, in turn, may expose soils to erosion or potentially damage paleontological or other geologic resources. In cases of construction, the NDEP requires a General Construction Stormwater Permit if the project would discharge to waters of the state and disturb 1 or more acres or if it is part of a larger plan for development that would ultimately disturb 1 acre or more. Stormwater permits would contain BMPs subject to approval by NDEP. BMPs could include stormwater diversion, erosion control, or any number of best practices.

If NDEP determines that a project less than 1 acre in size would impact receiving waters or its tributaries within a 1/4-mile radius of the project, the project would also require a construction stormwater permit. If the project requires a construction stormwater permit, an NOI would be completed for coverage under the Construction Stormwater General Permit.

Current target areas would remain the same and are generally located on or near playas away from sedimentary formations that typically contain fossil resources. Because this alternative would preserve the current boundaries of the NTTR and not greatly increase the intensity of activities, no significant impacts are anticipated with respect to earth resources within the NTTR. It is anticipated that any construction projects in the future would be designed to avoid impacts to geologic and paleontological resources.

Conceptually, emitters would be placed along existing roads or two tracks, and the emitter operations would pose no threat to earth resources. No impacts to earth resources would be anticipated from operations at emitter sites. Placement of the emitters, depending on the future locations selected, may result in minor soil disturbance from site preparation. It is anticipated that future emitter sites would be selected to avoid impacts to known geologic and paleontological resources.

Suggested mitigations for earth resources are outlined in both Sections 2.9.2 and 3.10.3 (Proposed Resource-Specific Mitigations and Management Actions). These actions will be applicable to all action alternatives.

3.10.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

Alternative 2 would have the same footprint and range of activities as discussed for Alternative 1 with a 30 percent increase in intensity of utilization, and impacts to earth resources from air operations, munitions use, ground disturbance, and emitter operations would be increased above the levels discussed for Alternative 1 (Section 3.10.2.2). With a 30 percent increase in intensity of operations, and given the extent of activities, the severity of the impact would be low given the durable nature of the resource. It is assumed that there will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. With the implementation of required BMPs, minor impacts to soils or paleontological resources would be anticipated under Alternative 2

owing to the potential for ground disturbance associated with installation of threat emitters, munitions use, and any other construction and maintenance activities.

As with Alternative 1, restriction of access to mineral resources the extension of the NTTR land withdrawal would prevent the discovery and use of economically viable resources, as is the current situation. With Alternative 2, which represents the level of activity proposed under Alternative 1 plus a 30 percent increase in operational tempo, troops traversing the areas proposed for wilderness have a minor potential to disturb soils and contribute to erosion in areas of high slope and loosely consolidated soils. It is anticipated that any construction projects, including preparing and placement of emitter sites, in the future would be designed to avoid impacts to geologic and paleontological resources. Depending on the scope of the activities, such projects could be subject to additional consideration under NEPA and other appropriate regulations.

3.10.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

A 30 percent increase in aircraft operations would have no direct impact on earth resources (geologic, soil, or paleontological) within the proposed expansion areas for Alternatives 3A, 3A-1, 3B, and 3C. With a 30 percent increase in intensity of air operations, and given the extent of flight activities, the severity of the impact would be insignificant given the durable nature of the resource. The creation of the safety or operational security footprints would have no potential to affect earth resources. Public access would be limited under Alternatives 3A, 3A-1, 3B, and 3C as is current practice on the NTTR. This limitation of access would likely result in a beneficial impact to earth resources by reducing traffic through areas that currently are no access-restricted or limited. Impacts to earth resources from vibrations would not be expected to occur and would be the same as those discussed for aircraft operations for Alternative 1 in Section 3.10.2.2.

Though munitions use would continue with a 30 percent increase in operations within current ranges, no munitions use would occur in the proposed expansion areas for Alternatives 3A, 3A-1, 3B and, as such, none of these subalternatives would have an impact on earth resources (geologic, soil, mineral, or paleontological) related to munitions use. Munitions use would occur within Alternative 3C areas and would also continue within current ranges. Munitions to be utilized within the Alternative 3C area would include small arms, blanks, smoke grenades and hand flares, among others. Current target impact areas within the NTTR boundaries would remain the same and are generally located on or near playas away from sedimentary formations that typically contain fossil resources.

For Alternatives 3A, 3A-1, and 3B, approximately 25 miles and 30 miles of new fencing would be installed, respectively. Alternative 3C would include installation of approximately 65 miles of new fencing. Construction, the use of vehicles, and overland troop movement with a 30 percent increase in operations on the NTTR would typically result in some degree of ground disturbance, which may, in turn, expose soils to erosion or potentially damage paleontological resources. Under Alternatives 3A, 3A-1, and 3B, no significant increase in impacts in mountainous areas would occur. For Alternative 3C, a greater increase in foot traffic in mountainous areas may occur from IW activities. In addition, approximately 13 acres of construction-related ground disturbance may occur from runway construction associated with Alternative 3C. Construction of the runway would result in an initial surface disturbance, and use of the runway would potentially result in soil compaction from aircraft operations. Soil compaction can cause damage to the soils structure as a result of repeated contact with heavy vehicles. This compaction can affect upper soil horizons restricting drainage and leading to a potential alteration of surface water infiltration. Repeated mechanical stress causing compaction can affect soil structure reducing the ability of a soil to hold and conduct water, nutrients, and air necessary for plant root activity. Some compaction may be beneficial to seed development because of the increased contact between a germinating seed and soil and moisture. Too much compaction can prevent seed emergence and root development. In addition, the fueling operations associated with FARRP would have the potential to contaminate soils if a spill was to occur. In this scenario, NTTR personnel would follow procedures set forth in the installation spill plan as discussed in Section 3.12 (Hazardous Materials and Solid Waste).

The NDEP requires a General Construction Stormwater Permit if the project would discharge to Waters of the State and disturb 1 or more acres or if it is part of a larger plan for development that would ultimately disturb 1 acre or more. Stormwater permits would contain BMPs subject to approval by NDEP. BMPs could include stormwater diversion, erosion control, or any number of best practices. If NDEP determines that a project less than 1 acre in size would impact receiving waters or its tributaries within a 1/4-mile radius of the project, the project would also require a construction stormwater permit. If so, an NOI would be completed for coverage under the Construction Stormwater General Permit.

Ground disturbance under Alternatives 3A, 3A-1, and 3B, discussed above, would not be significant and therefore would not have a significant impact on earth resources (geologic, soil, or paleontological) within the proposed expansion areas. Additionally, no significant impacts from the ground disturbance activities described above are anticipated with respect to earth resources for Alternative 3C. It is anticipated that any construction projects in the future would be designed to avoid impacts to geologic and paleontological resources.

Emitter operations pose no threat to earth resources, and no impacts to earth resources would be anticipated from operations at emitter sites. Emitter operations would not occur in the proposed expansion areas for Alternatives 3A, 3A-1, and 3B, and there would be no impact on earth resources (geologic, soil, mineral, or paleontological) within the proposed expansion areas for Alternatives 3A, 3A-1, and 3B. For Alternative

3C, emitters would conceptually be placed along existing roads or two tracks and, depending on the future locations selected, and site preparation for new emitters in conjunction with the implementation of required BMPs, may result in minor soil disturbance. There will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. Consequently, it is anticipated that there would be 13 acres of total ground disturbance for Alternative 3C, due to threat emitter installation and roadway improvement.

It is anticipated that future emitter sites would be selected to avoid impacts to known geologic and paleontological resources. Any proposed emitter sites could be subject to additional consideration under NEPA and other appropriate regulations.

For Alternatives 3A and 3A-1, safety footprints required in conjunction with current and future military activity would restrict public and industrial access to the proposed expansion area (Range 77). For Alternative 3B, there is a moderate potential for several construction aggregates within the Range 64C/D and 65D areas. These include sand and gravel deposits, limestone deposits, cement limestone, and high-calcium limestone. Fluorspar and breccia deposits could also potentially occur. For Alternative 3C, metallic mineral deposits within the eastern DNWR are located outside of the proposed expansion areas, primarily within the Gass Peak thrust fault. There is a high potential for sand and gravel deposits and moderate potential for high-calcium limestone.

In terms of mineral exploration, the extension and expansion of the NTTR withdrawal could prevent the discovery and exploitation of economically viable resources, as is currently the situation. On September 2, 2016, BLM published a Notice of Application for Withdrawal Extension; Notice of Application for Withdrawal Expansion; and Opportunity for Public Meeting regarding the segregation of lands in relation to the NTTR land withdrawal in the *Federal Register*. This notice temporarily segregates the proposed withdrawal lands from all forms of appropriation under the public land laws, including the mining laws, mineral leasing laws, and geothermal leasing laws.

Another consideration regarding the level of impact imposed by segregation and any subsequent withdrawal is access to active mining claims. One active mining claim is located within the current withdrawn lands and proposed expansion areas, and it is located within the Range 77 expansion area proposed for Alternative 3A and 3A-1. No active mining claims would be impacted by the selection of Alternative 3B or 3C, and currently, the USFWS-managed DNWR areas in the Alternative 3C proposed withdrawal area are not open to mining. If the Air Force withdraws the Range 77 parcel associated with Alternative 3A or 3A-1, then a subsequent potential restriction of access to this active claim could potentially represent an impact to earth resources. The significance of these impacts is difficult to quantify until the final disposition of this claim is resolved between the claimants and the Air Force. The potential for impacts could also be altered depending on the term of withdrawal to be implemented for Alternative 4.

3.10.2.5 Alternative 4 – Establish the Period of Withdrawal

For Alternative 4, the period of withdrawal would be established and combined with other alternatives, conjunctively determining the temporal and spatial limits of the withdrawal. The potential for mineral or other geologic resource exploration in many areas of the Proposed Action would be affected by the geographic extent and time period of the withdrawal. The longer the term of the withdrawal and the greater the geographic extent of the withdrawal, the greater the opportunity for future negative impacts due to potential lack of access to industry and the public. Conversely, earth resources such as paleontological and soil resources would benefit from a probable reduction in impacts from mineral exploration and a restriction of public access. Additionally, how the land use is managed after withdrawal (restricted, multiple use, etc.) would greatly impact future mineral and resource exploration. Currently, USFWS-managed DNWR areas are not open to mining.

Alternative 4A would have a minor potential to affect earth resources and offer the most flexibility for future economic development, as it represents the shortest withdrawal period proposed (20 years). Alternative 4B (50 years) would also have a moderate potential to affect earth resources and would offer less flexibility than Alternative 4A for future economic development because Alternative 4B represents a longer withdrawal period than Alternative 4A. The indefinite withdrawal period proposed for Alternative 4C would offer less flexibility than Alternative 4A or Alternative 4B for future economic development, as it represents the longest withdrawal period. Protections to soils and paleontological resources offered by Air Force land access controls would be beneficial to a greater degree with Alternative 4B than with Alternative 4A, and to the greatest degree with Alternative 4C.

3.10.2.6 No Action Alternative

In the event that the land withdrawal for the NTTR is not extended, much of the approximately 2.9 million acres currently closed to the public would potentially be open to use under BLM and USFWS administration. Access to mineral resources under the No Action Alternative could be less restrictive under BLM management than under Air Force administration, resulting in beneficial impacts to local mining interests. Mining access could be granted and mining decisions made by BLM with State of Nevada involvement. Appropriate environmental documentation and safeguards would be the responsibility of the permitting federal agency, which, in this case, would be the BLM and USFWS.

Conversely, potential mining in the released lands could result in removal or significant alteration of geologic features or existing topsoil. The removal or shifting of topsoil could potentially result in increased soil erosion.

Depending on the location, type, and intensity of future BLM-permitted developments and uses, impacts to unique geologic features or hazards to paleontological resources could occur.

3.10.3 Proposed Resource-Specific Mitigations and Management Actions

The identified resource-specific mitigations and/or management actions for earth resources that would be implemented across all action alternatives include the following:

- In general, to avoid, reduce, or eliminate potential erosion impacts, the most sensitive areas prone to erosion (loose soils, slumps and slopes, seep/spring banks, etc.) from ground-disturbing activities would be avoided. If avoidance is not possible, the Air Force may consider implementation of mitigations (discussed under Air Quality and Water Resources in this section) to minimize impacts to earth resources from erosion.

3.10.4 Native American Perspective on Earth Resources

3.10.4.1 Native American Perspective: Earth Resources Description of Resource

The CGTO considers Earth Resources as defined in the LEIS to be interconnected with the land and inseparable from cultural resources described in Section 3.9.4, Native American Perspective on Cultural Resources. The CGTO knows it is charged with the cultural responsibility of serving as the voices of those elements described as Earth Resources. As such, the CGTO does not support those activities that creates sickness to the land or causes an imbalance to the cultural landscape.

3.10.4.2 Native American Perspective: Geology and Volcanism and Seismic Activity

Geology

During previous visits to the NTTR, the CGTO noted culturally severe disturbances to the geology, soils, or minerals stemming from previous military activities. This seemingly irreparable damage has made certain areas unfit for human use and inaccessible to Native Americans who have relied on the earth, soil and minerals for medicine and religious purposes.

In general, the CGTO knows mitigation measures must be proposed by the Air Force for geology and soils to address erosion control through stabilization and revegetation. The CGTO is concerned about the unnatural erosion control methods proposed by the Air Force. In particular, the CGTO struggles with activities that require relocating rocks and soil away from where they were originally placed by the Creator and using them contrary to the Creator's intention. Native Americans know relocating soil in a culturally unacceptable manner can cause adverse impacts to the environment, such as the increased potential for noxious weed growth. This could potentially threaten nearby native vegetation and harm people and wildlife that rely on it for survival

Therefore, the CGTO recommends the Air Force implement culturally-appropriate stabilization efforts and revegetation techniques based on traditional ecological knowledge. Indian people stabilize our lands by offering prayers to explain to the soil why it is being removed, how we intend to use it, and by thanking it for its use. We then remove and protect the topsoil for future use. We replace the soil with dirt and gravel from nearby land only after once again offering prayers, and re-contour the land out of respect to the visual landscape and unseen song and storyscapes. Indian people revegetate our land by determining suitable locations, and offering prayers to bless the seeds and plants so they can grow strong. We take great care in placing the seedlings in the direction of the morning sun and give thanks for the opportunity to plant them and for the water that is used to provide nourishment. Plants must be compatible with their new homes, neighboring plants, animal habitats, and soil composition. We believe a holistic approach helps to sustain balance and protects and restores our ancestral lands.

Based on previous visits to the NTTR, the CGTO believes the geology and soils are in even poorer condition than they were during their earlier visits due to the continued drought. Drought conditions, ground disturbing site activities, and damage to the soil from previous underground nuclear testing are significantly enhancing erosion. Negative impacts to these resources are long-lasting.

Activities that alter geological structure also alter hydrologic systems. Such actions result in changes to important geologic and soil features that directly connect the tribes to their homelands in specific, spiritual ways. These changes require spiritual and cultural intervention to restore balance.

According to tribal elders, *"Bombs have melted the soil. It turned to glass….Severe disturbances are still out there. Everything is still suffering from it. …The CGTO is in agreement that they must be here to do what they can to help stop this terrible pressure put on the earth through traditional ceremonies. The land has its own songs and when you sing the songs to the land, it'll sing back to you. These songs must be sung to help heal the earth and to restore harmony and balance."*

Volcanism and Seismic Activity

The CGTO knows the NTTR is located within a moderately active seismic zone that has been visited because of its culturally significant attributes to the 17 tribes. The CGTO has observed many inter-related sites both on and near the NTTR that contain deep-rooted religious significance necessary to sustain balance within our Holy Lands. Ethnographic studies have documented how and why volcanic formations are used as destinations for vision questing, medicine, quarrying sacred minerals and acquiring ceremonial songs and protocols (e.g., Carrol et al. 2006; Stoffle et al. 2009; Stoffle, Zedeno et al; 2001). Extensive and previously unknown ethnographic information was collected between 1997 and 2008 that described the area before and after the arrival of

Europeans. The areas specific to the NTTR are derived from volcanic activity where sentient beings that travel through the magma to maintain cultural equilibrium and keeps the cultural landscape in balance. If disrespected, the land reacts prompting volcanic activity to occur and causing upheaval that requires cultural intervention. The cultural centrality of volcanoes is well known and described using traditional ecological knowledge that can never be underestimated.

Minerals are culturally important and have significant roles in many aspects of Indian life. For example, the Chalcedony would have made an attractive offering that could be acquired on the NTTR, then left at the vision quest or medicine site located to the north on top of a cinder cone or peak like Black Mountain. Upon return, traditional Indian people would bring other offerings back to the initial site where a previous offering was acquired.

Obsidian is a glass-like stone produced by volcanoes. Indian people used a green volcanic glass during curing ceremonies that involved bleeding the patient. Volcanic glass was found below Obsidian Butte and used in the first arrow-making lessons for young men. Such lessons were held in small rock shelters found along the base of the basalt flow that constitutes Buckboard or Pahute Mesa. Obsidian flakes were placed before important rock art panels as offering to the spirits that lived on the other side of the passageway provided by the panel. Small obsidian stones, commonly called Apache Tears, have been found in large quantities in southern Nevada. These massive deposits of obsidian stones are interpreted by Indian people as being provided by the mountain as both a spiritual backdrop and a location rationale for vision quests (Stoffle et al. 2001).

Volcanic rocks are used in a wide range of ceremonial activities. Indian women enhance the quality of breast milk by squirting it on heated rocks (Stewart 1940; Miller 2004). They are used for medicine society sweat lodge meetings (Zedeno et al. 2001:146). Indian people call some volcanic rocks “grandfather stones,” a designation that reflects reverence as well as wisdom. Such rocks are sought in special places of power and carried over long distances to serve as heated stones in sweat lodges.

3.11 WATER RESOURCES

This section describes the affected environment for water resources, along with an analysis of potential environmental consequences to those resources from the Proposed Action and alternatives.

3.11.1 Affected Environment

For the Native American perspective on information in this section, please see Section 3.11.4.1 and Appendix K, paragraph 3.11.1.

3.11.1.1 Description of Resource

The affected environment for water resources includes surface waters, floodplains, groundwater, and water rights and improvements. These features are detailed in subsections below; water quality standards applicable to these

resources are discussed as well. Special studies conducted in support of the proposed range withdrawal include a Water Requirements Study (U.S. Air Force, 2017n), as well as a Wetlands, Floodplains, Seeps, and Springs Report (U.S. Air Force, 2017j). Much of the baseline information for this analysis has been derived from these reports.

3.11.1.2 Region of Influence

The ROI for water resources includes all the surface waters, floodplains, groundwater, and water rights and improvements located within the boundaries of the existing NTTR and potential expansion areas. The ROI also includes surface waters and groundwater resources outside the existing and proposed geographical boundaries that may be affected by the Proposed Action and alternatives.

3.11.1.3 Water Quality Standards

Water quality standards define the water quality goals of a surface water body by designating beneficial uses of that water body and setting criteria necessary to protect the beneficial uses. Water quality standards associated with designated beneficial uses within the state of Nevada are contained in NAC 445A.11704 through 445A.2234. Beneficial uses include livestock watering, irrigation, aquatic life, recreation, municipal or domestic supply, industrial supply, wildlife propagation, waters of extraordinary ecological or aesthetic value, and enhancement of downstream water quality. Water quality standards may be narrative or numeric (NDEP, 2016a). Narrative standards apply to all surface waters of the state and primarily consist of general requirements for waters to be free of various pollutants. Numeric standards are identified for some pollutants in specific water bodies and include criteria designed to protect beneficial uses and maintain antidegradation requirements. Numeric standards for toxic materials, which are based on EPA criteria, are provided in NAC 445A.1236.

Most surface waters of the NTTR are intermittent or ephemeral. With the exception of Breen Creek, the NTTR has no perennial streams (U.S. Air Force, 2010). No surface water bodies are present on the NTTR or proposed expansion areas that have designated beneficial uses. However, all surface waters are subject to the narrative standards that are applicable to all waters of the state. Regulations allow for the classification of a water body not currently classified in the NAC if there is a permit request to discharge into that water body. There are no such known requests for waters within the existing NTTR or potential expansion areas. In addition, beneficial uses of surface water on the NTTR would be subject to water quality criteria or standards specific to the use. Sections of the NAC containing water quality standards and criteria are included in Appendix J, Water Resources, Section J.1, Nevada Administrative Code 445A.

The State of Nevada implements drinking water requirements established in the *Safe Drinking Water Act*. The Nevada Safe Drinking Water Program is administered by the NDEP's Bureau of Safe Drinking Water (NDEP, 2014). Drinking water standards consist of maximum contaminant levels (MCLs) established for various water quality constituents. Primary MCLs are established to protect against adverse health effects

and are enforceable for public drinking water supplies. Secondary MCLs are established for aesthetic reasons such as taste, color, or odor and are not enforceable for public drinking water supplies. Action levels are established for selected constituents that, if exceeded by a percentage of samples, require treatment of the water source prior to distribution. MCLs are applicable to contaminants that are introduced by point or diffuse sources.

NRS 445A.300 to 445A.730 implement other provisions of the CWA and regulate point and diffuse pollution sources of surface and groundwater. These statutes also provide for the oversight of sewage systems and water treatment plants and monitoring of drinking water distribution. The law applies to all lakes, ponds, impounding reservoirs, marshes, water courses, waterways, wells, springs, irrigation systems, drainage systems, and all bodies or accumulations of water, whether surface or underground. The Water Pollution Control Law established programs for executing the permit authority delegated to the state under both the CWA (NPDES permits) and *Safe Drinking Water Act* (groundwater protection).

3.11.1.4 Surface Water

For the Native American perspective on information in this section, please see Section 3.11.4.2 and Appendix K, paragraph 3.11.1.4.1, Surface Water - Existing NTTR Boundary Alternatives 1 and 2 Hydrology.

Existing NTTR Boundary (Alternatives 1 and 2)

Hydrology

Surface water resources on the NTTR originate from precipitation (rain and snow), snowmelt, and groundwater (springs and seeps). In Nevada, average annual precipitation depends mainly on elevation and ranges from 4 inches on the valley floors to over 40 inches on mountain summits (U.S. Air Force, 2017n). In the vicinity of the NTTR, average precipitation ranges from 4 inches (desert floor) to about 13 to 16 inches in mountain areas (Blainey, Webb, & Magirl, 2007; U.S. Air Force, 2010). Summer precipitation often occurs during periods of storm activity that is of short duration but intense. Severe thunderstorms can produce temporary flash flooding and ponding in valleys and other low-lying areas. With the exception of such thunderstorms, much of the warm weather precipitation is lost within a short time through evaporation and transpiration (uptake and transport of water to the atmosphere through vegetation), which are known collectively as evapotranspiration. Winter precipitation falls as snow or rain, depending on the elevation. Melting snowpacks may contribute water to drainages during winter, spring, and summer and may provide runoff volume that is greater than the amount of water lost to evapotranspiration (U.S. Air Force, 2010).

Surface water may originate from springs or seeps in areas where the groundwater table intersects the ground surface. Springs in the mountains discharge from perched water zones or emerge in areas where groundwater has migrated along rock fractures. Springs typically flow for only short distances before infiltrating into the ground. Pools may occur at some large springs. Seeps also originate from groundwater but have a more diffuse source and very low flow rate.

Surface water resources on the NTTR are scarce due to low precipitation, high evapotranspiration rate, low humidity, and wide daily temperature extremes. Evaporation in the NTTR region has previously been estimated at about 56 to 60 inches of surface water per year (Houghton, Sakamoto, & Gifford, 1975). More recently, evapotranspiration rate estimates at sites south and east of the NTTR have ranged from 4 to 63 inches, depending on the altitude, vegetation present, and modeling method (DeMeo et al., 2008; Moreo et al., 2014). The evapotranspiration potential is, therefore, often greater than annual precipitation. As a result, few perennial streams or other surface water features are present on the NTTR. Streams with sufficient volume flow into playas of the major valleys. Due to the high clay content in most playa soils, little surface water infiltrates the ground; most water is lost through evaporation. With the exception of the Amargosa River, Breen Creek, and some man-made features, the only perennial surface water on the NTTR comes from springs and seeps.

Multiple survey projects designed to identify all seeps and springs within the NTTR boundary were undertaken at various times between 2004 and 2013. The results were compiled in separate reports, each covering all or a portion of the range (Nellis AFB, 2013; 2014a; 2014b; 2014c) (Nellis AFB, 2014d; 2014e; 2014f). Numerous perennial and intermittent springs and seeps were identified in the North and South Ranges. A summary of the survey methods and results for these surveys is provided in Appendix J, Water Resources, Section J.2, Summary of Previous Surface Water Investigations on the Nevada Test and Training Range. In addition, other surface water features such as construction ponds, wells, water accumulation areas, dugouts, and wildlife water development sites were documented.

More recently, a comprehensive review of surface water information available from 2004 to 2015 and the results of field surveys in the potential expansion areas conducted in 2016 were combined into a single report (U.S. Air Force, 2017j). The report identifies 135 total water features on the existing NTTR and potential expansion areas, including 46 perennial springs, 20 intermittent springs, 7 perennial seeps, 36 intermittent seeps, 1 surface water accumulation, 4 construction ponds, and 22 wildlife water developments. The locations of streams, springs, seeps, wells, wildlife water developments, and other surface water features for which GIS data are available, along with corresponding identification numbers, are shown on Figure 3-36. Descriptions of the surface water features are provided in Table 3-45. Most active springs occur on the North Range (U.S. Air Force, 2017j). The figure also shows the 27 hydrographic basins associated with the NTTR, which are described in Section 3.11.1.6 (Groundwater).

Table 3-45. Surface Water Feature Descriptions

Water Feature No.	Water Feature Name	Water Feature Type
1	Antelope Spring 1	Perennial Spring
2	Antelope Spring 2	Perennial Spring
3	Antelope Spring 3	Perennial Spring
4	Blackhawk Spring	Intermittent Seep
5	Breen Creek Spring	Perennial Spring
6	Brent's Seep	Wildlife Water Development
7	Cactus Roadside Seep	Intermittent Spring
8	Cactus Rock Spring	Perennial Spring

Table 3-45. Surface Water Feature Descriptions

Water Feature No.	Water Feature Name	Water Feature Type
9	Cactus Spring 1	Perennial Spring
10	Cactus Spring 2	Perennial Spring
11	Cactus West Seep	Intermittent Seep
12	Camp's Well	Perennial Spring
13	Cathedral Spring	Perennial Spring
14	Cedar Spring	Perennial Spring
15	Cedar Well Complex	Intermittent Spring
16	Chicken Pete's	Perennial Seep
17	Chuckwalla	Wildlife Water Development
18	Cliff Spring	Perennial Spring
19	Construction Pond 1 and 2	Construction Pond
20	Cooper's Meadow Complex	Intermittent Spring
21	Corral Spring	Perennial Spring
22	Dacite Seep	Perennial Spring
23	Dain Peak	Wildlife Water Development
24	De Jesus	Developed Spring
25	Desert Well	Intermittent Spring
26	East Kawich Spring	Perennial Spring
27	Falcon Spring	Intermittent Spring
28	Foggy	Wildlife Water Development
29	George's Water	Perennial Spring
30	Gold Spring	Perennial Spring
31	Gravel Canyon	Wildlife Water Development
32	Heaven's Well	Wildlife Water Development
33	Indian Canyon	Wildlife Water Development
34	Indian Spring 1	Intermittent Spring
35	Indian Spring 2	Intermittent Spring
36	Indian Spring 3	Intermittent Spring
37	Indian Spring 4	Perennial Spring
38	Jerome Spring	Perennial Spring
39	Johnnie's Water	Perennial Spring
40	Kawich Peak Spring	Intermittent Spring
41	Kawich Seep 1	Perennial Seep
42	Kawich Seep 10	Intermittent Seep
43	Kawich Seep 11	Intermittent Seep
44	Kawich Seep 12	Intermittent Seep
45	Kawich Seep 13	Intermittent Seep
46	Kawich Seep 14	Intermittent Seep
47	Kawich Seep 15	Intermittent Seep
48	Kawich Seep 16	Perennial Seep
49	Kawich Seep 17	Intermittent Seep
50	Kawich Seep 18	Intermittent Seep
51	Kawich Seep 2	Perennial Seep
52	Kawich Seep 3	Intermittent Seep
53	Kawich Seep 4	Intermittent Seep
54	Kawich Seep 5	Intermittent Seep
55	Kawich Seep 6	Intermittent Seep
56	Kawich Seep 8	Intermittent Seep

Table 3-45. Surface Water Feature Descriptions

Water Feature No.	Water Feature Name	Water Feature Type
57	Kawich Seep 9	Intermittent Seep
58	Larry's Seep	Intermittent Seep
59	Log Spring	Perennial Spring
60	Lower Chicken Pete's	Perennial Spring
61	Lower Pillar Spring	Intermittent Seep
62	Monte Cristo	Perennial Spring
63	Nixon #1	Intermittent Seep
64	Old Silverbow Spring	Intermittent Spring
65	Patches	Wildlife Water Development
66	Phantom Spring	Perennial Spring
67	Pillar Springs	Perennial Spring
68	Pony Spring	Perennial Spring
69	Quartz Spring	Intermittent Spring
70	Quartz Spring South	Wildlife Water Development
71	Roller Coaster Construction Pond	Construction Pond
72	Roller Coaster Seep #1	Intermittent Seep
73	Roller Coaster Seep #2	Perennial Spring
74	Roller Coaster Seep #3	Intermittent Spring
75	Roller Coaster Seep #4	Intermittent Spring
76	Roller Coaster Seep #5	Intermittent Seep
77	Rose Spring	Intermittent Spring
78	Sailor's Spring	Perennial Spring
79	Sand Spring	Developed Spring
80	Seep 5	Surface Water Accumulation
81	Silverbow Seep	Intermittent Seep
82	Silverbow Spring	Perennial Spring
83	Sleeping Column Spring	Perennial Spring
84	South Kawich Spring	Perennial Spring
85	Spotted 1	Wildlife Water Development
86	Spotted 2	Wildlife Water Development
87	Spotted 6	Wildlife Water Development
88	Stealth Seep	Perennial Spring
89	Sumner Spring	Perennial Spring
90	Sundown Spring	Perennial Spring
91	Surface Water 1	Surface Water Accumulation
92	Surface Water 13	Surface Water Accumulation
93	Surface Water 47	Surface Water Accumulation
94	Surface Water 48	Surface Water Accumulation
95	Surface Water 70	Surface Water Accumulation
96	Surface Water 71	Surface Water Accumulation
97	Thunderbird Spring	Perennial Spring
98	Tim Spring	Developed Spring
99	Tommy	Wildlife Water Development
100	Trappman Springs A	Perennial Spring
101	Trappman Springs B	Perennial Spring
102	Trappman Springs C	Perennial Spring
103	Tule George Spring	Perennial Spring
104	Tunnel Spring	Perennial Spring

Table 3-45. Surface Water Feature Descriptions

Water Feature No.	Water Feature Name	Water Feature Type
105	Upper Cliff Spring	Intermittent Seep
106	Upper George's Spring	Intermittent Spring
107	Urania Mine Spring	Intermittent Spring
108	Vitovitch Spring	Perennial Spring
109	West Dacite Spring	Perennial Spring
110	West Kawich Spring	Intermittent Spring
111	White Patch Spring	Intermittent Spring
112	White Ridge Spring	Intermittent Spring
113	White Sage Gap	Wildlife Water Development
114	Wild Horse Spring	Perennial Spring
115	Wild Rose Spring	Intermittent Spring
116	Wildcat Spring	Intermittent Spring
117	#6	Intermittent Seep
118	#7	Intermittent Seep
119	#8	Intermittent Seep
120	#9	Intermittent Seep
121	#10	Intermittent Seep
122	#11	Intermittent Seep
123	#15	Intermittent Spring
124	#16	Intermittent Seep
125	#24	Intermittent Seep
126	#26	Perennial Spring
127	#28	Intermittent Seep
128	#29	Intermittent Seep
129	#30	Intermittent Seep
130	#31	Intermittent Spring
131	#36	Intermittent Seep
132	#37	Intermittent Spring
133	#38	Intermittent Seep
134	#39	Intermittent Seep
135	#45	Intermittent Spring
136	#46	Intermittent Spring
137	#47	Intermittent Seep
138	#48	Intermittent Seep
139	#50	Surface Water Accumulation
140	#51	Intermittent Seep
141	#52	Intermittent Seep
142	#58	Surface Water Accumulation
143	#62	Perennial Spring
144	#94	Intermittent Seep
145	#108	Dugout
146	#111	Intermittent Seep
147	Spotted 5 Guzzler	Wildlife Water Development
148	Desert 4 Guzzler	Wildlife Water Development
149	White Rock Spring	Developed Spring
150	Saddle Mountain Guzzler	Wildlife Water Development
151	Rug Mountain Guzzler	Wildlife Water Development
152	Enclosure Ridge Guzzler	Wildlife Water Development

Table 3-45. Surface Water Feature Descriptions

Water Feature No.	Water Feature Name	Water Feature Type
153	Woody Guzzler	Wildlife Water Development
154	Unnamed Spring	Intermittent Spring
155	Surface Water 01	Spring
156	Surface Water 02	Spring
157	Surface Water 03	Spring
158	Lower Lake Spring	Spring
159	Dry Lake Spring	Spring
160	Deadman Spring	Spring

Jurisdictional Surface Waters

For the Native American perspective on information in this section, please see Section 3.11.4.2 and Appendix K, paragraph 3.11.1.4.1, Jurisdictional Surface Waters.

Activities that adversely affect waters of the United States by filling, flooding, excavation, or drainage are regulated under Section 404 of the CWA. Jurisdictional waters under the CWA include ephemeral, intermittent, and perennial streams, tributaries, and wetlands. To be considered jurisdictional, a feature needs to display an ordinary high water mark and a significant connection to a traditionally navigable water body. Potentially jurisdictional stream channels, drainage basins/watersheds, and wetlands on the NTTR were identified (U.S. Air Force, 2017j).

Multiple data sources were used to identify these features, including NWI maps. However, jurisdictional status determination for NWI wetlands and other water features typically can only be confirmed by field investigation. The channels, basins, and wetlands identified in the study provide an indicator that jurisdictional waters may be present, and this information can be used for future planning efforts. Future ground-disturbing activities proposed in withdrawn lands would require site-specific jurisdictional determination, delineation, and impact assessment.

Potential jurisdictional watersheds were identified as basins that drain into channels connected to navigable waters. The only applicable navigable waters in the study area are the Amargosa River and the Las Vegas Wash. The southwestern portion of the North Range coincides with the Amargosa watershed, and a small area of the South Range coincides with the Las Vegas Wash watershed. Any surface waters, washes, or wetlands found within these areas are potentially jurisdictional. The majority of watersheds in the study area drain into closed basins, which are not connected to navigable waters and are, therefore, not considered jurisdictional. NWI wetlands have been mapped in several portions of the existing withdrawn land (Figure 3-36).

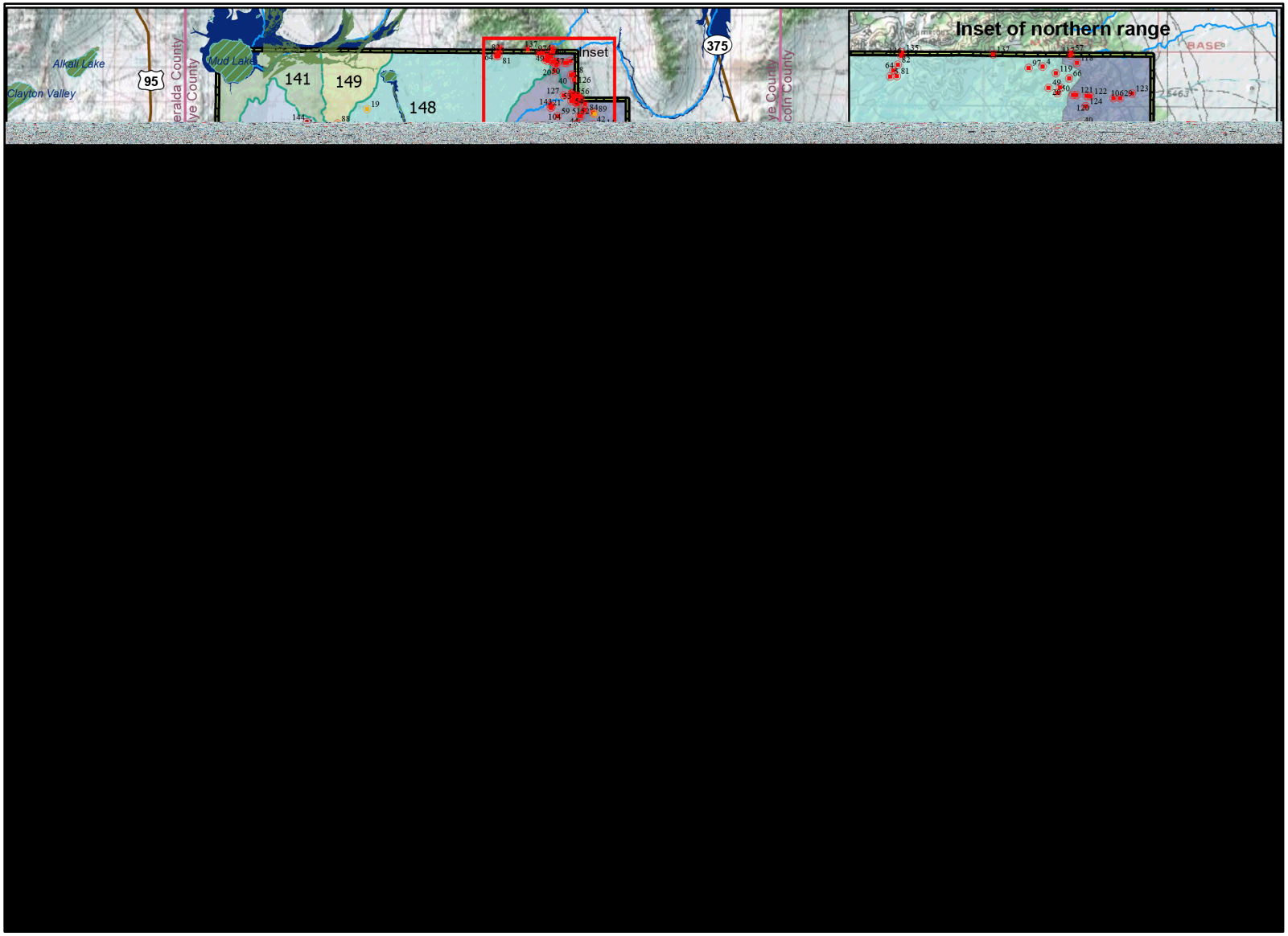

Figure 3-36. Water Resources on the Nevada Test and Training Range

Water Quality

Surface water quality varies greatly in different parts of Nevada and at different times of the year (USGS, 2013a). Water quality of springs and seeps on the NTTR is primarily influenced by the physical and chemical characteristics of the rocks through which groundwater flows prior to discharge. Surface water quality is also affected by factors such as chemical characteristics of rocks or soil that contact water on the ground surface.

Water quality is often evaluated in terms of the concentration of dissolved solids present, although other substances such as pollutants and naturally occurring chemicals can affect water quality as well. Concentrations of dissolved solids are usually highest during periods of low stream flow and near the termination of drainages due to the concentrating effect of evaporation. Conversely, concentrations are lowered during periods of high stream flow (Berris et al., 2003). Surface water in playas, when present, often has particularly high dissolved solids concentration.

The results of recent water quality testing of numerous perennial and intermittent streams and wildlife water developments conducted in 2014 and 2015 are provided by Adams Ecology, Inc. (2016c). While the results of water sample testing were generally good, MCLs were exceeded at numerous water sources for one or a combination of aluminum, arsenic, iron, manganese, and lead. MCLs were exceeded at a smaller number of locations for pH (a measure of acidity), fluoride, chloride, nitrate/nitrite, sulfate, calcium, and sodium. Results were not consistent at every location between years; some constituent levels either rose above or fell below MCL values between 2014 and 2015.

Water discharges on the NTTR are regulated by the NDEP, Bureau of Water Pollution Control. Surface water discharges fall under the requirements of the NPDES, created by the CWA. Currently two areas on the NTTR fall under requirements for NPDES permitting: Tonopah Test Range and Creech AFB.

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

The overall hydrology and surface water quality of Range 77 is the same as that discussed above for the existing NTTR withdrawal. One unnamed spring is known to occur in the area, and appears to be an intermittent spring. Numerous potential seeps and springs (identified from satellite imagery) on the existing NTTR and potential expansion areas were investigated in 2016 (U.S. Air Force, 2017j). The locations of the investigated features are included in Appendix J, Water Resources, Figure J.1, Potential Seeps and Springs Investigated during August 2016, and confirmed seeps and springs in the potential expansion areas are included in Appendix J, Water Resources, Section J.3, Confirmed Seeps and Springs in the Potential Expansion Areas. A potential spring in the southern portion of Range 77 was investigated during this effort but was not verified as a spring. Expansion into this range would result in inclusion of additional area of the upper Amargosa River watershed within the NTTR boundary. Any surface waters, washes, or wetlands within this watershed are potentially jurisdictional. NWI wetlands are not mapped within Range 77.

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

The overall hydrology and surface water quality of Range 64C/D and 65D are the same as that discussed above for the existing NTTR withdrawal. There are no known seeps or springs in the area. Several potential springs were investigated in 2016 (Appendix J, Water Resources, Figure J.1, Potential Seeps and Springs Investigated During August 2016), but none were confirmed (Appendix J, Water Resources, Section J.3, Confirmed Seeps and Springs in the Potential Expansion Areas) (U.S. Air Force, 2017j). However, one wildlife water development (Spotted 5 Guzzler) was confirmed in the northern portion of the range. There are no potentially jurisdictional surface waters, washes, or NWI wetlands identified within the site.

Alternative 3C – Alamo Withdrawal

The overall hydrology and surface water quality of the Alamo withdrawal areas are the same as that discussed above for the existing NTTR withdrawal. Numerous potential springs and other surface waters were investigated in 2016 (Appendix J, Water Resources, Figure J.1, Potential Seeps and Springs Investigated During August 2016). Field investigation confirmed the presence of a total of 12 springs, wildlife water developments, and surface water features (stormwater catchments) in the area (Appendix J, Water Resources, Section J.3, Confirmed Seeps and Springs in the Potential Expansion Areas). Some of these water features consist of guzzlers and enhanced springs. Two additional springs occur very close to the eastern border. A large portion of the Las Vegas Wash occurs within this potential expansion area, and any surface waters, washes, or wetlands within the watershed are potentially jurisdictional. NWI wetlands are mapped in association with Desert Lake.

3.11.1.5 Floodplains

Existing NTTR Boundary (Alternatives 1 and 2)

A floodplain is generally described as a flat area of land adjacent to a stream or other surface water that is subject to flooding during periods of high discharge. Floodplains on the NTTR are mostly associated with ephemeral or intermittent waters. Floodplain boundaries are typically described in terms of average frequency of inundation. The 100-year floodplain is defined as the area that has a 1 percent chance of inundation by a flood event in any given year (once per 100 years on average). The 500-year floodplain has a 0.2 percent chance of flooding in any year (once per 500 years on average).

Hydrologic modeling was completed in order to identify areas that are subject to flooding, particularly the 100- and 500-year floodplains (U.S. Air Force, 2017j). The modeling incorporated information from a previous (1997) floodplain inventory report, current Federal Emergency Management Agency (FEMA) flood zone data, and calculation of floodplain areas through analysis of water basin characteristics. Water basin analysis included identification of stream and drainage basins, as well as estimates of runoff volume, flow rate, and overland flow. Basins were categorized based on internal or external drainage. Runoff volume calculations were conducted for

internally drained basins to determine water surface elevations in playas. Flow rate calculations were conducted for externally drained basins to determine the peak flow rate at the outlet. Overland flow calculations were conducted for cross sections of the proposed expansion areas.

Based on this information, the 100- and 500-year floodplains associated with a 24-hour rain event, as well as floodplains associated with playas and alluvial fans, provisionally occurring within the NTTR are shown on Figure 3-36. Alluvial fans would generally be impacted by concentrated runoff, while other areas would be characterized as sheet flow. The identified floodplains may be used as a general planning tool for present and potential future use of the property. The modeling required use of publicly available data of limited accuracy and detail and, therefore, does not have the detail necessary for designing and constructing infrastructure. Additional modeling and drainage analysis would be required prior to construction of fixed structures.

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

Based on the results of the hydrologic modeling described above, a small floodplain area was identified along the Amargosa River (Figure 3-36).

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

Based on the results of the hydrologic modeling described above, small floodplain areas were identified along the western portion of Range 64C/D and 65D (Frenchman Lake) and in the southern portion, west of Creech AFB (Figure 3-36).

Alternative 3C – Alamo Withdrawal

Based on the results of the hydrologic modeling described above, floodplains associated with Desert Lake were identified within the Alamo areas (Figure 3-36).

3.11.1.6 Groundwater

Existing NTTR Boundary (Alternatives 1 and 2)

For the Native American perspective on information in this section, please see Section 3.11.4.3 and Appendix K, paragraph 3.11.1.6.1.

Hydrogeology

Hydrogeology refers to the occurrence and flow of groundwater. Underground formations of water-bearing rock or pockets of water within rock fractures are called aquifers. Hydrogeologic systems and associated aquifers may be categorized as local or regional, based on the distance between recharge and discharge points, and may have varying degrees of connectivity. The NTTR is located within the Great Basin carbonate and alluvial aquifer system. An extensive regional groundwater system exists in this area due to the permeability of carbonate rocks. The depth of groundwater beneath the NTTR varies greatly but averages about 200 feet (U.S. Air Force, 2017n).

Aquifers underlying the NTTR include basin-fill (alluvial), volcanic rock, and carbonate rock aquifers (Heilweil & Brooks, 2011). Basin-fill aquifers consist of unconsolidated gravel, sand, and clay that have eroded from mountains into adjacent basins. Alluvial

fans are prominent hydrologic features of these basins. The fill material allows rapid infiltration of water as it flows over the fans. Basin-fill aquifers are common throughout the NTTR. Depth to groundwater is generally shallow but varies from a few feet to over 1,000 feet. Volcanic rock aquifers consist of rocks with varying degrees of porosity. This aquifer type has potentially high water storage and transmissivity due to pores and fractures but may also have areas of dense welding that inhibit flow. Volcanic rock aquifers are primarily found on the North Range. Carbonate rock aquifers are typically the deepest type and consist of limestones and dolomites. Cavernous carbonate rock has been found at depths of 5,000 feet and may extend locally as deep as 15,000 feet (USGS, 2009). These rocks have numerous features that facilitate significant water movement. Carbonate rock aquifers are common on the southeastern portion of the range.

Groundwater moves from recharge to discharge points, typically from areas of higher to lower elevation. Groundwater flow in the region of the NTTR consists of a system of shallow, local flows superimposed on deeper intermediate and regional flows (Belcher & Sweetkind, 2010). Many of the shallow basin-fill and volcanic rock aquifers are confined to individual mountain-valley watersheds (U.S. Air Force, 2010). Flow within these local systems is generally thought to parallel surface topography. Deeper regional water flow does not necessarily coincide with local surface topography. Regional groundwater flow is generally to the west and southwest (Belcher & Sweetkind, 2010). Natural resource areas occurring west and southwest of the NTTR include Ash Meadows National Wildlife Refuge (including Devil's Hole), Nopah Range Wilderness Area, Death Valley National Park, and the Amargosa Wild and Scenic River, among others. Overlying shallow aquifers have various degrees of connectedness to the regional system. Therefore, pumping from the shallow aquifers may impact the regional aquifer.

Nevada divides the state into management units called hydrographic basins. These regions are defined by areas drained by a single major stream or by a drainage system. The quantity of water that can be withdrawn from any given basin is controlled by perennial yield, measured in acre-feet per year (AFY), which is the maximum amount of water that can be tapped without exceeding the natural recharge rate. Information on the 27 basins associated with the NTTR is provided in Appendix J, Water Resources, Section J.4, Hydrographic Basins within the Nevada Test and Training Range. The basins are shown on Figure 3-36.

Recharge and Discharge

The hydrographic basins included in the NTTR boundary represent an estimated potential water source of over 49 million acre-feet of groundwater storage (U.S. Air Force, 1991). Groundwater recharge in the NTTR region is primarily supplied by infiltration of snowmelt and winter precipitation that falls in the mountain areas (U.S. Air Force, 2010), although groundwater may also flow laterally between local basins. Infiltration in mountain areas occurs mostly through volcanic or carbonate rocks, while infiltration in lower elevations occurs primarily through alluvial fans in basin-fill aquifers (Belcher & Sweetkind, 2010). It is estimated that only about 5 percent or less of annual precipitation in the NTTR region reaches the water table, with the remainder being lost

to evapotranspiration (U.S. Air Force, 1991; Moreo et al., 2014). Groundwater discharge occurs through (1) seeps and spring flow, (2) evaporation, (3) transpiration, (4) pumping for irrigation or other uses, and (5) subsurface flow between aquifers (U.S. Air Force, 2017n; Belcher & Sweetkind, 2010; USGS, 2009). Spring and seep flow and evapotranspiration are the primary types of discharge. Many springs, particularly those down-gradient of the NTTR, are supplied by discharge from the regional aquifer.

Water Quality

Groundwater quality is often expressed in terms of the composition and concentration of dissolved solids, although other factors may be used as well. Groundwater dissolves minerals from the rocks with which it comes in contact. Most of these minerals are harmless at low concentrations but may become hazardous in large concentrations. Water is generally not considered desirable for drinking if the concentration of dissolved minerals is greater than about 1,000 milligrams per liter (mg/L) (USGS, 2013b). The most common dissolved materials in groundwater samples taken from supply wells on the Nevada Test Site included sodium, potassium, calcium, magnesium, silicon dioxide, bicarbonate, chlorine, sulfate, nitrate, fluorine, bromine, and phosphate (Paces et al., 2012; Chapman & Lyles, 1993). Numerous other trace elements were present as well.

Water quality of basin-fill aquifers varies within and between basins (USGS, 2009). Groundwater tends to be fresh at the basin margins and on alluvial fan slopes, with increased dissolved solid concentration in the central portion of basins (Lopes, 2006). The groundwater beneath playas of smaller closed valleys may be brackish. Dissolved solids commonly include calcium, sodium, magnesium, and bicarbonate (U.S. Air Force, 2017n). Volcanic-rock aquifers are typically dominated by calcium, sodium, and bicarbonate, while carbonate-rock aquifers contain predominantly calcium, magnesium, and bicarbonate. Geothermal waters can contain high concentrations of chemicals such as arsenic, boron, fluoride, and lithium (U.S. Air Force, 2017n). Arsenic concentrations in groundwater are generally high in Nevada (Walker & Montecinos, 2007).

The USGS previously conducted a groundwater quality study of the carbonate-rock aquifer of the Great Basin in Nevada and Utah (Schaefer, Thiros, & Rosen, 2005). One well near the southern border of the Nevada Test Site was sampled. Primary and secondary drinking water standards were exceeded for some constituents such as arsenic, chloride, radon, and dissolved solids. Pesticides and their metabolites were present in very low concentrations. Other than this study, groundwater quality information is largely limited to regional data on dissolved solids concentrations and the dominant chemical type (U.S. Air Force, 2010). Groundwater in the North Range is typically rich in sodium bicarbonate, with dissolved solids concentrations of less than 500 mg/L. Dissolved solids concentrations in the South Range are generally higher (from 500 to 1,000 mg/L), and the dominant chemicals are calcium bicarbonate and sodium bicarbonate. There are 14 active wells permitted within the NTTR that are monitored for drinking water standards (U.S. Air Force, 2017n). The MCLs for regulated parameters have previously not been exceeded for any of the wells where data were available (U.S. Air Force, 1998).

Historic nuclear testing at the Nevada Test Site (now known as the NNSS) resulted in areas of radioactive groundwater contamination. Although such nuclear testing is no longer conducted, this type of contamination can persist for thousands of years. The contamination is generally moving southwest from the NNSS at a rate of up to 300 feet per year (U.S. Air Force, 2017n). Groundwater testing is conducted regularly for occurrence of radionuclides (e.g., tritium) on and near the NNSS. Off-site sampling occurs at public and private community wells and at wells on the NTTR. The most recently published sampling results (for 2016) revealed no contamination at any public or private wells or springs (National Security Technologies, LLC, 2017). However, tritium was detected at low levels in an early detection well on the NTTR. The tritium concentration at this well increased from 5.2 to 194 picocuries per liter (pCi/L) between sampling events conducted in 2015 and 2016. As a point of reference, the Safe Drinking Water Act limit for tritium in drinking water is 20,000 pCi/L (National Security Technologies, LLC, 2017).

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

Overall groundwater characteristics of the Range 77 withdrawal area are the same as those discussed above for the existing NTTR withdrawal. The potential withdrawal area is associated with hydrographic basins 146 and 228. Basin 146 is currently over-allocated, while only 5 percent of groundwater is allocated in basin 228 (U.S. Air Force, 2017n).

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

Overall groundwater characteristics of the Range 64C/D and 65D withdrawal area are the same as those discussed above for the existing NTTR withdrawal. The potential withdrawal area is associated with hydrographic basins 160, 161, 225, and 211. Basin 161 is currently substantially overallocated, while basin 211 is allocated at about 100 percent (U.S. Air Force, 2017n). Allocations are shown as 0 percent for basins 160 and 225.

Alternative 3C – Alamo Withdrawal

Overall groundwater characteristics of the Alamo withdrawal areas are the same as those discussed above for the existing NTTR withdrawal. The potential withdrawal area is associated with hydrographic basins 168, 169B, 209, 210, 211, and 212. Most of these basins are at or over their allocations (U.S. Air Force, 2017n).

3.11.1.7 Water Rights and Improvements

Existing NTTR Boundary (Alternatives 1 and 2)

The NRS assign jurisdiction over surface and groundwater rights and appropriations to the Nevada State Engineer's Office. Surface water appropriations and adjudication of vested surface water rights are included in NRS 533. Appropriations are based on availability and seniority of appropriations. Groundwater appropriations are covered under NRS 534 and are based on the perennial yield of each basin with special

provisions for temporary appropriations and adjudication of overallocated basins. Specific standards for well drilling are further detailed in NAC 534.

Surface Water

Available information indicates that surface water is currently appropriated from 83 springs and other sources for use within the proposed NTTR withdrawal extension and expansion areas (U.S. Air Force, 2017n). A total of 27 surface water rights are appropriated to the Air Force/DoD. The BLM holds five surface water permits, while the USFWS holds six permits. The remaining water rights are owned by other federal agencies or are privately appropriated. The 83 total appropriations represent about 374 acre-feet annually (AFA), with the Air Force holding permits for about 188 AFA (50 percent) of this total. Privately held water rights account for only 21 AFA, or 7 percent of the total.

The majority of surface water rights owned by federal agencies have apparently been transferred from original owners whose principal use was likely ranching (U.S. Air Force, 2017n). Most of the USFWS's water rights are used to support wildlife. Surface water rights and appropriations for each individual basin are provided in the Water Resources Report (U.S. Air Force, 2017n).

Groundwater

There are currently 44 groundwater rights permits within the proposed NTTR withdrawal extension and expansion areas (U.S. Air Force, 2017n), and the Air Force holds 19 of these permits. Twenty-four of the water rights are privately held. The majority of groundwater rights owned by federal agencies appear to have been transferred from the original owners whose principle uses were for ranching. Of the 27 hydrographic basins associated with the NTTR, 10 are currently either fully allocated or overallocated. Detailed information for each basin is provided in the Water Resources Report (U.S. Air Force, 2017n).

Nevada State Division of Water Resources records indicate that there are a total of 176 water wells present within the boundaries of the proposed NTTR withdrawal extension and expansion areas (U.S. Air Force, 2017n). Nineteen of these rights are appropriated by the Air Force (Nellis AFB or U.S. Air Force). The remaining rights are held by other federal agencies or are privately held. Air Force groundwater use records (from 2014), obtained from Nevada Division of Water Rights records and Air Force correspondence, indicate that about 1,837 AFY were allocated for all wells combined (U.S. Air Force, 2017n).

Alternative 3A – Range 77 – EC South Withdrawal (and Amended Alternative 3A-1)

There are no surface water rights identified in the Range 77 withdrawal area. Two well logs are associated with Alternative 3A, but none occur within the boundary of Alternative 3A-1. One groundwater right occurs near the boundary of Alternative 3A.

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

There are no surface water rights identified in the Range 64C/D and 65D withdrawal area. One groundwater right and several well logs are associated with this area.

Alternative 3C – Alamo Withdrawal

Three surface water rights are present in the Alamo withdrawal areas. In addition, three groundwater rights and three well logs are associated with the area.

3.11.2 Environmental Consequences

For the Native American perspective on information in this section, please see Section 3.11.4.4 and Appendix K, paragraph 3.11.2.1.

The Air Force recognizes that it is difficult to determine significance at the programmatic level. Should the areas associated with the any of the proposed alternatives be withdrawn for military use, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made. However, at a programmatic level, the Air Force has identified no adverse impacts to water resources connected with any of the proposed alternatives overall.

3.11.2.1 Analysis Methodology

Water resources that could be affected by each component of test and training activities were identified. Potential impacts to these resources under each alternative were then evaluated from a programmatic perspective. It should be noted that the Air Force does not plan as part of this Proposed Action to increase groundwater usage over those levels already allocated by the Nevada State Engineer. This includes those areas associated with expansion areas.

Historical nuclear device testing at the NNSS has resulted in radiological contamination of groundwater in the area. However, management of this contamination is conducted by NNSS under DOE's Environmental Management Program and is not within the scope of this LEIS. A Federal Facility Agreement and Consent Order (FFACO) was established in 1996 between the State of Nevada, DOE, and DoD to formalize cleanup and monitoring commitments related to previous nuclear testing (DOE, 2011). Due to the depth of affected groundwater, the complex geology of the area, and the size of the affected area, there is currently no technology adequate to remove the contamination from groundwater (DOE, 2016b). Therefore, DOE has an agreement with the State of Nevada outlining protection strategies for nearby communities. The strategy consists of establishing a network of groundwater sampling wells, with sampling results used to build computer models that forecast the location, direction, speed, and extent of contaminant migration. With sufficient information, certain geographic areas may enter what is called the Closure stage, at which point actions such as use restrictions, institutional controls, and monitoring requirements may be established. The Frenchman Flat Corrective Action Unit (CAU), located within the NNSS, is currently in the Closure

stage. Corrective actions in this unit include long-term water quality and water level monitoring, use restrictions, and institutional controls (measures to limit access and prevent exposure to contamination) (DOE, 2017). A total of 13 sampling wells are located on the NTTR (NNSA, 2018). The NNSS is required to prepare annual reports that provide monitoring results, among other information. The most recent report covers 2016 activities (National Security Technologies, LLC, 2017).

3.11.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

For the Native American perspective on information in this section, please see Section 3.11.4.5 and Appendix K, paragraph 3.11.2.2.1.

Aircraft operations and emitter operations would not result in direct or indirect impacts to water resources and are not evaluated in this section.

For Alternative 1, the current levels and locations of munitions use would continue. Munitions may be deployed from aircraft and by ground personnel. On the North Range, munitions use consists of live and inert ordnance deployed on target impact areas and blank small-arms ammunition. SNL activities also include explosion testing. Most target impact areas are located in valleys. On the South Range, target areas are restricted to playas located below 4,000 feet altitude. Small arms are also used on the South Range.

Potential impacts to water resources include contamination that could result from introduction of metals (e.g., ordnance casings, target debris), explosive material contained in UXO, and explosives residues. Munitions are not purposely used within or dropped directly into surface waters. Impacts would result from contaminants infiltrating or being carried to water resources. In general, metal and chemical constituents may flow to receiving surface waters in runoff during heavy rainfall. Contaminated soil may also be transported to surface waters by wind. Metal and chemical constituents may reach groundwater and associated aquifers as water at the surface infiltrates the ground, or through wells. Metal and chemical materials that reach streams or aquifers in sufficient quantity may exceed water quality standards. Floodplains are associated with numerous playas and alluvial fan systems on the NTTR. Munitions use would occur in some playas and other potential floodplain areas but would not alter the hydrologic function of floodplains. Potential impacts would be associated with transport of metal and chemical materials.

Contamination potential is generally influenced by the geography, hydrology, and climate of the NTTR region. Target impact areas are typically located in valley bottoms that are, in many cases, closed basins. The lack of connection to surface waters outside these basins minimizes the potential for contaminant runoff. In addition, contaminants tend to be immobilized by the clay that is prevalent in valley soils. Groundwater recharge on valley floors is typically limited and occurs primarily in mountain areas and through alluvial fans. Some types of ordnance use occurs in areas other than valley floors. However, the depth to groundwater at the NTTR reduces the potential for downward contaminant migration. Current management guidelines specify that

exploding ordnance is not to be used within 200 feet of a well or natural spring (U.S. Air Force, 2010).

An investigation of possible contamination of surface soils (which could indicate potential for transport to water features) at representative bombing target areas (U.S. Air Force, 1996) showed that explosives and heavy metals were present in the soils but that concentrations were relatively low overall and posed little human risk. A contamination analysis report prepared in support of this LEIS (U.S. Air Force, 2017o) provides information on more recent investigations into potential off-site migration of ordnance-related contaminants. As described in the report, DoD Directive 4715.11 requires assessment of operational ranges to protect the public from explosive hazards. The assessments include evaluation of hydrology and hydrogeology, as well as analysis of potential off-range migration of munitions constituents where hydrologic evaluation indicates such migration may occur. Accordingly, range assessments were conducted for the NTTR in 2007 and 2015. The 2007 assessment concluded that there was no viable off-site exposure pathway for surface water or groundwater. An analysis completed in 2015 included sampling of groundwater and soil in ephemeral washes near the southern boundary of the NTTR. Lead and explosive residues were found in soil samples, but the levels were below established background levels at the NTTR and were not expected to pose unacceptable risk to humans or wildlife. Groundwater samples contained lead but at levels below Air Force and EPA screening levels. There was one detection of 2,6-dinitrotoluene above the EPA tap water screening level; the concentration was below levels considered to affect human health. The 2015 results show that at least some munitions constituents are present in groundwater. The presence of ordnance-related materials in washes suggests that conveyance to surface waters is possible. However, the study results do not currently indicate contaminant levels that would raise risk concerns for human health or wildlife.

Depleted uranium (DU) rounds are used in a discreet area of the South Range. DU rounds are not currently used at any other location and would not be used within any potential expansion areas. Activities are subject to requirements of the Nuclear Regulatory Commission (NRC) license (initially granted in 1982) and an established management plan. Although spent DU rounds are collected and recycled annually, some rounds remain in the soil. A summary of various DU investigations are provided by S&B Christ Consulting (2017o). Multiple studies have found little to no migration of DU particles or oxides to soil outside the target area, and little to no radiation has been detected approximately 350 feet from targets. The Air Force conducted a site assessment in the 1990s and concluded there were no effects to water resources. Similarly, an environmental assessment prepared in 2006 concluded that impacts to water resources are unlikely because of the depth to groundwater, slow vertical migration through the soil, and lack of surface waters (U.S. Air Force, 2006). Previous sampling results suggest there has been little surface water transport of DU particles. Modeling results suggest that a 10-year storm would likely not cause any transport of DU particles, while a 100-year storm could result in transport up to 400 feet. Therefore, migration beyond the licensed target area is unlikely. Although DU particles are present in the soil near targets, there is no known contamination of water resources. The

average number of DU rounds expended annually between 2002 and 2015 is about 8,150, and it is expected that future use levels would be comparable.

Munitions use does not have a direct effect on water rights. Indirect effects are associated with facilities that support personnel and potential maintenance and operation activities for targets, threat emitters, or other infrastructure. Munitions use also results in safety-related restrictions to public access of surface and groundwater. Public water rights related to livestock that are not used for this purpose could be lost. Access to water resources for water quality sampling or wildlife management would continue to be coordinated through the Air Force. There would be no requirement for additional Air Force surface or groundwater appropriations.

For Alternative 1, the current types and locations of activities potentially resulting in ground disturbance would continue. Such activities may be generally categorized as placement of targets and other equipment, MCO activities, and IW activities. Targets, ground equipment (e.g., radar, electronic jamming devices), threat emitters, and monitoring and tracking equipment are placed throughout the NTTR. Facilities construction may also be required. Threat emitter placement requires construction of a base (150 feet by 150 feet). MCO and IW exercises involve ground forces. During IW activities, troops navigate terrain primarily on foot but may also use vehicles. Troop movement usually occurs on established roads or in mountainous terrain but occasionally occurs in riparian areas. Troops may be inserted at drop/landing zones. Most vehicle operation is restricted to existing roads and existing trails, but some off-road use occurs. MCO exercises mostly occur on the North Range, while IW exercises may occur on the North or South Ranges. However, on the South Range, IW activities are restricted to established impact areas. In general, potential direct impacts to water resources could result from personnel movement or vehicle operation in streams, springs, seeps, or wetlands. Substantial ground disturbance in floodplains, such as that associated with large construction projects, could affect floodplain function. Potential indirect effects consist of soil erosion caused by equipment placement, personnel and vehicle movement, troop insertion, and target and road maintenance activities. Erosion can lead to sedimentation or introduction of contaminants into surface waters. In sufficient quantity, sediments and contaminants can negatively affect water quality.

Ground-disturbing activities with the potential for direct impacts, including construction and vehicle operation, are avoided within streams and wetlands. Personnel movement generally does not occur in wetlands, although some riparian areas may be wetlands (site-specific determinations would be necessary). Potential indirect impacts to streams, wetlands, and other surface waters related to erosion are possible but are generally not expected to be substantial due to the small amount of soil disturbance during IW activities and soil-specific mitigations that could be implemented for larger activities, such as MCO exercises (Section 2.9, Mitigation). IW training involves a relatively small number of troops who strive to maintain a small mission footprint. Most movement is on foot and on established roads or mountainous terrain. Soil impacts are generally considered negligible due to the small number of troops involved and the infrequency of disturbing any given area. However, MCO activities may involve a substantially larger number of personnel and equipment. All proposed activities with the potential to directly

or indirectly impact streams, springs, seeps, or wetlands would be evaluated by NTTR personnel, and avoidance and minimization actions would be identified as applicable. Soil-specific mitigation measures that would decrease the potential for erosion impacts to surface waters could potentially include minimizing the size of troop units, rotating troop movement corridors, and avoiding movement through areas that show signs of erosion. With implementation of these actions, there would be no direct adverse impacts to wetlands or other surface waters.

Although some existing improvements may be located within floodplains (U.S. Air Force, 2017j), large construction projects in floodplains generally do not occur on the NTTR. Occasional personnel movement, vehicle operation, or placement of relatively small equipment (e.g., threat emitters, tracking equipment) in floodplains would not alter flood flow characteristics or cause adverse effects to existing structures. However, disturbance of floodplain soils, particularly on alluvial fans or other elevated areas, may increase sediment and contaminant conveyance during periods of water flow. This may spread sediments and any associated contaminants, concentrate them in playas, or carry them off-site. All construction and mission activities are evaluated by NTTR personnel to determine potential impacts to floodplains, and avoidance and management actions are identified as applicable.

Numerous wildlife water developments and developed springs occur within the existing NTTR boundary (see Figure 3-36). These surface water features have been developed for utilization by wildlife such as the desert bighorn sheep, among other species. Under Alternative 1, there would be no change in access to these features for management and maintenance purposes compared to existing conditions.

Suggested mitigations for water resources management are outlined in both Sections 2.9.2 and 3.11.3 (Proposed Resource-Specific Mitigations and Management Actions). These actions will be applicable to all action alternatives.

3.11.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

Aircraft operations and emitter operations would not result in direct or indirect impacts to water resources and are not evaluated in this section.

For the Native American perspective on information in this section, please see Section 3.11.4.6 and Appendix K, paragraph 3.11.2.3.1.

Potential impacts due to munitions use would generally be the same as Alternative 1 and would include introduction of metals, explosive material, and explosives residues into surface water or groundwater. Impacts would result from contaminants infiltrating the ground or being carried to water resources by runoff or wind. Metal and chemical constituents that reach surface water or groundwater and associated aquifers may negatively affect water quality. Differences under Alternative 2 would consist of additional locations used for test and training activities and an increase of 30 percent in ordnance use associated with MCO and IW activities on the South Range. MCO and IW activities would increase the amount of ordnance used on the existing impact areas and could introduce the use of blanks in interstitial areas not currently utilized. Increased ordnance use would result in a corresponding increased

potential for ordnance and target constituents to reach surface waters and groundwater. Aircraft ordnance would be used on existing target areas, but the specific locations and quantities of blanks are unknown. NEPA analysis (including water resources evaluation) would be conducted for all new activities. Future operations or new facilities could result in additional water use. It is likely that Air Force requirements could be fulfilled through current or transferred rights.

Although unlikely, water requirements exceeding current rights would be addressed through application to the State Engineer's Office. Any application would be evaluated in the context of the allocation status of affected basins. A large portion of the South Range occurs within hydrographic basin 161, which is substantially overallocated. Increased water pumping at Creech AFB or other areas of the South Range could affect groundwater levels and spring flow in basin 161 down-gradient (west/southwest) of the range. Some potentially affected areas, including Ash Meadows National Wildlife Refuge, Devil's Hole, and Death Valley National Park, are considered to be areas where groundwater has been withdrawn at unsustainable levels. For example, in January 2018 the State Engineer's Office issued Order 1197A, which prohibits (with some exceptions) new groundwater applications within a 25-mile radius of Devil's Hole. As a point of reference, Creech AFB is located approximately 20 miles from the outer boundary of this zone.

The USFWS holds water rights on the South Range for the purpose of wildlife support, and these water rights would not be voided under Alternative 2. Numerous wildlife water developments and developed springs occur within the existing NTTR boundary (see Figure 3-36). Increased numbers of activities and ready access in the South Range could potentially affect access to these features for management and maintenance purposes. Therefore, access protocols to the South Range for water quality and water development management and maintenance actions would be developed at the appropriate time. It is anticipated that the protocols would allow for continued management of wildlife, including desert bighorn sheep.

The types of activities resulting in ground disturbance would generally be the same as Alternative 1 and would include placement of targets and other equipment (e.g., radar, electronic jamming devices, threat emitters), MCO activities, and IW activities. Facilities construction may also be required. Ground forces navigate terrain primarily on foot but may also use vehicles. Potential direct impacts to water resources could result from personnel movement or vehicle operation in surface waters and wetlands. Potential indirect effects consist of soil erosion caused by equipment placement, personnel and vehicle movement, troop insertion, and target and road maintenance activities. Erosion can lead to sedimentation or introduction of contaminants into surface waters. In sufficient quantity, sediments and contaminants can negatively affect water quality. Differences under Alternative 2 would consist of a 30 percent increase in personnel movement, vehicle operation, and target/equipment placement due to MCO and IW activities on the South Range. Some activities would likely occur in areas of the South Range that have not been previously used for MCO or IW events. Personnel movement and placement of emitters and other equipment could occur in interstitial areas and at locations above 4,000 feet. Troop movement and vehicle use would be avoided in

seeps, springs, and wetlands. However, ground disturbance in other areas may result in erosion and deposit of sediments and contaminants into surface waters. The potential would be greater relative to Alternative 1 due to the increase in range utilization. All new activities with the potential to directly or indirectly impact water resources would be subject to review by appropriate NTTR personnel and NEPA analysis, and avoidance and minimization actions would be identified as applicable.

3.11.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

Aircraft operations and emitter operations would not result in direct or indirect impacts to water resources on lands proposed for expansion with Alternatives 3A, 3A-1, 3B, or 3C and are thus not discussed further in this section.

For the Native American perspective on information in this section, please see Section 3.11.4.7 and Appendix K, paragraph 3.11.2.4.1.

The proposed expansion areas for Alternative 3A or 3A-1 would serve only as a safety buffer and as an operational security and safety buffer for Alternative 3B. There would be no ordnance use within the geographic boundaries associated with the proposed expansion areas of Alternatives 3A, 3A-1, and 3B and, therefore, no potential for surface water or groundwater contamination due to ordnance use. The Alternative 3B boundary would occur within approximately 4 miles of the area around Devil's Hole, where new groundwater withdrawal applications are prohibited. However, increased water use would not be anticipated under Alternative 3B. Non-Air Force water permits could be abrogated or acquired by the Air Force to avoid safety and security issues. Public access restrictions could affect water quality sampling in the upper Amargosa River watershed for Alternatives 3A and 3A-1. Surface water features such as the unnamed spring and drainages of the upper Amargosa River in the Alternative 3A and 3A-1 areas are used by wildlife, potentially including desert bighorn sheep, although these features are not considered to be developed. A wildlife water development occurs in the Alternative 3B area. Access protocols for activities related to water quality for Alternatives 3A, 3A-1, and 3B and wildlife management for Alternative 3B would be developed. It is anticipated that the protocols would allow for continued wildlife management.

For Alternative 3C, the 30 percent increase in munitions use would include small-arms blanks expended during IW activities and would result in increased potential for ordnance constituents to reach water resources. Metals, explosive material, and explosives residues could reach surface water or groundwater as a result of infiltration, runoff, or wind. Metal and chemical constituents that reach surface water or groundwater and associated aquifers may negatively affect water quality. Although the

potential for metal and chemical contamination is decreased by the typical target locations (closed basins), soil conditions, and depth to groundwater, some munitions constituents (lead and 2,6-dinitrotoluene) have been found in groundwater on the NTTR. However, the concentration of these materials does not currently indicate contaminant levels that would raise risk concerns for human health or wildlife.

IW activities involve a small number of troops and are designed to leave no evidence of troop presence. Accordingly, munitions are limited to items such as blank small-arms ammunition, flares, smoke grenades, and other training munitions such as paint balls. These types of munitions have a relatively low potential to introduce metals and explosive materials into surface water or groundwater. Although the specific locations and quantities of blanks or other items are unknown, NEPA analysis would be conducted for all new activities. Future actions could result in the requirement for additional industrial water for construction and maintenance of new structures. Increased requirements could possibly be fulfilled through current or future transferred rights. Additional water could also potentially be obtained through application to the Nevada Division of Water Rights, although most water basins associated with the Alternative 3C proposed expansion area are currently at or over allocation.

With the exception of Corn Creek station, all surface water rights on the DNWR are currently used for wildlife and do not support human consumption. Any future requirements for additional water would be assessed through NEPA-related environmental analysis. Numerous springs, wildlife water developments, and developed springs occur in the Alternative 3C proposed expansion area (see Figure 3-36). Under Alternative 3C, access to these surface water features for water quality and wildlife management actions would likely be more restricted, and access protocols would need to be developed. It is anticipated that the protocols would be developed in cooperation with the USFWS and other applicable agencies and organizations.

For Alternatives 3A, 3A-1, and 3B, there would be no ground disturbance within the geographic boundary of the proposed expansion areas, other than installation of fencing and limited associated potential for erosion-related impacts to water resources within the proposed expansion area. Substantial soil disturbance would be avoided during perimeter fencing construction, resulting in minimal potential for erosion. Erosion control measures would be implemented as applicable. For Alternatives 3A and 3A-1, fencing would cross two headwater areas of the Amargosa River. For Alternative 3B, perimeter fencing would cross areas of intermittent surface water. Fence construction would occur in accordance with BLM design standards for such areas and could include alternate methods (flotation boards, floating gaps, etc.) as applicable.

The overall 30 percent increase in operations described under Alternative 2, along with the corresponding potential for impacts to water resources resulting from erosion and deposit of sediments and contaminants into surface waters, would be included under Alternatives 3A, 3A-1, and 3B. Impacts could occur as a result of placement of targets and other equipment (e.g., radar, electronic jamming devices, threat emitters), MCO and IW activities, and facilities construction.

Ground forces navigate terrain primarily on foot but may also use vehicles. While IW activities involve a small number of troops and typically leave little to no evidence of troop activity, MCO activities may involve a substantially greater number of personnel, but these personnel are associated with aircraft training and not ground disturbance activities. Potential direct impacts to water resources could result from personnel movement in surface waters and wetlands. However, vehicle operation is not planned to occur in surface waters or wetland areas based on current management actions implemented on the NTTR. Potential indirect effects consist of soil erosion caused by equipment placement, personnel and vehicle movement, troop insertion, and target and road maintenance activities. Erosion can lead to sedimentation or introduction of contaminants into surface waters. In sufficient quantity, sediments and contaminants can negatively affect water quality. All new activities with the potential to directly or indirectly impact water resources would be subject to review by appropriate NTTR personnel and NEPA analysis, and avoidance and minimization actions would be identified as applicable.

For Alternative 3C, ground disturbance would result from MCO and IW activities, potentially including personnel and vehicle movement, construction of two runways, road improvements, and placement of emitters and communication sites. Ground disturbance resulting from an overall 30 percent increase in operations may result in erosion and deposit of sediments and contaminants into surface waters. NWI wetlands have been identified with a potential IW insertion point, although direct impacts to jurisdictional wetlands would be avoided. For Alternative 3C, fuel spills could occur during FARRP activities and, in general, fuel would have the potential to migrate to groundwater or be carried to surface waters during rainfall. However, spill response actions are a component of FARRP and are incorporated into training preparation. FARRP activities could occur in a dry lake bed where runoff to surface waters is unlikely, and the typically high clay content of such areas decreases the infiltration of contaminants through the soil. Any additional water requirements would likely be met by an existing permitted source. Additional water could potentially be obtained by application through the Nevada Division of Water Resources, although the Alamo areas primarily consist of water basins that are at or over allocation. All activities would be subject to review by appropriate NTTR personnel and NEPA analysis, and avoidance and minimization actions would be identified. For Alternative 3C, perimeter fencing would cross two areas of intermittent surface water in the northeastern portion; placement would occur in accordance with BLM design standards for sites containing permanent or intermittent water. The potential loss of recreational areas associated with the Alternative 3C proposed expansion area could result in a shift of recreational activities to other locations in the region. However, potential direct and indirect (erosion) impacts to surface waters resulting from recreational activities would not be expected to increase in magnitude or duration, and there would be no overall effects to water resources.

3.11.2.5 Alternative 4 – Establish the Period of Withdrawal

The proposed withdrawal periods associated with Alternative 4—Alternative 4A (20-year withdrawal period), Alternative 4B (50-year withdrawal period), and Alternative 4C (indefinite)—must be implemented in conjunction with one or more of the other alternatives or subalternatives. The Air Force acknowledges that it is difficult to determine significance at the programmatic level for withdrawal periods and understands that there is the potential for impacts to water resources over time for all three subalternatives but implementation of mitigation measures and ongoing management actions associated with those outlined in Sections 2.9.2 and 3.11.3 (Proposed Resource-Specific Mitigations and Management Actions) would minimize or avoid significant impacts to water resources.

3.11.2.6 No Action Alternative

Implementation of the No Action Alternative would result in the cessation of much of the water-related potential for impacts due to military testing and training. Other appropriated land uses (e.g., mining, livestock) could be reintroduced and would likely require evaluation regarding impacts to water resources. If the land were returned to the BLM and USFWS, water rights would remain the property of the Air Force unless the BLM or USFWS requested that the water rights be vacated or transferred to the BLM or USFWS. Federal agencies would follow the Nevada State Division of Water Resources process for transferring or vacating water rights.

3.11.3 Proposed Resource-Specific Mitigations and Management Actions

The identified resource-specific mitigations and/or management actions for water resources that would be implemented across all action alternatives include the following:

- To avoid, minimize, or reduce the potential for direct impacts to groundwater, aquatic environments, and other surface water resources, including indirect effects resulting from soil erosion, the following management requirements would be considered (see Section 3.11.2.4):
    - Avoid altering natural flow patterns of seeps and springs by diverting water, causing siltation, or damming any portion of seeps or springs.
    - Keep wheeled vehicles to existing trails/roads, except for missions that have been approved for off-road vehicle use.
    - Trenches dug for IW training purposes should be filled immediately after use.
    - Construction activities could be phased to limit the soil exposure for long periods of time.
    - Where applicable, erosion can be reduced by using rough grade slopes or terraced slopes.

- To reduce overall soil exposure from construction activities, consider retaining as much area of existing undisturbed vegetation as possible.
- Do not use seeps and springs or other water bodies as sediment traps.
- Minimize the size of troop units, rotate troop movement corridors, and avoid troop movement through areas that show signs of erosion.
- Avoid use of exploding ordnance within 200 feet of a well or natural spring.
- Avoid ground-disturbing activities in areas where known seeps, springs, and other water resources are located.

- The Air Force water usage information for the Amargosa basin has been provided to USGS, and the Air Force will work to ensure it is included in current DOI regional modeling. The Air Force is committed to working with USGS to address regional groundwater modeling concerns associated with the Amargosa basin.

3.11.4 Native American Perspective on Water Resources

3.11.4.1 Native American Perspective: Water Resources Description of Resource

Information in the LEIS does not adequately address adverse effects to water resources and the environment. Factors such as heavy metals from bombs and other munitions must be evaluated to thoroughly understand the effects to water. The effects are far-reaching and impact animals that drink water from water sources in different areas. No consideration is given to chemical, biological and cultural adverse effects to other interconnected resources.

The CGTO knows when water is respected, it sustains all life forms. Conversely, when water is mistreated, it withdraws life-giving support and returns to the underworld. The Consolidated Group of Tribes and Organizations (CGTO) knows we are in a drought because humans have disrespected the earth. It is affecting the balance of our earth's climate. One inevitable implication of the current 100-year drought is surface water on the NTTR and surrounding areas have diminished and become more sporadic. The modification and availability of surface water has the ability to affect all trophic levels on the NTTR.

The CGTO knows drainage patterns have been unnaturally altered from Air Force operations and will continue to be impacted if no change occurs. The CGTO has observed places on the NTTR where the rain falls but does not nurture the plants and the animals cannot rely on it. The water within these features is central to our ceremonies in restoring balance. Tribal elders have noted, "*Water has been disrespected and therefore it is disappearing. It is a medicine--used to heal and used for healing. It is used for ceremonial purposes in prayer. It is alive and must be awakened. It is spiritual--an essential component to begin religious ceremonies, and part of sweat ceremonies. Historically, water was pure and available to those who respected it. Bathing was a ritual. Now we do not trust the purity of the water because it has been*

disrespected. Hot springs have been affected and are no longer at the temperatures they used to be."

In the 1997 Nellis Air Force LEIS, the CGTO emphasized the importance of involving the tribes in the co-management opportunities to help sustain balance through traditional practices needed to protect the resources before, during and after water monitoring or surveys. No comprehensive systematic and collaborative ethnographic studies specific to water resources have been conducted on the NTTR to fully assess the potential effects to cultural resources derived from the military presence. By supporting the CGTO in a proposed collaborative ethnographic water management project, the Air Force would help reduce drought conditions and gain a better understanding of traditional land management practices. In turn, this project would provide spiritual, cultural and ecological benefits to the land and the environment, thereby facilitating our obligation to sustain the spiritual and ecological balance. Implementation will require cultural experts to identify locations, inventory and evaluate site resources, examine extenuating conditions, and implement culturally-appropriate mitigation measures. (See *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017* for more details)

Until such time as these studies are completed, the Air Force will remain challenged in understanding the cultural complexities associated with protecting culturally sensitive resources on the NTTR.

3.11.4.2 Native American Perspective: Surface Water and Jurisdictional Surface Waters

The LEIS provides information about the origin of the water that occurs on the NTTR, beginning with springs, seeps or winter snowpack which aligns with CGTO perspectives. Tribes rely on the winter snow accumulation that begins before the winter starts by incorporating traditional prayers and ceremonies. In relation to the living creatures, the *snow fleas* are the ones that make the water in the springtime to keep things in balance.

The CGTO was not included in water studies during the project survey conducted by the NTTR. Water is sacred to Native people. The Air Force should work closely with the CGTO to develop co-management strategies including systematic monitoring and intervention from participating tribes.

According to the LEIS, surface water are navigable which is somewhat misleading since most of the rivers on or near NTTR are subsurface hydrologic systems that are too small to be used by vessels as described in the Webster dictionary. Hydrologic basins are identified as the Amargosa River and Las Vegas Wash which neither is navigable by vessel although used by cultural deities who rely on these waterways to protect the land. The CGTO knows that these supernatural beings rely on these basins to sustain the hydrological balance located in the NTTR cultural landscape. Any activities that disrupt the delicate balance of the resources and deities require tribal intervention to restore the cultural equilibrium of the area.

3.11.4.3 Native American Perspective: Groundwater Water Quality

Historic nuclear testing at the Nevada National Security Site (formerly known as Nevada Test Site) adjacent to the NTTR, resulted in areas of radioactive groundwater contamination that is monitored within the boundaries of the NTTR. The CGTO knew the water would be contaminated, and according to S&B Christ Consulting, LLC 2016, a small trace of tritium was detected in an early detection well. This finding confirms the CGTO concerns relating to adverse effects onto the cultural integrity of resources on the NTTR.

According to tribal elders, "*Water is life. Water is needed by the plants and animals. Indian people bless themselves with it. It purifies the body. Water is medicine and must be respected. American Indians need It to conduct religious ceremonies. It cleans the earth. It has a vast connection to the underground. Water shouldn't be contaminated or it will die and lose its spirit*." Each of the distinct underground hydrological basins, has its own origin story that describes its personality. One tribal story tells of a distinct underground water network created by Ocean Woman where she placed her feet. According to the traditional story, there are points where the water emerges at the surface in springs and seeps. It was here that Ocean Woman placed her medicine staff into the ground and water emerged.

At other points, the surface water in low playa lakes meets the underground water channels. These points are like doorways between the surface world and the underworld. Rain calling is a basic aspect of American Indian life and culture. Rain ceremonies from the spiritual world help facilitate rain production, and were led by rain callers, often called rain shamans or rain doctors in the English language. The rain caller calls upon the rain by singing songs, and is aided by his spirit helper, which is usually in the form of a mountain sheep. The mountains also had important roles in this activity, and were called upon to interact with the clouds and the sky to call down the rain.

Even today, individual traditional Indian people can bring rain which transforms into groundwater. One way this is done is by turning a stinkbug on his back. The rain will come, provided the stinkbug allows a person to tickle his belly with a small stick. This person then prays for rain, and tells the stinkbug why he is asking for rain in a respectful manner.

If too much rain falls that could cause flooding, certain precautions are taken. For example, the children are not allowed to shake willows that will be used for weaving or to kill frogs as this brings more rain. Hummingbirds were not killed for many reasons, if they are killed, there will be flooding and lightning storms, with lightning killing the person who brought harm onto the hummingbird.

In the old days, a Snow Ceremony was performed to ensure a good winter with heavy snow fall. The spiritual leader, often called a weather doctor in the English language would call the people together and meet at a special place in the mountains, sometimes near a pine nut gathering area. The spiritual leader would sing songs and offer, prayers.

According to Indian tradition, the Snow Ceremony is performed during the late fall when the weather becomes cold A part of this ceremony involves calling on the *snow fleas*. They represent a special category of American Indian environmental knowledge because they are almost invisible and live at the highest elevations on the mountains. The *Snow Fleas* are the ones that make the snow wet and absorb into the mountain. Without them, the snow is dry and evaporates quickly, and there is less water for the mountains and the valleys below. The Snow Ceremony is conducted in relationship with a ceremony for the seeds where young girls dance with seeds in winnowing trays and a spiritual person sings songs to bring whirlwinds, which surround the dancers and scatter the seeds as a gesture of fertilizing the earth. Water is called upon to nourish the soil and the seeds to make them fertile.

Because water is a powerful being it is associated with other powerful beings, such as *water babies,* supernatural beings like the people of the water. They are highly respected by American Indian culture. If water is contaminated the water babies will move to other areas that are not contaminated. Proof of their existence has been depicted in historic rock drawings throughout Nevada, including several pecked image at various locations including the volcanic butte at Black Canyon, Pahranagat Valley.

According to a tribal elder, "*Water babies are important to our culture. They are supernatural. They connect everything and you don't want to disrespect them. The springs are all connected and they follow the water flow Water babies are supernatural beings and are the guardians of the water. They can make sounds like a baby. and you don't want to startle them because they can disturb life. We are taking their native environment away when we drill and contaminate the water. It angers them. When they get mad, there are adverse impacts to wildlife as they can drain you spiritually and physically.*"

Playas - The CGTO knows playas occupy a special place in American Indian culture. Playas are often viewed as empty and meaningless places by western scientists, but to Native Americans playas are lakes that come back during excessive precipitation and contribute to the ground water. When the lake is replenished they have an important role because it contains special resources that do not occur anywhere else. The CGTO knows that playas were used in traveling or moving to places where work, hunting, pine cutting, or gathering of other important foods and medicine could be done. One elder remembers crossing over dry lake beds and traveling around near the edges. Oftentimes, provisions were left there including at nearby springs that previous travelers used at these important locations.

According to tribal elders, who were interviewed during previous evaluations, “Indian people left caches in playa areas for people who crossed valleys when water and food was scarce. Frenchman playa is such a place. Indian people took advantage of traveling through this playa as mountains completely surround this area. The CGTO knows that most dry lakes are not known to be completely dry. Some examples are Indian Springs Valley, Dog Bone Lake, Three Lakes Valley, Cactus Flats and Soda Lake near Barstow, California. Often, the Mojave River which flows near Barstow and Victorville is culturally significant to Indian people including those from Fort Mojave. The

river is intermittent and flows into this dry lake that looks dry but actually flows underground. Although some people continue to view these playas as a wasteland or unimportant, the CGTO knows they are not." If these areas are disrespected, the resources will disappear and the world will be out of balance. (See Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017 for more details.)

3.11.4.4 Native American Perspective: Water Resources Analysis Methodology

What are the potential impacts to the water resources under each of the alternatives? The CGTO knows historic nuclear testing at the NNSS adversely impacted cultural resources within the traditional homelands of Southern Paiute, Western Shoshone, Owens Valley Paiute/Shoshone and Fort Mojave people and resulted in radiological contamination and a cultural imbalance to the land. Even though an agreement is in place with the NNSS and the State of Nevada, the CGTO should be signatories to a similar agreement in principle with DOE and the NTTR.

3.11.4.5 Native American Perspective: Water Resources Environmental Consequences – Alternative 1

Any munition or debris from military activities that leave conventional metal residue or Depleted Uranium (DU) is always a concern of the CGTO. Storm models and projections do not accurately reflect the day-to-day and cumulative impact to the land. There is no study that identifies the cultural impacts to culturally sensitive areas from radioactive materials. Personnel working in certain areas must monitor exposure using dosimeters to identify exposure over the lifetime of human presence in a controlled environment. No systematic ethnographic studies have been conducted on the NTTR to evaluate the cultural impacts for munition or debris associated with military activities. Until such a study is conducted, the long-term effects cannot be thoroughly evaluated or understood.

Contaminated water introduces direct exposure to animals and insects of varying sizes that may be consumed by larger predators. The introduction of DU to the food chain for an untold number of years is not supported by the CGTO. Residual effects from contaminated pools of water require tribal intervention through traditional cultural practices to regain ecological balance.

3.11.4.6 Native American Perspective: Water Resources Environmental Consequences – Alternative 2

As with Alternative 1, the potential impacts will be generally the same as in Alternative 2, the CGTO remains opposed to the introduction of DU or other debris. The CGTO recommends removal of debris that can introduce F.O. (Foreign Objects) into the cultural landscape as described and understood by Native Americans. The Air Force understands that F.O. that are introduced into aircraft intake and/or cockpits can have catastrophic results immediately or over time if not removed quickly as they can interfere with the proper function and safety of the aircraft. Equally, the same is true for

impacts to the Native American cultural landscape from objects or material that are left behind or discarded and result in contamination or what is referred to as cultural pollution.

3.11.4.7 Native American Perspective: Water Resources Environmental Consequences – Alternative 3

The CGTO disagree with the LEIS analysis that increased aircraft and emitter operations over and through the land, water sources and airspace will not have an adverse impact on culturally sensitive areas and resources. The CGTO knows increased air traffic, ground personnel, munitions residue or structures will continue to disturb culturally significant wildlife, water, air and spiritual serenity of the environment. Equally, numerous locations within the cultural landscape have not been systematically evaluated archaeologically, ethnographically and biologically. Once areas are finally identified, cultural and scientific analysis will be necessary to properly evaluate those locations. Water quality must be sustained to remain clean and uncontaminated to maximize protection of the entire cultural landscape.

3.12 HAZARDOUS MATERIALS AND SOLID WASTES

3.12.1 Affected Environment

3.12.1.1 Description of Resource

For the Native American perspective on information in this section, please see Section 3.12.4.1 and Appendix K, paragraph 3.12.1.1.1 Hazardous Materials and Solid Waste on both pages K-44 and K-60.

This section describes the affected environment as it relates to hazardous materials and solid and hazardous wastes. This section also discusses hazardous constituents that could be released from operational activities (e.g., fuels) or from munitions used in training activities, as well as management and reporting activities related to these constituent releases. Proposed activities may also impact existing U.S. Air Force contamination sites, including sites managed under the Environmental Restoration Program (ERP) or DOE.

3.12.1.2 Region of Influence

The ROI for hazardous materials and solid and hazardous and wastes is defined as the boundary of the NTTR and potential expansion areas, including ERP/contaminated sites and other areas where hazardous materials would be utilized and hazardous wastes would be generated or solid wastes would be generated and disposed of as part of the Proposed Action.

3.12.1.3 Hazardous Materials

Installation operations and maintenance processes, such as aircraft, vehicle, equipment and facilities maintenance, target refurbishment, and electronic countermeasures

emitter repair, require the use of hazardous materials. These materials include paints, solvents, thinners, adhesives, aircraft fuel, diesel, gasoline, lubrication oils, brake and hydraulic fluids, cleaners, batteries, acids, chlorofluorocarbon refrigerants, herbicides, insecticides, rodenticides, and compressed gases.

To administer these materials, the NTTR has implemented a comprehensive hazardous material management process, including the use of a hazardous materials dispensary (HAZMART). This process provides management for the procurement, handling, storage, and issuing of hazardous material. The HAZMART process includes review and approval by Air Force personnel to ensure users are aware of environmental, health, and safety risks.

Air Force contractors must also store and use hazardous materials in compliance with applicable regulations and Air Force instructions. The Air Force maintains data within the supply system that can be used to generate listings of the hazardous materials used for various purposes/processes at the ranges and operations areas. Range personnel may obtain hazardous materials at the HAZMART or through other on-base government supply outlets, such as the Contractor Operated Parts Store or the Contractor Operated Civil Engineering Supply Store. Requests for hazardous materials that are processed through one of these alternate supply outlets are also reviewed for environmental, health, and safety risks.

Emergency response procedures and site-specific contingency plans have been established for all hazardous materials locations. For example, site-specific spill prevention, control, and countermeasures plans are in effect and include procedures and responsibilities for responding to a hazardous material spill or other incidents. Additionally, the NTTR has developed programs to comply with all federal/state hazardous materials reporting requirements. This effort includes submittal to the state and local emergency planning committees and local fire departments of annual Tier II forms, which are updated inventories of hazardous materials (e.g., jet fuel, diesel) or extremely hazardous substances in excess of specific threshold limits.

BLM has also implemented a Hazard Management and Resource Restoration Program, better known as Hazardous Materials Management (HAZMAT), to manage hazardous materials associated with operations (primarily vehicle operations and maintenance and pest management). This program supports the DOI's goal of protecting lives, resources, and property and improving the health of landscapes and watersheds. Typical hazards and hazardous materials addressed by the HAZMAT Program include hazardous substance releases from abandoned mine facilities and landfills, illegal dumping of hazardous materials, UXO, and physical safety hazards associated with abandoned structures, oil spills, wire burns, cast-off equipment and radioactive material.

In addition, the USFWS has implemented a comprehensive program to manage hazardous materials associated with operations and maintenance. USFWS Service Manual Parts 560-564, Pollution Control and Environmental Compliance, provides guidance for employees to reduce or eliminate the quantity of toxic and hazardous chemicals and materials used and to manage and properly dispose of hazardous materials at USFWS facilities.

3.12.1.4 Hazardous Waste Management

Hazardous wastes at the NTTR are generated during operations and maintenance activities. The types of wastes generated include combustible solvents from parts washers, fuel filters, metal-contaminated spent acids from aircraft corrosion control, waste paint, solvents and paint-related wastes (e.g., paper with chrome from overspray), corrosive liquids, sludge from wash racks, waste aviation fuel from the cleaning out of tanks, and used plastic or glass blasting media. Other wastes generated include waste fluorescent lamps and other mercury-containing equipment (e.g., thermostats) and used batteries. Waste lamps and batteries are managed and recycled as universal wastes and do not count toward hazardous waste accumulation totals. Small quantities of hazardous wastes may also be generated from munitions use. These wastes would be associated with unexploded chemical residues and managed as reactive hazardous wastes.

Hazardous wastes are initially stored at initial accumulation points (IAPs) at shops and other work locations. The number and location of hazardous waste generators or "shops" may change over time to reflect changes in mission objectives, including the addition of new tenant and contractor organizations, relocation of military units, changes in industrial processes, and changes in the regulations. No more than 55 gallons of hazardous waste or 1 quart of acutely hazardous waste can be accumulated at these IAPs. Once this storage limit is reached, the waste is transferred to a central accumulation point (CAP) (Nellis AFB, 2010).

Nellis AFB is a large-quantity generator of hazardous wastes and operates a CAP designated to service all on-base hazardous waste generators and IAPs located in Areas 1, 2, and 3. Tonopah Test Range is also a large-quantity generator and operates a separate CAP designated to service all hazardous waste generators and IAPs at Tonopah and Tolicha Peak. These CAPs may store wastes on-site for up to 90 days (Nellis AFB, 2010).

There are two temporary CAPs operated in accordance with the *Resource Conservation and Recovery Act* (RCRA) (permit # NV5570024112) to collect hazardous waste from the point of use for characterization and shipment for disposal. The NTTR CAP is a large quantity generator that collects waste from NTTR and Tolicha Peak. This storage area may hold waste for up to 90 days as specified for a large quantity generator. Both CAPs are inspected every year by the NDEP, and neither has been found in violation or noncompliance in the past three years (U.S. Air Force, 2017o). Creech AFB is classified as a hazardous waste small-quantity generator and operates a 180-day CAP to service Creech AFB, Silver Flag Alpha, and Point Bravo hazardous waste generators and IAPs (Nellis AFB, 2010).

The off-installation disposal of hazardous wastes is coordinated through the Defense Logistics Agency, which prepares the required paperwork for transport and disposal of these wastes through a licensed waste contractor. Nellis AFB has implemented a Hazardous Waste Management Plan that identifies hazardous waste generation areas and addresses the proper packaging, labeling, storage, and handling of hazardous wastes. The plan also addresses record keeping; spill contingency and response

requirements; and education and training of appropriate personnel in the hazards, safe handling, and transportation of these materials (Nellis AFB, 2010).

The Air Force and their subcontractors have policies and procedures in place to prevent hazardous waste spills from occurring. Pre-positioned spill kits containing absorbent materials, cleanup material, and personal protective equipment are stored at each IAP and CAP. When spills do occur, they are cleaned up following the procedures described in the Hazardous Waste Management Plan and reported to the Installation Environmental Spill Coordinator or the Nevada Division of Emergency Management, as appropriate (Nellis AFB, 2010).

Under their respective programs (as discussed in Section 3.12.1.3, Hazardous Materials), BLM and the USFWS also manage and dispose of hazardous wastes, primarily in accordance with applicable NDEP and federal requirements. These agencies also work with EPA, NDEP, and potentially responsible parties (both public and private) to fund and expedite the cleanup of hazardous waste sites.

3.12.1.5 Department of Defense Environmental Monitoring Program

The following addresses U.S. Air Force (DoD) contamination sites managed/identified under various programs. No contamination sites are located within the proposed expansion areas associated with Alternative 3.

For the Native American perspective on information in this section, please see Section 3.12.4.2 and Appendix K, paragraph 3.12.1.5.1.

Environmental Restoration Program

The DoD developed the ERP, formerly the Installation Restoration Program, to identify and investigate potentially hazardous material disposal sites on DoD property. The objective of the ERP is to evaluate whether migration of any hazardous contaminants into the surrounding environment has occurred and control or eliminate hazards to human health and the environment.

The majority of ERP sites on NTTR consist of explosive ordnance disposal (EOD) pits with a mixture of target debris, metal and munitions residue that were closed in the mid-1990s. However, ERP sites also include spills, sewage lagoons, and other sites that required correspondence with the NDEP (U.S. Air Force, 2017o). ERP sites are located on active ranges but areas associated with the specific sites are not currently used/disturbed.

The ERP process begins with a preliminary assessment. If the preliminary assessment identifies that a particular site may be contaminated, then a site investigation is conducted. The site investigation consists of field activities designed to confirm the presence or absence of contamination. A remedial investigation may then be performed if it is necessary to quantify and identify the site contaminants, the extent of the contaminant plume, and pathways of contaminant migration. The findings from the preliminary assessment, site investigation, and remedial investigation may result in either additional investigations or a finding that no further action (NFA) is required.

The ERP includes 98 contaminated sites, all of which were issued decision documents by the NDEP by 2007. Ninety-seven out of the 98 ERP sites acquired NFA determinations by decision documents as of 2008. The remaining site is a fuel station spill (case ST-54) located in the North Range that has NDEP "no action at this time" correspondence. Consequently, there were no ERP sites on the NTTR requiring further investigation or remediation, and there were no immediate plans for further corrective action (U.S. Air Force, 2017o).

Areas of Concern

A similar identification and characterization for areas of concern (AOCs) was conducted by the Air Force in February 2003. These AOCs included contamination related to munitions and industrial activity. Thirty-four of 73 identified sites were also included under the ERP (discussed above). Forty-seven AOCs were located at the South Range and 24 AOCs were at the North Range (Figure 3-37). The locations of two AOCs included were unknown. The report concluded that, based on available information, the two AOCs that were not located (i.e., AOCs 205 and 206) were possibly AOCs 204 and 512 (two known sites) and were mistakenly repeated in the narrative as AOC 205 and 206 (U.S. Air Force, 2003).

The 73 AOCs consisted of inactive ranges, munitions and target debris piles, known or possible disposal pits that may have contained target debris, munitions debris and/or construction debris, potential open burn/open detonation areas, and aircraft crash sites. (Note: The term "inactive range" applies to a military range that is not currently being used, but that is still under military control and considered by the military to be a potential range area and that has not been put to a new use that is incompatible with range activities.)

For the Native American perspective on information in this section, please see Section 3.12.4.2 and Appendix K, paragraph 3.12.1.5.1.1.

Minor corrective actions were recommended for 31 AOCs, to include: 9 AOCs are recommended to have engineering controls implemented to repair disposal pit covers or to fill and cap, with soil, partially filled trench disposal pits; 4 AOCs are recommended to have engineering controls implemented to fill and cap open trenches with soil; 25 AOCs have debris remaining at the sites (the debris is recommended for removal and proper disposal; and 22 AOCs are recommended to have permanent markers placed at the site to identify the location of disposal pits (U.S. Air Force, 2003).

Twenty-two AOCs were recommended to have permanent markers placed at the site to identify the location of disposal pits. Four AOCs in the southern region of the NTTR and eight AOCs in the North Range are recommended for a site investigation to evaluate the possibility of contamination. The identified AOCs have undergone site investigation and were found to be in concurrence with NDEP requirements and to not pose a threat to human health (U.S. Air Force, 2016d). Currently, no known AOCs remain open. However, these closures may be revisited in the future if laws become more stringent, if the land is returned to public use, or if future information indicates the need to investigate further.

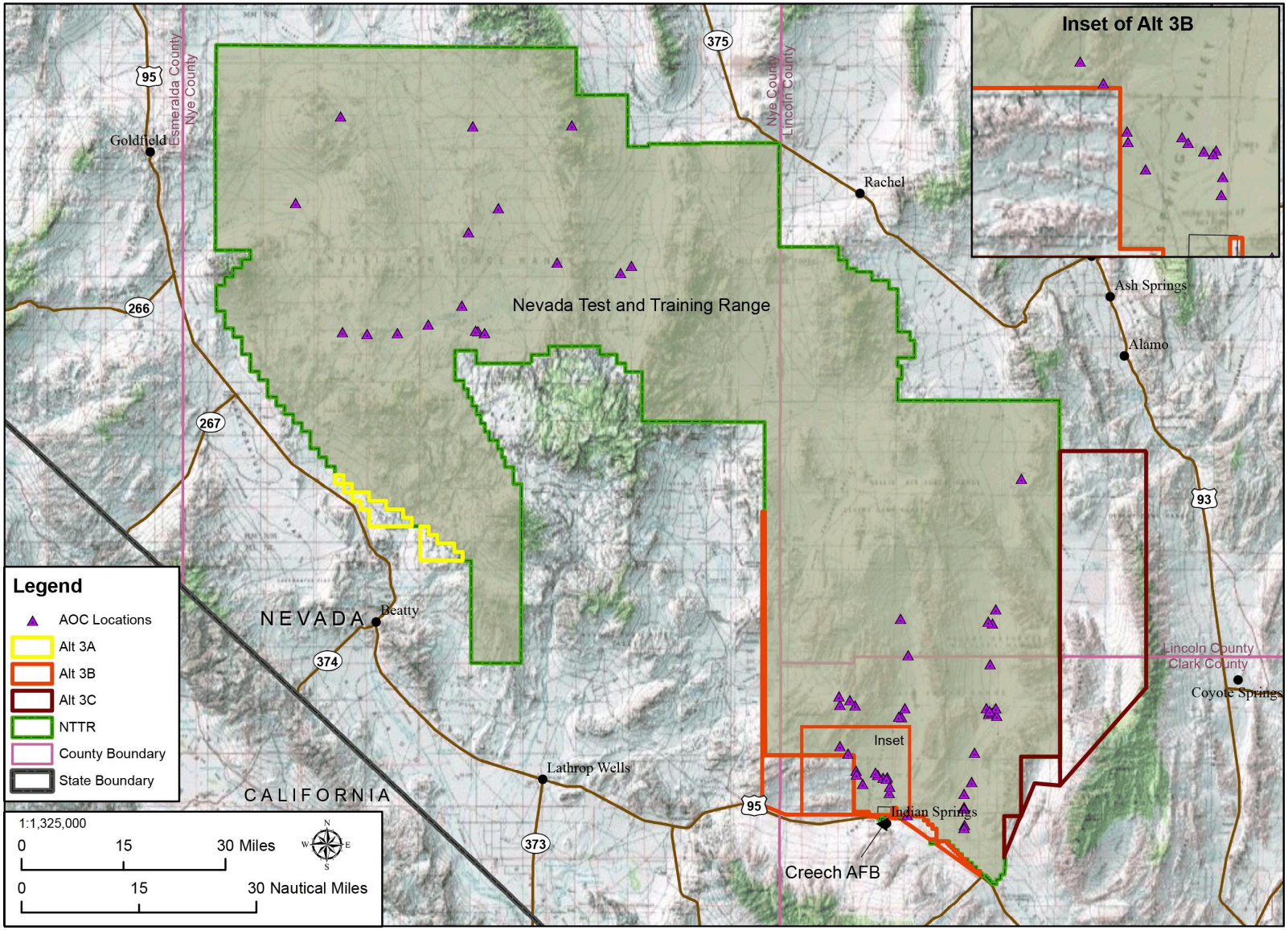

Figure 3-37. Areas of Concern

Resource Conservation and Recovery Act Facility Assessment

For the Native American perspective on information in this section, please see Section 3.12.4.2 and Appendix K, paragraph 3.12.1.5.1.1.1.

Preliminary reviews were conducted to identify locations of potential environmental contamination. Locations identified for further site inspections were classified as either solid waste management units (SWMUs) or AOCs (discussed previously). A SWMU is defined by EPA as any discernible waste management unit at a RCRA-permitted facility from which hazardous constituents might migrate, regardless of whether the unit was intended for the management of solid and/or hazardous wastes. This definition includes landfills, container storage facilities, underground storage tanks, aboveground storage tanks, wastewater treatment units, and areas contaminated by routine, systematic, and deliberate discharge from process areas. It does not include product storage areas and accidental spills from production areas.

The SWMUs and AOCs found on the NTTR include electronic countermeasure sites, oil/water separators, acid neutralizing basins and oil interceptors, EOD and target debris disposal pits, initial and central hazardous waste accumulation points, and underground storage tanks and aboveground storage tanks. A total of 272 SWMUs and AOCs were evaluated during the RCRA Facility Assessment. Further investigations were recommended if documented releases had occurred, if a risk was present to human health or the environment, or if a high potential for a significant release existed. All 68 of the sites have been reevaluated and sampled, as appropriate, in accordance with the recommendations (U.S. Air Force, 1999).

Munitions Residue

For the Native American perspective on information in this section, please see Section 3.12.4.2 and Appendix K, paragraph 3.12.1.5.1.1.1.1.

The NTTR has been an active test and training range since 1940, supporting air-to-air gunnery training, advanced weapons testing, simulated target training, and live munitions exercises. Munitions have been used on the range since 1943, and resulting contamination includes UXO, explosive residue, and target debris.

The Coronet Clean policy was instituted in 1975 as a revised means of handling munitions through routine maintenance for active range targets, through a process known as range clearance. Note: “Range clearance” is defined as the surface-removal or disposal of material potentially presenting an explosive hazard from the targets and surrounding areas. This material includes UXO, classified ordnance, inert ordnance debris, and any other range material fired on, or upon a military range. This program entails the identification and removal of target debris and UXOs. However, explosive residue introduced to the soil is left in place. Munitions are managed as follows (U.S. Air Force, 2017o):

1. EOD personnel or UXO contractor sweeps out around the target area following specific criteria at least every two years.

2. Any UXO encountered is inspected. If it is determined that it can be safely moved, it is consolidated next to a UXO that cannot be moved and then exploded in place.
3. Once the UXO is deemed safe, the debris is recycled or disposed of in a landfill.
4. The disturbed area surrounding the target is backfilled and graded if vegetation control is needed. New targets may be placed or reconstructed following grading activities.

Munitions residue may contain hazardous constituents. These constituents are associated with brass casings and lead rounds (for live rounds) and may include copper, lead, and zinc. Established procedures require that expended brass cases be collected and sent off for recycling; however, items such as lead rounds may not be recovered. Nonhazardous solid waste, such as scrap metal, plastic, paper, etc., may also be generated depending on the type of munition used.

Releases to the environment from munitions use require reporting to EPA under the *Emergency Planning and Community Right-to-Know Act* (EPCRA) Toxic Release Inventory (TRI) program. Training is subject to a TRI reporting threshold of 10,000 pounds per year for most common chemicals, with lower reporting thresholds for chemicals classified as persistent bioaccumulative toxic. These toxic chemicals include lead, with a threshold of 100 pounds. The NTTR has established procedures to comply with TRI reporting requirements and tracks all munitions use on the ranges. In cases where a threshold is exceeded, the NTTR reports on a "Form R" report to EPA the quantity of munitions-related hazardous constituents released to the environment or recovered and recycled. Table 3-46 presents the total quantity of chemicals exceeding applicable thresholds under TRI from 2011 to 2015.

Table 3-46. NTTR Total On-Site Chemical Releases from Munitions Use (2011 to 2015)

Chemical	Pounds Released per Calendar Year					
	2011	2012	2013	2014	2015	Average (2011–2015)
NTTR						
Copper	67,457	20,147	18,803	36,076	22,780	**33,053**
Lead	55,173	17,568	17,223	20,374	10,646	**24,197**
Manganese	19,947					**3,989**
Tonopah Test Range						
Lead	-	-	100	262	280	**128**

Source: (EPA, 2016d)

Depleted Uranium Target Assessment

DU is a mildly radioactive substance resulting from uranium residue that has had most of the radioactive isotopes removed for nuclear fuel or weapons. DU is approximately 30 percent less radioactive than naturally occurring uranium. DU munitions represent a fraction of the overall munitions-related contamination. However, due to health concerns surrounding use of radiological munitions, they are treated as a category apart from other munitions.

For the Native American perspective on information in this section, please see Section 3.12.4.2 and Appendix K, paragraph 3.12.1.5.1.1.1.1.1.

The DU licensed area at the NTTR is located at Range 63 and is the only target area in the United States authorized for air-to-ground firing of DU rounds. The location was determined acceptable to support testing, training, and development of DU munitions due to its remote location. The NRC granted the license to the Air Force in 1982 to use DU rounds at Range 63, and the range has undergone review since licensure (U.S. Air Force, 2017o).

The USFWS requested suspension of the use of DU in 1993 due to concerns for plants and wildlife. The Air Force initiated site assessments to address USFWS concerns. The assessment findings revealed no effects on soil, water, air quality, wildlife or plants; the USFWS concurred with the Air Force. The target resumed activity in 2002 after a management plan was developed. Between 2002 and 2015, an average of approximately 8,150 pounds of DU rounds was expended annually at the NTTR (U.S. Air Force, 2017o).

A 2009 decontamination estimate report documented that approximately 180 tank and vehicle targets were listed on the DU library manifest, each with varying degrees of contamination (Bay West and SAIC, 2009). The following summarizes the report findings:

- The primary DU-contaminated material includes the targets themselves.
- Although DU rounds may be present in the targets, their radiation levels are relatively insignificant when compared with the tanks used as targets.
- Of the approximately 180 tanks in the DU library, 18 tanks may be cleaned, decontaminated, and qualified for free release, while 162 tanks would not qualify for free release but would require disposal as low-level radioactive waste.

Brooks AFB conducted a radiological soil survey of approximately 250 acres to determine the extent of DU contamination and migration in the soil at Target 63-10. Their analysis found little to no migration of DU in the soil to land outside of the target array, which corresponded with findings from previous studies. Concentrations of DU typically diminished with distance from the target array and little to no radiation levels, or contamination was observed 350 feet from each of the six tanks. DU contamination was limited to DU rounds and target fragments at approximately 2,000 feet from the center of the target array (Bay West and SAIC, 2009).

The use of DU is managed under the *Depleted Uranium Management Plan for the Nevada Test and Training Range at Target 63-10*. The plan includes provisions for the control of DU exposure and disposal or recycling of target debris, range residue, and spent DU ammunition. The plan consults NRC regulations and the *Low-Level Radioactive Waste Policy Act*. Coronet Clean operations are conducted on Target 63-10; the process includes (U.S. Air Force, 2017o):

1. EOD personnel or specialty contractors sweep out to a minimum radius of 300 feet from the farthest targets or when the munition density factor is less than five items per acre. Live targets are swept out to a minimum of 500 feet.

2. The DU rounds are collected and managed in accordance with the radiation permit and AFI 13-212, Volume 1, Range Planning and Operations, dated April 2015. Target 63-10 is cleared annually, and the rounds are processed through the Air Force radiation safety officer and shipped out for recycling at least annually as well.

Surface Soil Sampling at NTTR Bombing Targets

For the Native American perspective on information in this section, please see Section 3.12.4.2 and Appendix K, paragraph 3.12.1.5.1.1.1.1.1.1.

Munitions-related contaminants represent the majority of contamination on the NTTR, with the most recent overall estimate attributing to approximately 99 percent of contamination by weight to munition constituent impacted soil (Bay West and SAIC, 2009). The Air Force has conducted assessments to evaluate the potential for munition constituents to migrate from an operational range to off-range areas and assess associated risks to human health or the environment.

A limited field study was conducted in 2004 that entailed historical records review and environmental sampling. The analytical data from this study did not reveal migration of munition constituents (Weston Solutions, Inc., 2004). A range assessment and reevaluation of the sample data from the 2004 limited field study was conducted in 2007 to develop a conceptual site model and further evaluate exposure pathways (Weston Solutions, Inc., 2007). This assessment concluded that there were no viable exposure pathways for soil, surface water/sediment, or groundwater. The 2007 Range Assessment recommended reevaluation of the NTTR in five years (Weston Solutions, Inc., 2007).

The most recent Air Force operational range assessment was finalized in May 2015. The report included a two-phase process: qualitative (Phase I) and quantitative (Phase II) assessments. The Phase I assessment was based on review of existing information only, and Phase II consisted of collecting new information obtained through sampling. In June 2014, soil samples were collected near the southern boundaries of both the North and South Ranges. Analysis of two samples from ephemeral washes within depositional areas in the South Range detected lead and explosive residues, indicating that contamination was migrating. However, the results were not found to pose an unacceptable risk to humans based on EPA soil screening levels for lead and available studies on the effects of explosive residue on terrestrial organisms. Additionally, the lead detections were below the established background value for lead at the NTTR (U.S. Air Force, 2017o).

Groundwater samples were also collected from four wells previously sampled during the 2004 limited field study. Figure 3-38 shows the location of sampling wells in relation to the nearest off-base drinking water wells.

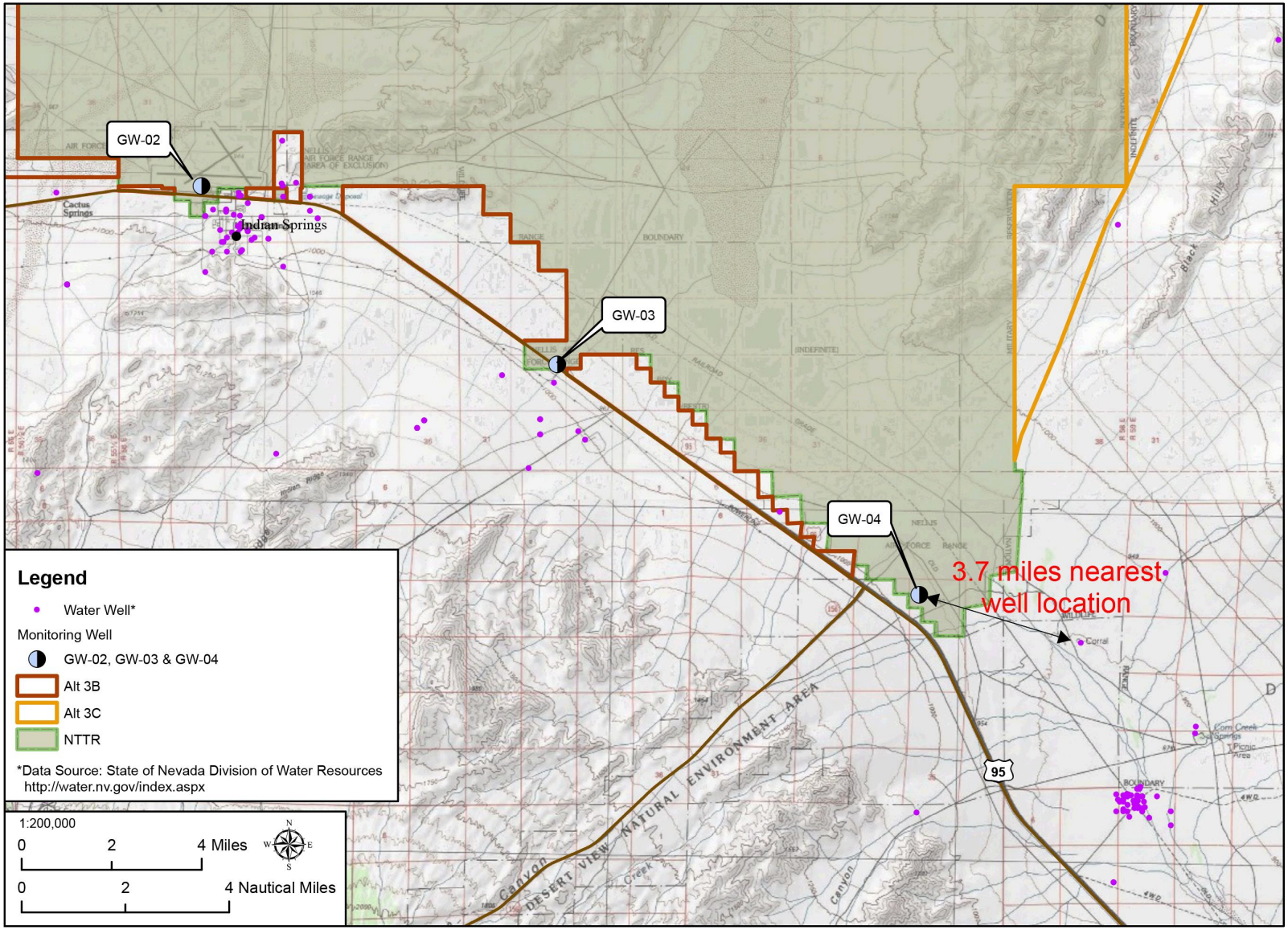

Figure 3-38. Location of 2014 Sampling Wells and Off-base Drinking Water Wells

Total and dissolved lead was detected in groundwater samples, but amounts were below Air Force internal drinking water screening levels and the EPA tap water Regional Screening Levels. One detection of 2,6-dinitrotolulene (DNT) was above the EPA tap water Regional Screening Level (U.S. Air Force, 2017o); however, follow-on sampling has not detected any additional 2,6-DNT in the same well. It was determined that the original detection of 2,6-DNT was due to laboratory error (Christensen, 2018). The information collected during the Phase II assessment provided sufficient evidence that munition constituent contamination may be migrating from on-range sources to off-range areas. The Air Force signed a memorandum of record in April 2015 acknowledging the threat of munition constituent migration outside the NTTR. The memorandum stated "the Air Force Civil Engineer Center (AFCEC) shall facilitate and coordinate with the range, installation and other stakeholders regarding range-specific response planning activities in order to determine appropriate scope of a follow-on effort" (U.S. Air Force, 2017o).

Spills and Aircraft Crashes

Spills – Spills may occur through accidental releases of fuel, oils, etc., during routine operations. Any spills over the reportable quantity that are introduced to the environment must be reported to NDEP. Spill response plans are in place for cleanup regardless of whether the conditions are reportable or not. Spill kits are also located within the major facilities on the NTTR. Small, routine spills may be managed by shop personnel using available spill response equipment (pads, booms, etc.). Emergency Services or the Civil Engineering Squadron may be contacted to clean or contain a large spill, depending on the size and the material. Cleanup may also be completed by Range Support Services consisting primarily of subcontractors if the spill is beyond in-house capabilities (U.S. Air Force, 2017o).

For the Native American perspective on information in this section, please see Section 3.12.4.2 and Appendix K, paragraph 3.12.1.5.1.1.1.1.1.1.1.

Small spills that are cleaned up and do not leave any residual contamination are closed with a simple letter to NDEP providing the details of the incident and the remediation completed. Larger spills that cannot be fully and immediately cleaned up are registered with NDEP for further investigation and proposed remediation. The following quantities of disposed material are related to recent large spill cleanups (U.S. Air Force, 2017o):

- 203 cubic yards of petroleum-impacted soils disposed of in calendar year 2014
- 135,940 pounds of petroleum-contaminated soils collected from various spill locations disposed of in fiscal year 2015

Aircraft Mishaps – Military aircraft mishaps occur as a result of the extensive testing and training conducted on the NTTR. The primary environmental concern is associated with the release of fuel or other hazardous chemicals during a mishap. The Air Force has emergency response procedures in place to handle

For the Native American perspective on information in this section, please see Section 3.12.4.2 and Appendix K, paragraph 3.12.1.5.1.1.1.1.1.1.1.

such incidents. In the event that an aircraft goes missing or notifies the air traffic control tower of an issue, Emergency Services are alerted and efforts are made to pinpoint the location of the aircraft. Nellis AFB has an MOU with BLM to coordinate efforts in the prevention, detection, and suppression of wildland fires occurring at the NTTR. Prevention, detection, and suppression of wildland fires occurring on the DNWR portion of the South Range should be coordinated with the USFWS.

Secondary effects of an aircraft mishap include the potential for fire and environmental contamination. The extent of these secondary effects is situationally dependent and, therefore, is difficult to quantify. The terrain overflown in the ROI is diverse. For example, should a mishap occur, highly vegetated areas during a hot, dry summer would have a higher risk of experiencing extensive fires than would more barren and rocky areas during winter.

When an aircraft crashes, it may release hydrocarbons associated with petroleum products, such as fuels and lubricants. Those products not consumed in a fire could contaminate soil and water. The potential for contamination is dependent on several factors. The porosity of the surface soils determines how rapidly contaminants are absorbed. The specific geologic structure in the region determines the extent and direction of the contamination plume. The locations and characteristics of surface and groundwater in the area also affect the extent of contamination to those resources. Contamination assessments by the Air Force would consider local geologic and hydrologic conditions to ensure that contamination plumes are adequately characterized, to include evaluating potential impacts to local aquifers.

The first priority of an emergency responder is to protect human life, followed by incident stabilization and then environmental cleanup. Environmental concerns are addressed through the implementation of established spill response guidelines, as previously discussed. The closure of any spill site must comply with standards set by NAC 445A. A summary of recent aircraft mishaps is provided in Section 3.13.1.4 (Health and Safety: Flight Risks).

3.12.1.6 Department of Energy Environmental Restoration Program

The Air Force allowed the U.S. Atomic Energy Commission (i.e., AEC) to conduct detonation of simulated weapons in 1963 to evaluate the dispersal of plutonium. A FFACO was subsequently implemented on May 10, 1996 to address the contamination of AEC/DOE legacy sites both on and off the NTTR. The FFACO is a three-party agreement between the State of Nevada, acting by and through NDEP, DOE (formerly AEC), through the National Nuclear Security Administration/Nevada Field Office (NNSA/NFO) and the DOE/Office of Legacy Management (DOE/LM), and DoD. DoD's responsibilities are limited to those areas at the NTTR where DoD has conducted activities. Likewise, DOE is responsible for legacy radiological sites located on

For the Native American perspective on information in this section, please see Section 3.12.4.3 and Appendix K, paragraph 3.12.1.6.1.

the NTTR. The FFACO outlined a process to identify legacy sites potentially containing historical contamination, investigate these sites, and implement corrective actions based on public health and environmental considerations.

DOE no longer conducts atmospheric or underground nuclear testing. However, previously contaminated sites remain. As discussed above, the radiological contamination located on the NTTR is the sole responsibility of DOE as outlined in the MOU DE-GM08-98NV13467 between the DOE Nevada Operations Office and the Air Warfare Center Nellis AFB. The MOU states that DOE is responsible for full decontamination of Air Force lands potentially contaminated by DOE operations (including the DOE legacy sites) on the NTTR (U.S. Air Force, 2017o).

Efforts to identify nuclear testing materials under the 1996 FFACO identified contamination from 878 former underground test locations, 100 atmospheric test locations, and more than 1,000 other sites from AEC/DOE testing on the NNSS and portions of the NTTR according to the comprehensive NTTR Decontamination Estimate report dated November 2009. The 2009 report identified a total of 69 AEC/DOE testing sites relevant to the NTTR. A 2016 investigation identified an additional 4 sites, bringing the total to 73 sites. Sixty-two of these sites have been closed (U.S. Air Force, 2017o; NNSA, 2018):

- 42 sites have been clean closed (NNSA, 2018)
- 16 sites have been closed in place
- 4 sites have been closed but continue to require monitoring (NNSA, 2018)
- 5 sites have undergone uncharacterized closure, been designated for NFA, or have been remediated but not yet processed for closure
- 6 sites are currently undergoing characterization, investigation, or remediation

The process of implementing corrective action for these sites may range from no action to clean closure, where clean closure equates to removal of contamination. The corrective action strategy may involve the drafting of multiple documents, including corrective action investigation work plans and reports, corrective action work plans and reports, corrective action decision documents, health assessments, and risk assessments. Closure in place under the FFACO means “the stabilization or isolation of pollutants, hazardous wastes and solid wastes, with or without partial treatment, removal activities and/or post-closure monitoring, completed in accordance with corrective action plans.”

Known contamination includes the various AEC legacy sites on the NTTR, which include the seven radiological testing sites: CAU 411 Double Tracks, CAU 412 Clean Slate I, CAU 413 Clean Slate II, CAU 414 Clean Slate III, CAU 415 Project No. 57, CAU 101/102 Schooner/Western Pahute Mesa, and CAU 541 Small Boy. The radiological contamination located on the NTTR is the sole responsibility of the DOE as outlined in the MOU DE-GM08-98NV13467. DOE sites that have been closed in place under the FFACO through NDEP may still contain contamination that requires use restrictions (i.e., access controls) and/or long-term monitoring but at a minimum requires implementation of administrative controls to prevent unauthorized future land use (i.e.,

use restrictions). The DOE remains responsible for any contamination at these sites. Further remediation at the CAU 413 Clean Slate II and CAU 414 Clean Slate III sites are currently being performed and are anticipated to be completed in 2018 with final closure approval by the end of 2019. These sites are projected to be clean closed per the FFACO criteria. CAUs 411 Double Tracks and CAU 412 Clean Slate I were clean closed per the FFACO and approved by the NDEP in 2017. (NNSA, 2018)

DOE continues to conduct inspections at these sites to ensure that required fencing is in good condition and that postings remain legible (U.S. Air Force, 2016e).

Seven of the eight remaining open sites are areas where atmospheric testing or plutonium dispersion testing occurred and comprise Schooner, Clean Slate II, and Clean Slate III (NNSA, 2018). The remaining site (CAU 575 consisting of two sites) is a decontamination area and waste disposal site that is open per the FFACO but was closed in December 2014 based on data obtained from the 2014 site investigation (U.S. Air Force, 2017o).

Investigations will determine if contamination at the open sites could result in a dose of 25 millirems per year (mrem/yr) or greater to the most exposed individuals based on current and future land use. Land use scenarios will be determined in conjunction with the Air Force. Any areas identified as presenting a dose of 25 mrem/yr or greater will require a corrective action. At this time, corrective actions are assumed to include fencing and posting of the areas requiring corrective action, annual inspections, and recording of use restriction data for the areas in the NNSS Management and Operating Contractor GIS database, the FFACO database, and the Air Force GIS database (U.S. Air Force, 2016e). Table 3-47 provides a timeline of the study activities that have occurred.

Table 3-47. Summary of Study Activities at Corrective Action Unit Sites

Site	Activities	Year	Work Completed
CAU 102 Schooner/Western Pahute Mesa	Annual NNSA/NFO Environmental Monitoring	1989-Present	Groundwater testing at monitoring wells
	Corrective action investigation	1999	Geophysical surveys, well drilling and completion, and sampling and analysis of both clean and contaminated wells; included geochemical modeling and groundwater flow and transport modeling
	Groundwater radiochemistry	2001 2002 2004	Groundwater flow and radionuclide migration and inventory
	Groundwater chemistry analysis and interpretations	2002 2004 2006	Geochemical and isotopic data analysis and interpretation
	Groundwater Transport Modeling	2009	Analysis to understand the behavior of radionuclide migration and to define the sensitivity of flow model conceptualization.

Table 3-47. Summary of Study Activities at Corrective Action Unit Sites

Site	Activities	Year	Work Completed
CAU 411 Double Tracks	Initial site characterization	1994-1995	Ground-based radiological surveys, vertical soil profiling, soil sampling, soil treatability studies, geophysical surveys at ground zero
	Interim corrective action	1996	Soil and debris removal and off-site disposal, KIWI[1] survey of excavated area
	Air monitoring	1996-1999	Particulate size analysis, plutonium analyses, meteorological measurements
	Aerial radiological survey	2006	Aerial radiological survey of post-remediated site
	10 CFR 835 compliance survey	2010	Swipe sampling for removable contamination, in situ radiological measurements
	Preliminary investigation	2012	Visual surveys, soil sampling, ground-based radiological surveys
	Data quality objectives developed	2014	Identified and defined the type, amount, and quality of data needed to determine whether closure objectives have been achieved
	Final closure report and addenda	2016	NNSA submittal of final closure report and addenda to NDEP
	Clean closure acceptance by NDEP	2016	NDEP agreement that the clean closure of the site was completed per FFACO
CAU 412 Clean Slate I	Initial site characterization	1996	Ground-based radiological surveys, vertical soil profiling, soil sampling, soil treatability studies, geophysical surveys at ground zero
	Interim corrective action	1997	Soil and debris removal and off-site disposal, KIWI survey of excavated area
	Air monitoring	1996-1998	Particulate size analysis, plutonium analyses, meteorological measurements
	Aerial radiological survey	2006	Aerial radiological survey of post-remediated site
	10 CFR 835 compliance survey	2010	Swipe sampling for removable contamination, in situ radiological measurements

Table 3-47. Summary of Study Activities at Corrective Action Unit Sites

Site	Activities	Year	Work Completed
	Preliminary investigation	2012	Visual surveys, soil sampling, ground-based radiological surveys
	Data quality objectives developed	2014	Identified and defined the type, amount, and quality of data needed to determine whether closure objectives have been achieved
	Final closure report and addenda	2016	NNSA submittal of final closure report to NDEP
	Clean closure acceptance by NDEP	2016	NDEP agreement that the clean closure of the site was completed per FFACO
CAU 413 Clean Slate II	Operation Roller Coaster	1963 1964	Pu distribution studies/mapping
	Environmental surveillance radiation surveys	1964 1965 1966	Ground-based alpha radiation surveys
	Nevada Applied Ecology Group studies	1975	FIDLER surveys, soil and vegetation sampling
	TTR annual sampling	1992	Soil sampling
	1996 corrective action investigation	1996	Radiological surveys (KIWI, HPGe detector, FIDLER), soil sampling, depth profile sampling, treatability testing, geophysical surveys at ground zero
	Technology demonstration project	1998	Segmented gate system processing of contaminated surface soil
	Aerial radiation surveys	2006	Aerial radiation surveys
	Radiological posting compliance survey	2010	Swipe sampling for removable contamination, in situ radiological measurements
	Preliminary investigation	2012	Visual surveys, FIDLER surveys, removable contamination surveys
	Meteorological and airborne particulate monitoring	2008-2012	Monitoring of airborne particulates, ambient gamma radiation, and meteorological conditions
	Corrective action investigation	2015-2017	Collection of soil samples and thermoluminescent dosimeters at sample plots, subsurface depth screening for buried contamination, geophysical surveys at ground zero, removal of contaminated debris outside

Table 3-47. Summary of Study Activities at Corrective Action Unit Sites

Site	Activities	Year	Work Completed
			CA fence, soil samples of soil mound surface and interior, FIDLER surveys, and removable contamination surveys
	Corrective action decision document and corrective action plan	2017	NDEP approval of corrective action plan detailing corrective action to achieve clean closure
	Corrective action implementation	2017	Corrective actions (remediation) activities commenced in 2017, to be completed in 2018
CAU 414 Clean Slate III	Operation Roller Coaster	1963 1964	Pu distribution studies/mapping
	Environmental surveillance radiation surveys	1964-1969	Ground-based alpha radiation surveys
	Nevada Applied Ecology Group studies	1975	FIDLER surveys, soil and vegetation sampling, depth profile sampling
	Particle size studies	1963 1996	Pu associated with particle size
	TTR annual sampling	1993	Soil sampling
	1996 corrective action investigation	1996-1997	Radiological surveys (KIWI, HPGe detector, FIDLER), soil sampling, depth profile sampling, treatability testing, geophysical surveys at ground zero
	Aerial radiation surveys	2006	Aerial radiation surveys
	Radiological posting compliance survey	2010	Swipe sampling for removable contamination, *in situ* radiological measurements
	Preliminary investigation	2012	Visual surveys, FIDLER surveys, removable contamination surveys
	Meteorological and airborne particulate monitoring	2008-2012	Monitoring of airborne particulates, ambient gamma radiation, and meteorological conditions
	Debris investigation	2016	FIDLER surveys, removable contamination surveys, visual surveys
	Corrective action investigation	2015-2017	Collection of soil samples and thermoluminescent dosimeters at sample plots, subsurface depth screening for buried contamination, geophysical surveys at ground zero, removal of contaminated debris outside

Table 3-47. Summary of Study Activities at Corrective Action Unit Sites

Site	Activities	Year	Work Completed
			CA fence, soil samples of soil mound surface and interior, FIDLER surveys, and removable contamination surveys
	Corrective action decision document and corrective action plan	2017	NDEP approval of corrective action plan detailing corrective action to achieve clean closure
	Corrective action implementation	2018	Corrective actions (remediation) activities to be completed in 2018
CAU 415 Project 57	Operation Plumb bob preliminary report	1958	Details origin, objectives, and results to date for Project 57
	Surface alpha monitoring	1961	Detailed results of the surface alpha monitoring program (Program 74)
	Biomedical and aerosol studies	1961	Results of the animal studies program (Program 72); results of the air sampling program conducted in conjunction with the animal studies
	Particle size studies	1975	Pu associated with particle size
	Feasibility and Alternate Procedures for Decontamination and Post-Treatment Management	1975	Comparative study to evaluate vegetative recovery and soil surface conditions 17 years post-test
	Nevada Applied Ecology Group studies	1976	FIDLER surveys, soil and vegetation sampling, depth profile sampling
	Environmental surveillance radiation surveys	1977	Ground-based alpha radiation surveys
	Aerial radiation surveys	1979	Aerial radiation surveys
	Soil removal decontamination estimate	1980	Estimate of the amount of soil removal necessary to achieve a remediation action level of 160 picocuries per gram of Pu
	Soil and plant studies	1982	Soil and plant studies on Pu little dispersion and bioavailability
	Soil particle size study	2001	Soil samples to determine Pu and Am activities in relation to soil particle size
	10 CFR 835 compliance survey	2007-2012	Ground-based radiation survey at fence perimeter
	Preliminary Investigation	2014-2017	All final corrective actions, including best management practices will be documented in a final closure report where

Table 3-47. Summary of Study Activities at Corrective Action Unit Sites

Site	Activities	Year	Work Completed
			future surveillance and inspection requirements will be defined
	Final closure report	2017	Pending NDEP approval of the final closure report
CAU 541 Small Boy	Nevada Applied Ecology Group study	1981-1986	In situ soil measurements by gamma spectroscopy and limited confirmatory soil sampling to estimate inventory of man-made radionuclides
	Aerial radiation survey	1995 1997 2010	Aerial radiation surveys
	Preliminary field investigation	2012	FIDLER, PRM-470[2], visual surveys, limited sampling event at and around ground zero
	Desert Research Institute geochemical study	2013	Isotopic analysis of standing water on the Frenchman Flat playa
	Groundwater radiochemistry	2001 2002 2004	Groundwater flow and radionuclide migration and inventory
	Groundwater chemistry analysis and interpretations	2002 2004 2006	Geochemical and isotopic data analysis and interpretation
	Groundwater transport modeling	2009	Analysis to understand the behavior of radionuclide migration and to define, both qualitatively and quantitatively, the sensitivity of flow model conceptualization and flow and transport parameterization
	Development of data quality objectives	2014	Identify and define the type, amount, and quality of data needed to determine, develop and evaluate corrective actions
	Final Corrective Action Decision Document/Closure Report	2016	NDEP's Bureau of Federal Facilities reviewed and approved a Final Corrective Action Decision Document/Closure Report

Am = Americium; CFR = Code of Federal Regulations; FFACO = Federal Facility Agreement and Consent Order; FIDLER = field instrument for detection of low-energy radiation (gamma emissions); HPGe = high-purity germanium; NDEP = Nevada Division of Environmental Protection; NNSA = National Nuclear Security Administration; Pu = plutonium

1. A radiation detector using sodium iodide
2. Ground-based organic plastic scintillator instrument that detects gamma emission

3.12.1.7 Solid Waste Management

Solid wastes and construction debris are generated from day-to-day operations and infrastructure projects. Solid waste at the NTTR is managed according to Integrated Solid Waste Management (ISWM) Plans. The industrial facilities in particular are incorporated into two ISWM Plans: one for the North Range and the other for the South Range and Tolicha Peak (U.S. Air Force, 2017o).

For the Native American perspective on information in this section, please see Section 3.12.4.4 and Appendix K, paragraph 3.12.1.7.1.

The ISWM Plans address the management of solid waste, which includes any discarded material as defined in 40 CFR 261.2. Solid waste includes municipal solid waste, industrial solid waste, construction and demolition debris, and material sent to the qualified recycling program per AFI 32-7001, *Environmental Management*. The qualified recycling program is meant to reduce disposal costs, generate revenue, and divert wastes from landfills. When material becomes a solid waste, it is sorted into an appropriate container for recycling or disposal. Disposal generally involves a landfill or combustion in a waste-to-energy facility. These disposal methods are used only for waste that cannot be reduced, reused, or recycled (U.S. Air Force, 2017o).

The NTTR has one Class II permitted municipal (nonhazardous) solid waste landfill and one Class III construction waste landfill. Disposal data for the landfills is submitted to NDEP at regular intervals as required by their landfill permits. Municipal solid wastes and construction debris generated from the South Range is transported and disposed of at off-site landfills (U.S. Air Force, 2017o).

The Class II municipal solid waste landfill is located within the NTTR, on the west side of Cactus Flats. The landfill was put into service and officially approved as the primary solid waste landfill for the NTTR by NDEP in January 1991. The landfill covers an area of 21 acres and has a total disposal capacity of 581,400 cubic yards. It was designed to accept less than 20 tons per day and serve a maximum population of 10,000 people. The maximum population served over the last few years has been less than 500 people, depending on site activities (NDEP, 2016b).

3.12.2 Environmental Consequences

The Air Force acknowledges that it is difficult to determine significance at the programmatic level. If the areas associated with the any of the proposed alternatives are withdrawn for military use, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made. Nonetheless, at a programmatic level, the Air Force has identified no adverse impacts to hazardous materials or solid wastes connected with any of the proposed alternatives overall.

3.12.2.1 Analysis Methodology

For the Native American perspective on information in this section, please see Section 3.12.4.5 and Appendix K, paragraph 3.12.2.1.1.

The analyses focused on the context and intensity of potential effects related to hazardous materials usage and management and hazardous and solid waste generation and management under the proposed alternatives. Potential impacts related to hazardous materials and hazardous wastes were analyzed for the following three effects: (1) increased likelihood of an uncontrolled release of hazardous materials that could contaminate soil, surface water, groundwater, or air; (2) generation of hazardous or solid waste types or quantities that could not be accommodated by the current management system; and (3) adverse impacts to existing sites under the environmental restoration and monitoring programs.

3.12.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of the NTTR (North and South Range) – Status Quo

Hazardous Materials

For the Native American perspective on information in this section, please see Section 3.12.4.6 and Appendix K, paragraph 3.12.2.2.1.

NTTR personnel would continue to use hazardous materials in day-to-day operations. These materials include paints, solvents, thinners, adhesives, aircraft fuel, diesel, gasoline, lubrication oils, brake and hydraulic fluids, cleaners, batteries, acids, chlorofluorocarbon refrigerants, herbicides, insecticides, rodenticides, and compressed gases. These materials would continue to be stored in proper containers, employing secondary containment as necessary to prevent/limit accidental spills.

All spills and accidental discharges of hazardous materials would be reported. Emergency response procedures and site-specific contingency plans have been developed for all hazardous materials locations at the NTTR, and the Nellis AFB Spill Prevention and Response Plan would continue to be used and updated, as required.

Usage of hazardous materials would continue to be tracked and documented through the existing HAZMART. This automated “pharmacy system” is used to track and control hazardous materials and waste from procurement through disposal. Hazardous materials that are not currently in the HAZMART inventory would have to go through an approval process to ensure that they would not pose undue health or environmental hazards before they could be used. This approval process involves a review by various organizations, including Bioenvironmental, Safety, and the Environmental Office.

The quantities of hazardous materials used under this alternative would be consistent with quantities currently employed at the NTTR. Any unanticipated changes in the overall quantity of hazardous materials used/stored would be documented and reported to state and local emergency planning committees/local fire departments using the annual Tier II forms or Form R, as required. Hazardous materials would continue to be transported in accordance with the USDOT requirements and regulations.

Hazardous materials used in aircraft operations or during aircraft maintenance activities would be managed according to the established procedures described above. Additionally, any releases of hazardous materials resulting from operations or maintenance would be mitigated according to established spill plans; consequently, no adverse impacts would occur.

Hazardous wastes may be generated from munitions use when used munitions or munitions constituents (including unexploded chemical residues) are transported off the range for certain purposes (storage, reclamation, treatment, disposal, or treatment prior to disposal) or when they are recovered, collected, and then disposed of by burial or landfilling either on or off of the range. These wastes would be managed as reactive hazardous wastes according to established procedures. Changes to impacts from constituents associated with the detonation of munitions would be minimal. The Air Force is implementing the Ongoing Decontamination requirements of the MLWA and is subject to the MLWA provisions for decontamination before relinquishing withdrawn lands. In addition, the Air Force intent is to assess the range (the NTTR) for clean-up of any potential remaining hazardous residue in accordance with the DoD Military Munitions Restoration Program if the NTTR ceases to be an operational range, regardless of the alternative selected. Fuel and other hazardous materials associated with construction equipment or vehicles would be used and stored according to established procedures. Additionally, any releases of hazardous materials would be mitigated according to established spill plans; consequently, no adverse impacts would occur. Troop movement would have no impact associated with hazardous materials.

Also, BMPs that have been enacted for targets include the defluidization of vehicles by removing fluids (fuel and oils) to prevent release to the environment as well as an active program to destroy UXO and remove and recycle target residue.

At transmitter sites, hazardous materials use would likely be limited to fuel and lubricants used in vehicles and ancillary support equipment, such as standby electric generators. These hazardous materials would be managed according to established procedures, including the use of secondary containment for fuel or oil storage containers. Potential releases would likely be limited in nature and would be associated with events such as ruptured hydraulic lines or leaking fuel tanks. Regardless, any releases of hazardous materials resulting from emitter operations would be mitigated according to established spill plans; consequently, no adverse impacts would occur.

Hazardous Waste Management

For the Native American perspective on information in this section, please see Section 3.12.4.6 and Appendix K, paragraph 3.12.2.2.1.1.

Under Alternative 1, the types of hazardous wastes generated would remain at baseline levels. The total quantity of hazardous wastes generated would also not be expected to change under this alternative. If any additional waste streams were to be identified as part of new weapons systems or new maintenance procedures, the Air Force would establish new IAPs at generation locations, and personnel managing these locations would be properly trained in waste management. Management of hazardous wastes would be performed according to prescribed procedures already in place, and the Hazardous

Waste Management Plan would also be updated as required. Existing hazardous waste management procedures are adequate for the quantity and types of wastes generated at the NTTR.

The Air Force would continue to manage the 90-day accumulation sites, and existing waste generation tracking procedures would remain in place. The Defense Reutilization and Marketing Service on Nellis AFB would to be responsible for the disposal of hazardous wastes generated on the NTTR. No changes to permits, hazardous waste generator status, or management would be required, and no adverse environmental impacts are anticipated.

Hazardous wastes generated during aircraft maintenance activities would be managed according to the procedures described above. Consequently, no significant impacts would occur.

Small quantities of hazardous wastes may be generated from munitions use. These wastes would be associated with unexploded chemical residues and would be managed as reactive hazardous wastes according to established procedures. Consequently, no significant impacts would occur.

Ground disturbance, including foot or vehicle movement, would not be expected to directly generate hazardous waste. However, there is a potential for solid waste/litter to be generated. In addition to miscellaneous trash, this could include items such brass casings, chemical light sticks, and meals ready-to-eat (MREs) (with activated or unactivated heating elements). Chemical light sticks are nontoxic and environmentally safe, while MREs are exempt from RCRA hazardous waste regulations. Soldiers may dispose of waste MREs, either activated or unactivated, as nonhazardous solid waste. To minimize any potential solid waste impacts, personnel would implement the following practices: pack out debris or properly dispose of litter, remove and properly dispose of solid debris (casings, light sticks, MREs, etc.) in accordance with NTTR operating procedures, and conduct post-mission surveys to ensure debris has been removed. With implementation of these practices, no adverse impacts would occur.

Any hazardous wastes generated from emitter equipment maintenance (e.g., waste paint, solvents) would be managed according to established procedures described above. Consequently, potential for adverse impacts related to hazardous wastes from emitter operations would be minimal.

Environmental Restoration and Monitoring Programs

For the Native American perspective on information in this section, please see Section 3.12.4.6 and Appendix K, paragraph 3.12.2.2.1.1.1.

ERP and AOCs

There are no plans for further corrective actions at the NTTR, and no known AOCs or ERP sites remain open. Established ERP decision documents, including soil surveys that have been accepted by NDEP for these sites would continue. However, site closures may be revisited in the future if laws become more stringent, if the land is returned to public use, or if future information indicates the need to investigate further.

Munitions Residue

The cleanup and maintenance of munitions residues from target areas would continue using Coronet Clean procedures. These procedures include sweeping out around target areas following specific criteria and safely detonating and/or disposing of any UXO that is encountered.

For the Native American perspective on information in this section, please see Section 3.12.4.6 and Appendix K, paragraph 3.12.2.2.1.1.1.1.

Releases to the environment from munitions utilized in proficiency and/or qualification training require reporting to the EPA under the TRI program. The Air Force currently complies with TRI reporting requirements and would continue to track ordnance use associated with the proposed activities. Table 3-46 lists chemicals exceeding applicable thresholds under TRI. The table includes the average quantity of these chemicals released from 2011 to 2015. It would be anticipated that the estimated increase in training activities under Alternative 2 would result in an associated, proportional increase in the quantity of chemicals released; however, based on the type/quantity of constituents that would be released as part of proposed activities, no new thresholds would be exceeded and no additional reporting would be required by the Air Force.

The Air Force has an active program mandated by the DoD to study munitions constituents and is coordinating with the range, installation, and other stakeholders regarding range-specific response planning activities in order to determine the appropriate scope of follow-on efforts. Response planning may include one or all of the following elements (U.S. Air Force, 2015c):

- Further on-range characterization focused on confirming sources; validating transport mechanisms; and fully evaluating munitions constituents at the range boundary in order to confirm the substantial threat of release finding
- A mitigation study to focus on range operations, management, and maintenance activities in order to evaluate and identify measures, practices, or controls as may be necessary to minimize or prevent further munitions constituents transport
    - This would include applying measures, practices, or controls identified in the guidance document *Department of Defense Operational Range Sustainability through Management of Munitions Constituents* (Jenkins & Vogel, 2014). That document is designed to serve as a reference tool for DoD range managers and their contractors to assist in the evaluation of munitions constituents management technologies. It discusses factors to consider in determining whether to implement munitions constituents management technologies and summarizes characterization approaches and management technologies designed to reduce the dissolution and migration of energetic compounds.

- Investigations to gather data on adjacent off-range areas to evaluate potential contamination beyond the range boundary and assess any potential risks to human and the environment

Depleted Uranium Target Assessment

For the Native American perspective on information in this section, please see Section 3.12.4.6 and Appendix K, paragraph 3.12.2.2.1.1.1.1.1.

The NTTR would continue to use DU munitions and store targets in the DU library per its NRC permit on Range 63. The use of DU is managed under the *Depleted Uranium Management Plan for the Nevada Test and Training Range at Target 63-10*. The plan includes procedures for the control of DU exposure and disposal or recycling DU-related wastes. These procedures include sweeping Range 63-10 periodically to remove and safely dispose of DU-related debris.

The total quantity of DU contamination would continue to increase (an approximate average of 4,400 pounds of DU rounds are expended annually). However, current studies indicate that DU residues are not migrating outside of the license area by water or other means. The Air Force would develop a closure plan if the DU program is eliminated. This plan would include provisions to remove UXO and remediate any remaining contamination.

Spills and Aircraft Mishaps

For the Native American perspective on information in this section, please see Section 3.12.4.6 and Appendix K, paragraph 3.12.2.2.1.1.1.1.1.1.

To minimize the possibility/impacts of any releases, the NTTR would continue to maintain trained oil-handling personnel, as well as spill response plans and adequate spill response equipment, at all possible spill sites. Emergency Services would respond to clean or contain large releases, as required. Any releases over reportable quantities, whether from spills or from an aircraft mishap, would be reported to NDEP. The cleanup and closure of a spill or mishap site would also comply with standards set by NAC 445A.

Department of Energy Environmental Restoration Program

For the Native American perspective on information in this section, please see Section 3.12.4.6 and Appendix K, paragraph 3.12.2.2.1.1.1.1.1.1.1.

The NTTR includes land permitted from the Air Force to DOE/NNSA. The NTTR is managed by the Air Force, but an adjacent complex is operated for DOE/NNSA, which would remain responsible for activities related to existing contamination from historical nuclear testing. There are no known actions planned to remediate existing contaminated sites, and there are no plans to restart testing with radioactive materials within the NTTR boundary. Site investigations into the extent of contamination and its potential to migrate would continue. These sites would be further investigated per agreement through stakeholders once funding becomes available through DOE.

There would be no impacts to environmental restoration and monitoring program sites from aircraft operations.

As described in Section 3.12.1.5 (Department of Defense Environmental Monitoring Program), the cleanup and maintenance of munitions residues from target areas would continue according to existing procedures. Additionally, releases to the environment from munitions used in proficiency and qualification training require reporting to EPA under the TRI program. The NTTR procedures comply with TRI reporting requirements and would track munitions use associated with proposed activities. It is anticipated that no new TRI thresholds would be exceeded and no additional TRI reporting would be required from implementation of Alternative 1.

Activities would not result in impacts to existing environmental restoration and monitoring program sites, as disturbance to these sites would not occur from construction or troop movement. Regardless, should any unusual odor, soil, or groundwater coloring be encountered during operations in any areas, these activities would cease and Environmental Management personnel would be contacted immediately.

There would be no impacts to environmental restoration and monitoring program sites from emitter operations with Alternative 1.

Solid Waste

For the Native American perspective on information in this section, please see Section 3.12.4.6 and Appendix K, paragraph 3.12.2.2.1.1.1.1.1.1.1.

Solid wastes, including municipal solid waste, industrial solid waste, construction and demolition debris, would continue to be generated from day-to-day operations. The overall quantity of solid wastes generated at the NTTR would not be expected to change. Sufficient landfill capacity exists to accommodate current and future waste quantities. Additionally, as required by the Air Force, solid wastes would be recycled to the greatest extent possible, further minimizing any adverse impacts.

Solid wastes would be generated as a result of training activities (primarily munitions fragments and residues and target-related debris). Existing solid waste collection and disposal procedures would be adequate for the amount of wastes that would be expected to be generated. Additionally, metallic debris (e.g., brass cases) from training operations would be recycled and, therefore, not disposed of as solid waste. Consequently, no adverse impacts to solid wastes would occur.

It is not anticipated that land-clearing activities during construction would generate a need for disposal of soil and/or woody waste (if any), as soils generated would be used as fill during construction projects and any woody wastes would be chipped and reused as mulch on-site. Therefore, these materials would not impact solid waste resources.

Ground training on foot (dismounted maneuver) would involve movement without leaving any evidence of troop presence. Personnel would be required to collect and properly dispose of any generated debris/litter. Personnel would also conduct post-mission surveys to ensure debris has been removed. Consequently, it is anticipated that no adverse impacts related to solid wastes would occur.

While aircraft and emitter operations may generate solid waste (i.e., trash or refuse), these wastes are managed according to solid waste management procedures. Therefore, it is not anticipated that there would be adverse impacts associated with solid wastes from aircraft or emitter operations.

3.12.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

Hazardous Materials

Establishing ready access may provide an opportunity for more training to occur, which would result in an increased use of hazardous materials (e.g., fuel, lubricating oil) commensurate with the increase in the number of operations. All hazardous materials would continue to be managed according to established procedures and any accidental discharges of these materials would be reported and mitigated. Although the level of activity would increase by an estimated 30 percent, there would be no significant changes in the overall quantity of hazardous materials stored at the NTTR resulting from Alternative 2, so no additional reporting under EPCRA's Tier II program would be required; consequently, no adverse impacts would occur.

For the Native American perspective on information in this section, please see Section 3.12.4.7 and Appendix K, paragraph 3.12.2.3.1.1.

The environmental impacts to hazardous materials from munitions use and ground disturbance under this alternative would be the same as for Alternative 1; no adverse impacts due to munitions use or ground disturbance would occur with Alternative 2.

As discussed above, establishing ready access may provide an opportunity for more testing and training to occur, potentially increasing the number of emitters on the NTTR and associated use of hazardous materials. All hazardous materials associated with emitter operations and maintenance would continue to be managed according to established procedures, and any accidental discharges of these materials would be reported and mitigated. Consequently, no adverse impacts from emitter operations associated with Alternative 2 would occur.

Hazardous Waste Management

Establishing ready access may provide an opportunity for more air operations to occur. The increase in operations would result in an associated increase in the quantity of maintenance-related hazardous wastes. However, this increase would not overly burden the current management system nor would it result in a change of the current generator status of the installation. All wastes would be managed in accordance with all applicable regulations and disposed of by licensed vendors to approved disposal facilities; consequently, no significant impacts with respect to hazardous wastes from aircraft operations would occur with Alternative 2.

For the Native American perspective on information in this section, please see Section 3.12.4.7 and Appendix K, paragraph 3.12.2.3.1.1.1.

The environmental impacts related to hazardous wastes from munitions use with Alternative 2 would be the same as under Alternative 1. No

adverse impacts related to hazardous wastes from munitions use with Alternative 2 would occur.

Ground disturbance, including foot or vehicle movement, would not be expected to directly generate hazardous waste, although the potential increase in training may result in more solid waste/litter. To minimize any potential impacts from solid wastes, personnel would implement established practices that include properly disposing of litter; removing and properly disposing of solid debris (casings, light sticks, MREs, etc.), and conducting post-mission surveys to ensure debris has been removed. With implementation of these practices, no adverse impacts related to waste generated from ground-disturbing activities would occur with Alternative 2.

As discussed above, establishing ready access may provide an opportunity for more emitter operations to occur. The increase in operations would result in an associated increase in the quantity of emitter operation- and maintenance-related hazardous wastes. However, this increase would not overly burden the current management system nor would it result in a change in the current generator status of the installation. Thus, no adverse impacts related to hazardous wastes from emitter operations with Alternative 2 would occur.

Environmental Restoration and Monitoring Programs

The environmental impacts to environmental restoration and monitoring program sites from aircraft operations, munitions use, ground disturbance, and emitter operations with Alternative 2 would be the same as with Alternative 1, and no adverse impacts would occur.

For the Native American perspective on information in this section, please see Section 3.12.4.7 and Appendix K, paragraph 3.12.2.3.1.1.1.1.

Munitions Residue

As discussed previously, the Air Force has an active program mandated by the DoD to study munitions constituents; consequently, investigative efforts and applicable responses would consider increases in training operations associated with Alternative 2.

Solid Waste

The environmental impacts related to solid wastes from aircraft operations munitions use, ground disturbance, and emitter operations with Alternative 2 would increase but adverse impacts are anticipated to be minimal to none, as established procedures for cleanup would continue to be implemented.

For the Native American perspective on information in this section, please see Section 3.12.4.7 and Appendix K, paragraph 3.12.2.3.1.1.1.1, Solid Waste.

3.12.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal

- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

Hazardous Materials, Hazardous Waste Management, Environmental Restoration and Monitoring Program Sites, and Solid Waste

For the Native American perspective on information in this section, please see Section 3.12.4.8 and Appendix K, paragraph 3.12.2.4.1.

No aircraft maintenance operations would occur in the proposed expansion areas for Alternatives 3A, 3A-1, 3B, and 3C; consequently, aircraft operations would result in no impacts to hazardous materials, hazardous wastes, or solid wastes. For Alternative 3C, which includes construction of two runways, any accidental releases of hazardous materials (fuel or oil) from aircraft runway operations would be mitigated and reported as required. Consequently, significant impacts associated with hazardous materials would also not be anticipated.

For Alternatives 3A, 3A-1, and 3B, no munitions use would occur in the proposed expansion areas, and for Alternative 3C, blank munitions use would occur. There would be no impacts to environmental restoration and monitoring program sites (as none are present).

Alternatives 3A, 3A-1, 3B, and 3C would include some ground disturbance associated with the construction of perimeter fencing (25, 30, and 65 miles, respectively). Additionally, Alternative 3C would involve construction of two runways and roadway improvements, as well troop movement (by foot or vehicle). Any accidental releases of hazardous materials (fuel or oil) from construction operations would be mitigated and reported as required by federal and state law.

As indicated in Section 2.3.3.4, Alternative 3C could conceptually involve construction of runways that would be 6,000 feet long and 90 feet wide. Construction-related solid wastes would be recycled to the greatest extent possible. Appropriate management of construction and land-clearing debris, including recycling and reuse when possible, would further limit the generation of solid waste; consequently, no significant impacts related to solid wastes are anticipated. Additionally, any hazardous materials used (e.g., fuels, lubricants) or wastes generated during construction would be managed according to established procedures; thus, no adverse impacts would occur.

FARRP activities include a refueling process that involves a trailer mounted fuel filter/pump that would be rolled off the cargo aircraft, placed in a non-rigid spill containment berm. Fuel hoses are extended to the donor aircraft and connected to the single point refueling (SPR) nozzle. A drip pan is placed under the nozzle to capture any fuel that could be dripped from installing or removing the nozzle. Another hose would be extended in the opposite direction to connect to the receiving aircraft or helicopter. As gas is transferred, there are a minimum of three personnel involved in the operation. One person at each SPR and the third person would be at the trailer mounted pump. In addition, the crews have access to spill kits that contains pads that will absorb fuel if a release were to occur.

No emitter placement, use, or maintenance activities would take place within lands proposed for withdrawal for Alternatives 3A, 3A-1, and 3B. Based on potential concepts, emitter placement, use, and maintenance activities would occur on withdrawn lands for Alternative 3C. Any accidental releases of fuel or oil from emitter operations would be mitigated and reported as required. Consequently, no significant impacts related to hazardous materials or hazardous wastes would occur under Alternatives 3A, 3A-1, 3B, or 3C.

As discussed previously, the Air Force has an active program mandated by the DoD to study munitions constituents; consequently, investigative efforts and applicable responses would consider increases in training operations associated with Alternative 3.

3.12.2.5 Alternative 4 – Establish the Period of Withdrawal

The proposed withdrawal periods associated with Alternative 4—Alternative 4A (20-year withdrawal period), Alternative 4B (50-year withdrawal period), and Alternative 4C (indefinite)—must be implemented in conjunction with one or more of the other alternatives or subalternatives.

For the Native American perspective on information in this section, please see Section 3.12.4.9 and Appendix K, paragraph 3.12.2.5.1.

The Air Force recognizes that it is difficult to determine significance at the programmatic level for withdrawal periods and recognizes that there is the potential for impacts to hazardous materials and solid wastes over time for all three subalternatives but implementation of ongoing management actions would minimize or avoid significant impacts.

3.12.2.6 No Action Alternative

Hazardous Materials

Under this alternative, hazardous and toxic materials would not be used by Air Force personnel, contractors, temporary duty military units, or tenant organizations on the NTTR. Range maintenance processes such as vehicle maintenance, target refurbishment, and electronic countermeasures emitter maintenance would cease. Hazardous materials would be removed from the range and taken to the HAZMART for reissue. Range emergency response/contingency plans and associated spill plans would remain in effect until range closure activities are completed.

For the Native American perspective on information in this section, please see Section 3.12.4.10 and Appendix K, paragraph 3.12.2.6.1, No Action Alternative Hazardous Materials.

Potential hazardous materials use in future public or commercial operations or any other land uses on what had been the NTTR would receive separate environmental review and would be administered by BLM and USFWS.

Hazardous Waste Management

Under this alternative, hazardous wastes would not be generated by routine NTTR maintenance activities because these activities would cease. Some hazardous wastes

could be expected from the decommissioning and shutdown of facilities in the major work areas on the range. Examples could include waste petroleum products from fuel storage tanks, building materials contaminated with lead-based paint and lead solder, and small quantities of various chemicals.

During demolition activities associated with this alternative, the use of petroleum, oil, and lubricants for equipment would create the potential for minor spills and releases. Compliance with best construction practices would reduce this potential to insignificant levels. Existing hazardous waste disposal procedures would continue to be used until all facilities have been closed following applicable regulations.

If large-scale demolition projects were initiated, the disposal of hazardous wastes could be included in the demolition contract. Hazardous wastes generated by future activities on the NTTR would be managed in accordance with BLM and USFWS agreements and permits and applicable federal and state regulations.

Environmental Restoration and Monitoring Programs

Decisions regarding the status and any additional cleanup of existing AOCs, SWMUs, ERP sites, and munitions sites would be made in consultations between the Air Force and BLM and USFWS in accordance with the MOU. Munitions would not be expended on range targets and disposal of waste munitions would be completed in accordance with DoD Manual 4715.26, *Military Munitions Rule*. Interim institutional controls and physical barriers would be required to protect public health and safety until final closure is achieved at the sites. Lands that would not pose a risk to humans would be managed under BLM's multiple use of lands and resource policies.

For the Native American perspective on information in this section, please see Section 3.12.4.10 and Appendix K, paragraph 3.12.2.6.1, Environmental Restoration and Monitoring Programs.

Under the No Action Alternative, DOE would accomplish their environmental restoration activities at the sites they are responsible for on the NTTR in accordance with the FFACO.

Solid Waste

Solid wastes from Air Force operations at the major work areas would not be generated, collected, or disposed of under this alternative. Small quantities of nonhazardous solid wastes would be expected to be generated during range closure activities. The amount of waste would not be significant and would not present a potential health or environmental risk. The decision on disposal of these wastes would be made during development of closure plans.

For the Native American perspective on information in this section, please see Section 3.12.4.10 and Appendix K, paragraph 3.12.2.6.1.1.

Nonhazardous solid wastes generated by future multiple use of NTTR land would be administered in accordance with BLM and USFWS agreements and permits.

3.12.3 Proposed Resource-Specific Mitigations and Management Actions

No mitigations have been identified for hazardous materials and solid waste.

3.12.4 Native American Perspective on Hazardous Materials and Solid Waste

3.12.4.1 Native American Perspective: Hazardous Materials and Solid Waste Description of Resource

The CGTO knows cultural resources are interconnected and encompass more than physical structures or sacred sites. Natural resources within the NTTR are considered culturally sensitive and include but are not limited to plants and animals, natural formations, waterways, weather and astronomy that must be kept in balance in culturally appropriate ways. Native Americans rely on these resources to sustain life and to interact with the spiritual world as described in our traditional beliefs to keep the world in balance. If balance is not sustained, the land will react and change will occur, thus impacting cultural resources on the NTTR. The CGTO knows the complex views of tribal people must be respected in order to protect the area from contamination and other adverse effects that may destroy the cultural integrity of the landscape. It is the right and duty of Native Americans to protect these culturally sensitive resources from any contamination, pollution and other activities that seek to degrade or interfere with their existence.

Although American Indian languages in the NTTR region have no words equivalent to the concepts of radiation and radioactive materials, the term “angry rocks” expresses the cultural perception. American Indians with experience with the NTTR, believe that breaking or disturbing a rock, without accompanying the action with a full explanation, may release the rock’s power and upset its natural balance. This action will “anger” the rock and result in “the creation of a source for cultural anomalies, which upsets the balance of the cultural ecosystem and affects Indian people” (AIWS 1997). American Indians believe that radiation, or the power released by the “angry rock,” can hurt, damage or kill plants, animals, people, water, or the air.

Indian people believe that past releases of radiation have already contaminated plants and animals used in traditional cultural practices. Some Indians feel they can detect radiation; if an area is determined by whatever means to be contaminated, then Indian people can no longer use its resources.

The CGTO remains concerned with other hazardous materials and solid waste found on Nellis and Creech AFB as well as other areas within the boundaries of the NTTR. Transporting hazardous waste and/or other materials can cause long-term effects and disrupt the cultural integrity and ecological balance needed for resources to flourish.

3.12.4.2 Native American Perspective: Department of Defense Environmental Monitoring Program

The CGTO acknowledges that the Air Force has made improvements to identify ways to enhance their efforts in restoring the land. Native Americans play an essential co-

management role in understanding the complexities of the cultural landscape. Involvement in this process is one that advocates on behalf of the resources and protection of them. Restoration can never be achieved if the original soil on sites is contaminated, affecting plants, animals, air, climate and water. Traditional prayers and cultural ceremonies for the land can help heal it and bring spiritual balance using complex spiritual approaches. The CGTO knows the Air Force must continue to recognize that these interactions are not just limited to singular ritually based events and cannot be rushed or abbreviated. When access is limited, opportunities are affected that prevent the CGTO from engaging in co-management activities to make the land is whole again.

Native American Perspective: Areas of Concern

The CGTO knows any hazardous or industrial waste left at the NTTR is always a concern. Cultural and ecological balance is essential and must be maintained by removing debris before the land can heal and be fully restored. The LEIS suggests the location of two AOCs that are as yet unknown and along with the other 73 AOCs that contain “disposal pits” and associated items that may be stored within them. The disclosure of this information prompts the CGTO to question when these areas will be unearthed, cleaned up and visited by Natives to conduct ceremonial activities to help heal the land and keep it in balance. Tribal involvement is an essential component for understanding the area and identifying new sites with the same concern about how they will be treated.

Native American Perspective: Resource Conservation and Recovery Act Facility Assessment

Similar to other locations, the CGTO discourages any consideration for supporting landfills and underground storage tanks that can easily corrode or contaminate water and other resources that the land and wildlife rely on for survival. Contamination creates imbalance for the entire ecosystem and places unnecessary strain on resources throughout the NTTR. When animals are forced to share water that doesn’t know them or wasn’t meant to be shared, an imbalance occurs which brings sickness to the land. Cumulative impacts over time will have an irreversible effect on the entire ecosystem that cannot be restored, repaired, or mitigated.

Native American Perspective: Munitions Residue

The CGTO knows that the Air Force has made great strides in eliminating lead from water, gas, and paint, yet NTTR lands continue to contain lead from training rounds or other hazardous waste. The CGTO knows when hazardous material is left on the land in any training area, the land will react and the material becomes a major threat to the environment. The CGTO knows these materials harm animals, contaminate water and pollute the environment in such a way that has permanent and lasting effects.

Native American Perspective: Depleted Uranium Target Assessment

The CGTO knows the seriousness of Depleted Uranium (DU) should not be minimized as “mildly radioactive.” The CGTO knows the USAF, DOD, DOE and other agencies take preventative measures to permanently ban the use of equipment or munitions that contain any form of radioactive material. These elements are extremely dangerous and pose a significant health hazard to all living things that cannot be restored, thus the land is permanently scarred, sterile and/or dead. Animals rely on food sources and water on the NTTR to support themselves and to sustain the food chain--once contamination is introduced, the far reaching effects will remain permanent and worsen with time. The cumulative effect cannot be accurately forecasted by studies or models. In time, these effects cause sickness where increased cancer rates can be elevated and become a concern. Equally, water sources may become contaminated as flash floods, wind and erosion work to spread contaminants from one location to another.

Any munition or debris from military activities that leave conventional metal residue or Depleted Uranium (DU) is always a concern of the CGTO. Storm models and projections do not accurately reflect the day-to-day and cumulative impact to the land. There is no study that identifies the cultural impacts to culturally sensitive areas from radioactive materials. Personnel working in certain areas must monitor exposure using dosimeters to identify exposure over the lifetime of human presence in a controlled environment. No systematic ethnographic studies have been conducted on the NTTR to evaluate the cultural impacts for munition or debris associated with military activities. Until such a study is conducted, the long-term effects cannot be thoroughly evaluated or understood.

Contaminated water introduces direct exposure to animals and insects of varying sizes that may be consumed by larger predators. The introduction of DU to the food chain for an untold number of years is not supported by the CGTO. Residual effects from contaminated pools of water require tribal intervention through traditional cultural practices to regain ecological balance.

The CGTO questions where the other 162 tanks that contain DU or “low-level radioactive waste” that does not qualify for free release will be disposed. It remains a concern of the CGTO that this equipment must be properly dismantled and disposed of through proper methods. On-site traditional ceremonies are required to concurrently restore the ecological balance so the cultural integrity can be brought back to the land.

Native American Perspective: Surface Soil Sampling at NTTR Bombing Targets

The two-phase study in May 2015 identified that lead and explosive residues were migrating from their original locations. That finding validates the CGTO position that any debris, residue or non-natural material that is left in the NTTR poses a threat to the natural environment. The study also states that these materials don’t pose a threat to humans. Conversely, the CGTO knows that these residues pose a dangerous threat to animals, plants, water, and the air., all of whose well-being must be equally considered.

Native American Perspective: Spills and Aircraft Crashes

It is impossible to guarantee that spills will never occur. With that understanding, the CGTO finds it necessary to be notified when and where a spill occurs, and how it will be cleaned up. Tribal consultation is essential in the restoration process for evaluating potential effects, conducting traditional prayers and initiating mitigation to aide any disturbed cultural resources (all-inclusive of water, air, animals, plants, or soil affected) to help bring closure to the restoration process.

Native American Perspective: Aircraft Mishaps

Aircraft mishaps of manned and unmanned aircraft have occurred in the past 10 ten years. The CGTO was never consulted or notified of restoration, mitigation, or cleanup efforts related to any of these. For example, the F-16 operates with hydrazine, a chemical that causes asthma-like conditions to humans and has unknown effects on animals and plant resources upon exposure. Equally, graphite and other materials are introduced when an aircraft is lost due to a mishap. Systematic human health and biological evaluations must be conducted to determine the effects on cultural resources, including archaeological sites, wildlife, groundwater and soils.

The CGTO is aware that human life has been lost in the NTTR. The CGTO knows that *Dead Air* occurs when air is destroyed, causing pockets of *dead air* to cause anomalies in the air currents. There is only so much living air that surrounds the world. If you kill the living air, it is gone forever and cannot be restored.

Dead air lacks the spirituality and energy necessary to support other life forms. Aircraft mishaps occur when they hit *dead air*. During a previous CGTO evaluation of the area, one member of the CGTO compared this Indian view of killing air with what happens when a jet flies through the air and consumes all of the oxygen, producing a condition where another jet cannot fly through it.

The CGTO knows in order to maintain balance not only in the physical environment, but among interrelated spiritual elements, cultural ceremonies must be conducted to restore the integrity of the area in culturally appropriate ways. Without these traditional blessings, the air continues to be sick and out of balance and cannot understand what has happened or how to bring itself back into harmony.

3.12.4.3 Native American Perspective: Department of Energy Environmental Restoration Program

Plutonium is a serious concern of the CGTO, as are the consistent monitoring activities associated with atomic testing. The CGTO continues to work with the Air Force and NNSS to gain access to the land and review associated studies to determine exposure of radioactive materials to all-inclusive cultural resources that supports life.

The CGTO knows that any areas affected by radioactive materials will always be contaminated and bring sickness to the land. Once these materials are released into the air, detonated under the ground and spread across the land, permanent contamination occurs that requires ceremonial intervention. No amount of restoration will ever remove

these radioactive elements as long as they remain on the NTTR. The radioactivity poses a threat to all cultural resources from the associated effects that can neither be predicted nor mitigated.

3.12.4.4 Native American Perspective: Solid Waste Management

The CGTO does not support disposing solid waste on the NTTR and believes all solid waste should be removed from NTTR as it is generated in order to prevent further environmental hazards. Many times during tribal monitoring visits, sites have been discovered that were previous landfills for similar waste streams that eventually became compromised during excessive precipitation events or flash flooding. These events left large debris fields that caused further pollution to the environment and our traditional homelands.

The CGTO continues to strongly oppose the transportation, storage, and disposal of radioactive waste but knows environmental restoration occurs on the NTTR. The CGTO believes cultural intervention must continue to fulfill our birth-rite obligation to care for our Holy Land and do what we can to restore balance in contaminated locations.

The CGTO knows Native Americans hold traditional views that are sometimes challenged by scientific views of radioactive materials and waste. As an example, the former builds on the view that all resources, including the rocks that Native Americans treat as sentient beings. Radioactive rocks are powerful but they can become "*angry rocks*" if they are removed without proper ceremony, used in a culturally inappropriate way, disposed of without ceremony, or placed where they do not want to be. (Stoffle et al., 1989a and 1990c). The practice of dealing with "*bad medicine*" or neutralizing negative forces is a part of our traditional culture. Indian knowledge and use of radioactive rocks, or minerals, in the western United States goes back for thousands of years. Areas with high concentrations of these minerals are called dead zones. Such areas contain places of power or energy and can only be visited or certain minerals used under the supervision of specially trained Indian people, who are sometimes referred to in the English language as a shaman or medicine man (Stoffle and Arnold 2003). Therefore, the Air Force would benefit from incorporating traditional ecological knowledge if applied correctly.

A former head Salt Song singer and religious leader for the Chemehuevi Paiutes once explained the impacts of radiation as follows:

"Our spirits will paint their faces and become angry because they are disturbed by the presence of angry rocks. When we are out there now, it is still and peaceful; it is like being in a church chamber. Radiation will disturb the harmony...It will no longer be the same. It will be violated. All the previous songs stories that have been shared in the area will be disturbed. Once a song is sung it continues to be there. When you sing a song you are on the trail--your spirit is making that trip. You are describing where you are at and what is happening. You tell in the song where you are and what you are doing. When people go to these areas today a person can get a song. Previous songs actually hear it...There are still areas today where you can go and hear the song. Some people hear the songs and it scares them because they do not know what it is. Young

people need to be told what it is they are hearing. The places need to be protected from damage so the songs continue to be there for future generations. It is like a delayed echo that never goes away and can come again and again to new people."

The CGTO is very concerned about radioactive contamination on the NTTR that is left or buried in place and could become airborne residue that adversely impacts the environment.

According to tribal elders, "Environmental restoration of man-made radioactive elements *is not a natural process. The natural environment is altered. The wildlife could become contaminated. Water and birds could disperse the elements over the land causing insects and vegetation to become contaminated. This contamination would then adversely impact the food chain. The CGTO is concerned about the animals that will become contaminated or sick if they ingest other contaminated species in the food chain."*

The CGTO is concerned about adverse impacts to the land, animals, plants, water, air, and insects from the waste and noise generated during explosive detonations on the NTTR. The CGTO understands the destructive force of explosive detonations and the resulting destruction to the environment. For example, animals relocate to unfamiliar habitats, which adversely impact their survival rate. Air is adversely impacted, increasing the occurrence of *dead air*. Noise and vibration from the detonations impact the insects, and disrupt vegetative growth.

The CGTO knows if the earth and environment are being disrespected, the spirits that protect and watch over these can become upset and respond negatively. This can result in the characteristics of the environment changing, causing animals to leave their natural habitats, reducing the native vegetation, further reducing water resources, and increasing occurrences of perceived mishaps.

The CGTO is concerned about transporting hazardous and radioactive waste associated with environmental restoration activities on the NTTR and through traditional homelands that could adversely impact their health and environment. Tribal homelands within the region of influence are located in remote areas with limited access by standard and substandard roads. Should an emergency situation resulting from NTTR related activities, including the transportation of hazardous and radioactive waste occur, it could result in the closure of a major reservation road. If a major (and sometimes only) road into a reservation is closed, numerous adverse social and economic impacts could occur. For example, Indian students who have to travel an unusually high number of miles to or from school could suffer delays. Delays also could occur for regular deliveries of necessary supplies for inventories needed by tribal enterprises and personal use. Purchases by patrons of tribal enterprises and emergency medical services in route to or from the reservation could be dramatically impeded. Potential investors interested in expanding tribal enterprises and on-going considerations by tribal governments for future tribal developments may significantly diminish because of the perceived risks associated with NTTR related activities including the transportation of radioactive waste associated with environmental restoration activities.

Finally, the CGTO struggles with the ethics of handling radioactive waste during environmental restoration activities without tribal intervention, which would allow people to live without fear of radioactivity. The CGTO is greatly concerned about the adverse spiritual, environmental, and health impacts associated with relocating these angry rocks from their current locations to our Holy Land. We believe continual disrespect to our land perpetuates animosity and discord among tribal governments.

3.12.4.5 Native American Perspective: Hazardous Materials and Solid Wastes Analysis Methodology

The CGTO agrees the release of hazardous materials poses challenges for preventing related health problems and an imbalance to the cultural landscape in the future due to the absence of tribal involvement. Prevention is necessary for timely and full removal of all hazardous materials and waste as they are generated. Sustainment of the cultural integrity of these locations can be accomplished through tribal intervention and involvement from designated tribal monitor(s) to validate the removal process and help protect the ecosystem.

3.12.4.6 Native American Perspective: Hazardous Materials and Solid Wastes Environmental Consequences – Alternative 1

Native American Perspective: Hazardous Materials – Alternative 1

The CGTO knows hazardous materials can cause problems to the environment. The CGTO must be notified of spills or contamination releases to determine culturally appropriate activities that should be integrated into the remediation process. The CGTO remains committed to working closely with the Air Force in co-managing cultural resources and minimizing the effects from pollution, damage and imbalance that result from introducing hazardous chemicals into the living environment.

Native American Perspective: Hazardous Waste Management – Alternative 1

The CGTO knows it is necessary to be actively involved in the review of disposal plans of newly identified waste streams in order to become more proactive in managing cultural resources rather than becoming involved after a disturbance occurs and hazardous materials are released into the environment.

The CGTO disagrees that “no significant impacts would occur.” According to Air Force reports, lead munitions residue does in fact migrate over time. Disposal pits erode and buried solid waste is unearthed from burrowing animals or precipitation events. The CGTO knows all living things are tied to the land and are considered Native American cultural resources.

The CGTO strongly believes that co-management or consultation is necessary to sustain cultural and ecological integrity before the action occurs. Collaborative methods should be examined to identify approaches for preventing further damage or contamination to important cultural resources.

Native American Perspective: ERP and AOCs – Alternative 1

Although many sites have been cleaned up to comply with NDEP standards, the CGTO is typically not consulted on the final disposition of "cleaned up or restored sites." Native Americans are the stewards of cultural resources and help co-manage the cultural resources found on the NTTR. Although sites may have been restored to an acceptable scientific level by regulators, the CGTO plays an important role in cultural restoration of the land that requires cultural intervention using traditional ceremonies based on traditional ecological knowledge.

Native American Perspective: Munitions Residue – Alternative 1

The CGTO believes that all munitions debris especially those containing lead and Depleted Uranium (DU) must be removed from the NTTR to prevent harm and damage to the natural and biological resources. Cultural intervention using traditional ceremonies must occur to restore the ecological balance to the cultural landscape that encompasses the NTTR.

Native American Perspective: Depleted Uranium Target Assessment – Alternative 1

The CGTO knows Depleted Uranium (DU) poses a threat to all living animals, plant life, water and air. The continued use of this material puts the environment and cultural landscape at risk and creates challenges for proper mitigation strategies. The CGTO must be called upon to intervene by conducting traditional ceremonies to restore ecological balance of the cultural landscape within the NTTR.

Native American Perspective: Spills and Aircraft Mishaps – Alternative 1

The CGTO recognizes it is impossible to guarantee that spills will never occur on the NTTR. As co-stewards of the land, the CGTO must be notified when spills occurs and how they will be cleaned up. The CGTO plays an integral role in the restoration process and must properly evaluate appropriate cultural intervention needed to restore ecological balance within the cultural landscape that encompasses the NTTR.

Native American Perspective: Department of Energy Environmental Restoration Program – Alternative 1

The CGTO knows it is necessary to visit contaminated sites and be notified when cleanup begins and concludes. As co-managers of these lands, we share the responsibility of protecting our traditional homelands. The CGTO knows complete restoration of contaminated sites is essential for completely restoring cultural resource integrity.

Native American Perspective: Solid Waste – Alternative 1

The CGTO does not support the disposal of solid waste at the NTTR and recommends that all solid waste be removed as it is generated to prevent further environmental hazards. Many times, during tribal monitoring sites have been discovered that were previous landfills for waste that became unearthed during major precipitation events.

Under these circumstances, large debris fields developed that further polluted the environment and cultural landscape.

3.12.4.7 Native American Perspective: Hazardous Materials and Solid Wastes Environmental Consequences – Alternative 2

Native American Perspective: Hazardous Materials – Alternative 2

The CGTO disagrees with limited impacts associated with providing ready access and the continued use of hazardous materials in the North and South ranges. The CGTO believes with a projected increase in operations by 30%, it is reasonable to expect there will [be] a proportionate impact or result of increased introduction of hazardous materials, munitions or other non-natural materials corresponding to increased activities. While there may not be a direct correlation, it can be reasonably assumed an increase is inevitable.

The CGTO knows hazardous materials can cause problems to the environment. The CGTO must be notified of spills or contamination releases to determine culturally appropriate activities that should be integrated into the remediation process. The CGTO remains committed to working closely with the Air Force in co-managing cultural resources and minimizing the effects from pollution, damage and imbalance that result from introducing hazardous chemicals into the living environment.

The CGTO knows cultural resources are interconnected and encompass more than physical structures or sacred sites. Natural resources within the NTTR are considered culturally sensitive and include but are not limited to plants and animals, natural formations, waterways, weather and astronomy be kept in cultural equilibrium in culturally appropriate ways. Native Americans rely on these resources to sustain life and to interact with the spiritual world as described in our traditional beliefs to keep the world in balance. If balance is not sustained, the land will react and change will occur, thus impacting cultural resources on the NTTR. The CGTO knows the complex views of tribal people must be respected in order to protect the area from contamination and other adverse effects that may destroy the cultural integrity of the landscape. It is the right and duty of Native Americans to protect these culturally sensitive resources from any contamination, pollution and other activities that seek to degrade or interfere with their existence.

Native American Perspective: Hazardous Waste Management – Alternative 2

The CGTO recognizes the importance of working collaboratively with the Air Force in its shared co-management responsibility to assist in the siting and disposal plans of newly identified waste streams. The CGTO knows to fulfill its cultural obligations to sustain our traditional homelands, tribal representatives must become proactive in managing important cultural resources rather than reacting after hazardous materials are released into the environment.

The CGTO knows cultural resources are interconnected and encompass more than physical structures or sacred sites. Natural resources within the NTTR are considered culturally sensitive and include but are not limited to plants and animals, natural

formations, waterways, weather and astronomy that must be kept in balance in culturally appropriate ways. Native Americans rely on these resources to sustain life and to interact with the spiritual world as described in our traditional beliefs to keep the world in balance. If balance is not sustained, the land will react and change will occur, thus impacting cultural resources on the NTTR. The CGTO knows the complex views of tribal people must be respected in order to protect the area from contamination and other adverse effects that may destroy the cultural integrity of the landscape. It is the right and duty of Native Americans to protect these culturally sensitive resources from any contamination, pollution and other activities that seek to degrade or interfere with their existence.

Native American Perspective: Environmental Restoration and Monitoring Programs – Alternative 2

The CGTO disagrees there will be "no adverse impact" on the environment with increased operations and failure to clean up or restore contaminated sites. Currently, there are certain locations on NTTR that are contaminated and pose threats to the our traditional homelands. It can be reasonably assumed that threats to culturally sensitive areas will continue without cultural intervention by the CGTO.

Native American Perspective: Solid Waste – Alternative 2

The CGTO does not support disposing of solid waste at the NTTR and recommends that all solid waste be removed as it is generated to prevent further environmental hazards. The CGTO knows during Tribal monitoring activities, former landfill sites have been identified that were used for disposing waste. These sites were revealed after major precipitation events left behind large debris fields that caused further cultural pollution onto the environment and within the cultural landscape.

Restoration of solid waste sites and debris fields requires tribal involvement in consultation with the CGTO. Solid waste is derived from an unnatural occurrences that create ecological imbalance that cannot be ignored. The Air Force should work closely with the CGTO to develop a solid waste management plan [that] is culturally acceptable to the extent practicable.

3.12.4.8 Native American Perspective: Hazardous Materials and Solid Wastes Environmental Consequences – Alternative 3

The CGTO needs further explanation as to why two runways would be constructed but would not be used for aircraft as described in Alternative C. Construction of runways will disturb the land, minerals, plant life, and wildlife. Negative impacts to the physical, spiritual, and visual integrity will occur for no apparent reason. Therefore, it is not understood why construction or alteration to the cultural landscape is necessary.

The CGTO has strong cultural ties to the NTTR. An alteration to the natural environment requires tribal notification and involvement in any construction and/or survey of the land prior to the commencement of construction activities associated with runway development and fence installation.

The CGTO disagrees with the LEIS analysis that hazardous materials, hazardous waste management, environmental restoration and monitoring program sites and solid waste will not be impacted because no maintenance will occur in the expanded lands. The CGTO asserts with a projected increase in operations, it is reasonable to expect there will be a proportionate impact or result of increased introduction of hazardous materials, munitions, or other non-natural materials corresponding with increased activities. While there may not be a direct correlation, it can be reasonably assumed an increase is inevitable.

The CGTO knows hazardous materials can cause problems to the environment. The CGTO must be notified of spills or contamination releases to determine culturally appropriate activities that should be integrated into the remediation process. The CGTO remains committed to working closely with the Air Force in co-managing cultural resources and minimizing the effects from pollution, damage and imbalance that result from introducing hazardous chemicals into the living environment.

The CGTO knows cultural resources are interconnected and encompass more than physical structures or sacred sites. Natural resources within the NTTR are considered culturally sensitive and include but are not limited to plants and animals, natural formations, waterways, weather and astronomy that must be kept in cultural equilibrium in culturally appropriate ways. Native Americans rely on these resources to sustain life and to interact with the spiritual world as described in our traditional beliefs to keep the world in balance. If balance is not sustained, the land will react and change will occur, thus impacting cultural resources on the NTTR. The CGTO knows the complex views of tribal people must be respected in order to protect the area from contamination and other adverse effects that may destroy the cultural integrity of the landscape. It is the right and duty of Native Americans to protect these culturally sensitive resources from any contamination, pollution and other activities that seek to degrade or interfere with their existence.

3.12.4.9 Native American Perspective: Hazardous Materials and Solid Wastes Environmental Consequences – Alternative 4

The CGTO understands military activities on the NTTR are necessary and integral to national security and protecting the interests of the United States. The proposed period of withdrawals range from 20 and 50 years period to an indefinite withdrawal, spans a wide range of time with multiple variables to the traditional homelands of the CGTO possible.

At the same time, the CGTO has a cultural obligation to look after the best interests of the land and to sustain the perpetuation of Native culture. The CGTO maintains that a collaborative relationship is vital with the Air Force is vital in protecting culturally sensitive resources and the cultural equilibrium that is necessary for both to co-exist on the NTTR. Communication with the CGTO remains ongoing with special consideration given to addressing tribal concerns in advance, while maintaining reasonable access to the cultural resource locations on the NTTR. Special provisions must be made to access sacred sites and other culturally sensitive areas to continue religious

ceremonies, achieve access to traditional foods and medicines and most importantly to care for the land, animals and other resources.

While there is great disparity between the proposed periods of withdrawal, the CGTO knows the NTTR will always fall within our traditional homelands as we fully integrate co-management opportunities of the resources that are vital to our mutual interests and co-existence. The CGTO believes, provisions must be included to fund and sustain tribal interactions through an institutionalized Native American Program with culturally affiliated tribes.

3.12.4.10 Native American Perspective: Hazardous Materials and Solid Wastes Environmental Consequences – No Action Alternative

Native American Perspective: Hazardous Materials – No Action Alternative

The CGTO finds it necessary to work with all federal agencies on a government-to-government basis and serving as co-managers to monitor hazardous materials use, disposal and reclamation necessary to preserve the land regardless of future decisions pertaining to land status.

The CGTO disagrees that the analysis of hazard materials would cease completely and asserts with a projected increase in operations, it is reasonable to expect there will be a proportionate impact or result of increased introduction of hazardous materials, munitions or other non-natural materials corresponding to increased activities. While there may not be a direct correlation, it can be reasonably assumed an increase is inevitable.

The CGTO knows hazardous materials can cause problems to the environment. The CGTO must be notified of spills or contamination releases to determine culturally appropriate activities that should be integrated into the remediation process. The CGTO remains committed to working closely with the Air Force in co-managing cultural resources and minimizing the effects from pollution, damage and imbalance that result from introducing of hazardous chemicals into the living environment.

The CGTO knows cultural resources are interconnected and encompass more than physical structures or sacred sites. Natural resources within the NTTR are considered culturally sensitive and include but are not limited to plants and animals, natural formations, waterways, weather and astronomy that must be kept in cultural equilibrium in culturally appropriate ways. Native Americans rely on these resources to sustain life and to interact with the spiritual world as described in our traditional beliefs to keep the world in balance. If balance is not sustained, the land will react and change will occur, thus impacting cultural resources on the NTTR. The CGTO knows the complex views of tribal people must be respected in order to protect the area from contamination and other adverse effects that may destroy the cultural integrity of the landscape. It is the right and duty of Native Americans to protect these culturally sensitive resources from any contamination, pollution and other activities that seek to degrade or interfere with their existence.

Native American Perspective: Hazardous Waste Management – No Action Alternative

The CGTO finds it necessary to work with all federal agencies on a government-to-government basis and work closely with the Air Force as co-managers to monitor hazardous materials use, disposal and reclamation to preserve the land regardless of future decisions pertaining to land status.

Native American Perspective: Environmental Restoration and Monitoring Programs – No Action Alternative

The NTTR falls within the traditional homelands of the CGTO. The existing and proposed areas must include provisions for involving the CGTO in projects to restore traditional homelands to a condition that is culturally compatible with the CGTO and Air Force mission. The CGTO knows tribal epistemology is based on sustaining the natural ecosystem and the resources provided on the land which in turn give back to all life in the NTTR.

In an attempt to sustain environmental restoration and monitoring programs, the CGTO and Air Force must work in tandem as co-managers to restore the land using traditional ecological knowledge to sustain a healthy ecosystem. This collaborative project supports the NTTR mission and can be mutually beneficial for the CGTO and Air Force.

Native American Perspective: Solid Waste – No Action Alternative

The CGTO believes the cultural integrity of our traditional homelands is vital to perpetuating and sustaining tribal culture. The CGTO continues to advocate that any waste generated on the NTTR be removed to preserve the cultural integrity and restore balance of the resources within the traditional homelands of the CGTO.

3.13 HEALTH AND SAFETY

For the Native American perspective on information in this section, please see Section 3.13.4 and Appendix K, paragraph 3.13.1.1.1.

3.13.1 Affected Environment

3.13.1.1 Description of Resource

This section discusses the affected environment in terms of ground, flight, and munitions safety for activities conducted by units operating within the ROI. *Ground safety* considers fire risk and management, as well as safety issues associated with training operations. *Flight safety* considers aircraft flight risks such as aircraft mishaps and bird/wildlife-aircraft strike hazards (i.e., BASH). *Munitions safety* considers the use and handling of ordnance associated with operations and training activities.

3.13.1.2 Region of Influence

The ROI for safety includes the NTTR and its immediate vicinity, as well as military training airspace used by aircrews who are training on the range. This ROI includes the range property and is expanded, on a limited basis, to include specific elements of

military training airspace that support range operations, including the restricted airspaces or operating areas directly associated with range operations.

3.13.1.3 Wildland Fire Risk and Management/Ground Safety

Wildland Fire Risk and Management

Fire is defined as one of two types: wildfire (or wildland fire) and prescribed fire. As defined in AFI 32-7064, *Integrated Natural Resources Management*, wildland fire is any non-structure fire that occurs on wildland and includes both: (1) wildfires, to include unplanned natural fires (e.g., lightning), munitions-caused fires, unauthorized human-caused fires, and escaped prescribed fire projects, and all other unplanned wildland fires, and (2) prescribed fires purposely ignited by natural resource managers to meet specific land management objectives. Prescribed fires are any fire intentionally ignited by management to meet specific land management objectives identified in a written and approved prescribed fire plan. Wildfire can be both beneficial and destructive, sometimes both at the same time. Management-ignited fire (prescribed fire) is controlled (unless it escapes) and can be low, moderate, or high intensity.

Fire can and often does provide an ecological benefit, but the situation and conditions vary and are often dependent on the natural resource management prescription. Any fire may have beneficial effects (e.g., high severity crown fire in late stage pinyon-juniper can be a normal and an expected ecological process).

However, wildfires can result in a number of serious impacts. Wildfire can threaten firefighter and military personnel safety, as well as military assets and infrastructure. Fires also have the potential to negatively impact mission requirements, resulting in target downtime or possibly limiting the future usability of target areas. Wildfires that start on the NTTR could spread to neighboring private and public lands, threatening homes in the wildland-urban interface/intermix and causing damage to natural and cultural resources. Similarly, wildfires originating on lands adjacent to the NTTR could impact the military mission and natural and cultural resources. Wildfire smoke can also impact aviation and ground personnel safety, as well as nearby communities and sensitive populations. Smoke from prescribed fires could also be an impact; however, prescribed fire smoke is usually much less and can be mitigated in prescribed fire plans and prescribed fire operations.

The vegetation most susceptible to fire on the NTTR is the pinyon-juniper woodlands, grass, and shrublands. Susceptibility to fire increases significantly as the canopy of the woodland closes. Lightning is the most common ignition source of fires on the NTTR. Military-related ignition sources could include munitions, flares, or aircraft/drone crashes. All of the target areas are located in bare ground or grassland areas and not in pinyon-juniper woodlands, so exploding munitions is not usually a source of fire in these areas. Grass/shrub range, especially when ephemeral annual grass fuels are present, as well as juniper woodlands, would be susceptible to fires caused by lightning, flares, or aircraft crashes. Uncommon but possible sources include military and authorized access personnel (contractor) actions such as smoking, welding, and equipment-related ignitions. One method of reducing contractor-related incidents is through fire prevention, mitigation, and education, which seek to evaluate, mitigate, and

prevent human-caused fires. Fire prevention, mitigation, education, and outreach are standard functions of most federal fire management programs and are used at the NTTR.

Historically, every 8 to 12 years, vegetation in the North and South Ranges receives sufficient winter rainfall to produce vegetation that provides enough fuel load to support wildfires, which is common in the Mojave and Great Basin systems. In addition, many of the mountainous areas that do not support pinyon-juniper woodlands do support plant communities that are sparse, with minimal litter and fuel biomass (U.S. Air Force, 2012c).

Table 3-48 lists fires that have been reported at the NTTR during the period of 1984 to 2010. Between 1978 and 2010, DOE also recorded a total of 380 fires on DOE-managed lands. Approximately 6,100 acres were burned, with an average of roughly 200 acres per fire. Nearly 12 percent of these fires were associated with ordnance training, with another 6 percent from other human-related causes (e.g., cigarettes, vehicle exhaust, electrical, generator malfunction). The rest of the fires were the result of lightning (52 percent) or were from undetermined sources (30 percent) (U.S. Air Force, 2010; DOE, 2013).

Table 3-48. Reported Fires at NTTR (1984 to 2010)

Total Reported Fires	49
Total Acres Burned	59,198
Average Acres Burned per Year	2,193
Average Fires per Year	1.8
Average Fire Size (Acres)	1,741

Source: (U.S. Air Force, 2012c)

Since fire records have not been maintained and wildfires have not been historically investigated on the NTTR, the total number and annual distribution of lightning-ignited wildfires occurring on NTTR lands is not known. Several informal helicopter surveys conducted in February 2008 observed evidence of a number of unreported wildfires occurring on the NTTR. These fires apparently ignited in remote, inaccessible areas, making fire detection difficult. A significant number of these fires were likely caused by lightning (U.S. Air Force, 2012c).

To minimize the danger of fires, climatic conditions may restrict the types of munitions used during portions of the year. Weather that is conducive to fire on the NTTR can occur at any time of the year at any elevation, but the predominant season at lower elevations is during the spring and early summer, and late spring through summer at higher elevations (U.S. Air Force, 2012c).

The Las Vegas National Weather Service office issues Fire Weather Watches and Fire Weather Red Flag Warnings, indicating critical “fire weather” patterns that contribute to extreme fire danger and/or fire behavior. A Fire Weather Watch alerts agencies to the high potential for development of a Fire Weather Red Flag Warning in the next 12- to 72-hour timeframe. Fire danger and weather assessments are coordinated at the local, regional and national levels. Note: The National Weather Service only identifies

potential fire-suitable weather. Other fire markers, such as the potential presence of readily available fuels, are developed by other state and federal wildland fire agencies.

A Watch may be issued in the first 12-hour time period only for an expected dry thunderstorm event. A Fire Weather Red Flag Warning alerts agencies when the Fire Weather Red Flag weather criteria (defined below) are occurring or forecasted to occur within the next 24 hours and are coupled with critical fuels conditions. Each Fire Weather Watch or Red Flag Warning issuance, update, or cancellation that occurs between normal forecast times will be relayed to the interagency dispatch offices that are affected by the watch/warning. The criteria for a Fire Weather Red Flag Warning include the following (U.S. Air Force, 2012c):

- Fuel moistures are critically low.
- Sustained winds are greater than or equal to 20 miles per hour (mph) or gusts greater than or equal to 35 mph, for three or more hours, and relative humidity is less than or equal to 15 percent.
- Dry thunderstorms are predicted with area coverage designated as widely scattered or as greater than 15 percent of a fire weather zone.

Some military testing and training events involve activities, such as aerial bombing, aerial flares employment, ground forces training, and target maintenance, that inherently have a potential to ignite wildland fires. In most cases, these activities are accomplished on or over playas where the potential for wildland fire ignition is low. However, flares may be released anywhere over the NTTR during military operations and present potential ignition sources if they land on the ground while still burning. The following operational requirements were established to limit flare deployment to reduce this concern (U.S. Air Force, 2012c):

- Set minimum flare release altitudes, depending on flare types, that allow the flares to burn out well before reaching the ground.
- The minimum flare release altitude is 5,000 feet AGL over manned sites, ground parties, in the MOAs and Pahute Alpha/Bravo, or within 3 NM of forested areas. However, minimum altitudes may be less than 5,000 feet if ground and surface conditions do not pose a potential for fire.
- During days with Fire Weather Watches or Red Flag Warnings and/or National Fire Danger Rating System adjective fire danger levels of “Very High” or “Extreme,” no flares of any type will be permitted on the NTTR below 5,000 feet AGL.

The Air Force and DOI (including BLM and USFWS) follow the same national fire policy. The Review and Update of the 1995 Federal Wildland Fire Management Policy (January 2001) is the primary wildland fire policy document for federal agencies, and establishes the guiding principles, policies, and implementation actions for wildland fire management on federal lands. The DOI Departmental Manual (DM) 620 DM 1 *Wildland Fire Management Policy and Program Management* (2017) sets policy for the BLM and the USFWS and is essentially the same policy direction as that of the Air Force (prescribed under AFI 32-7064, *Integrated Natural Resources*). These policies require

agencies to provide an integrated, intergovernmental approach to the management of wildland fires. Wildfires occurring on federal lands will have a response consistent with firefighter safety, known and potential hazards, and resource values at risk. Acceptable response to a wildfire incident shall be consistent with the direction specified in the installation Wildland Fire Management Plan and may incorporate the full range of suppression options ranging from containment and monitoring to direct attack and full suppression, while keeping firefighter and public safety as the top priorities.

Additionally, Section 3014, *Management of Lands*, of P.L. 106-65, describes the Secretary of the Interior's authority for the BLM and USFWS. Specifically, the Secretary of the Interior shall manage the lands withdrawn by Section 3011 pursuant to the *Federal Land Policy and Management Act of 1976* (i.e., the FLPMA), and the Secretary shall manage the lands within the Desert National Wildlife Refuge in accordance with the *National Wildlife Refuge System Administration Act of 1966*. As such, the BLM has established and maintains a Resource Management Plan and Fire Management Plan that includes the NTTR as prescribed under P.L. 106-65 and FLPMA. NTTR managers have developed and implemented a Wildland Fire Management Plan to address fire-related issues (Note: Currently the Wildland Fire Management Plan is not linked to BLM or USFWS fire management plans.) Nellis AFB, the Small Arms Range, and Creech AFB are not included as part of the plan because there is little to no potential for wildland fire for these areas and any fire response would be carried out under local fire control laws. Additionally, Nellis AFB and the Small Arms Range have established agreements with the City of North Las Vegas for coordination of resources for control of any fires that might occur on that facility. Creech AFB has a mutual aid agreement with the Clark County Fire Department and an agreement with the DOE NNSS Fire and Rescue (U.S. Air Force, 2012c).

Established procedures require that any wildland fire observed on the NTTR is documented by a fire report immediately after the fire. The Incident Commander is responsible for assisting BLM in completing a fire report (U.S. Air Force, 2012c).

Currently, the USAFWC has no internal personnel certified to fight wildland fires. All wildfire suppression requires the assistance of other federal and state agencies. If a wildland fire occurs on NTTR, fire suppression activities will be requested from BLM in the North Range or USFWS in the South Range, in accordance with established procedures. Generally, BLM would respond to non-military fires inside and near the Air Force boundary and within withdrawn lands, while the Air Force would have primary responsibility for military-caused fires. Regardless of the actual cause, fire response for any fire would be a collaborative effort, as it is mutually beneficial for the Air Force and BLM to manage fires in accordance with their respective land use plans. Note: The Memorandum of Agreement between the BLM Nevada State Office and Nellis AFB titled "Wildland Fire Management Activities at Nevada Test and Training Range" (2010) expired in 2015. The 2010 agreement implies that the BLM would provide fire response upon Air Force request to the South Range, which is USFWS-managed withdrawn lands. The BLM, USFWS, and the Air Force are currently working to establish a formal Memorandum of Understanding, as required by P.L. 106-65. (Note: The Air Force and

BLM National Fire and Aviation Directorate have entered into an Interagency Agreement (2017), which includes wildland fire management.)

Ensuring the safety of firefighters and other persons affected by fire operations is fundamental to successful fire suppression. Adherence to safety protocols is critical before participation in any wildland fire management activity. All personnel being deployed into an area immediately dangerous to life and health will be initially briefed regarding appropriate personal protective equipment, hazards, lookouts, escape routes, and safety zones. Communication links between firefighters and personnel in aircraft overhead personnel will be established and tested before engaging in fire suppression activities (U.S. Air Force, 2012c).

In addition, the Air Force recognizes that the USFWS Nevada Zone Fire Management Office has jurisdictional wildfire protection responsibility for USFWS lands. These responsibilities include fire suppression, fire management, and hazard fuel treatments.

Using these responsibilities as guidance, the Air Force will continue to cooperate with the USFWS Nevada Zone Fire Management Office where appropriate by notifying the Office of all wildfires on or within 1 mile of range lands that are co-managed by both the Air Force and USFWS as soon as practical.

The Air Force will continue to provide input on a Community Protection Plan, as applicable. This will include identifying hazard fuel treatment areas on co-managed lands. Additionally, the Air Force will cooperate, as appropriate, on fire management preparedness and response through the use of the Wildfire Decision Support System.

Ground Safety

Operational Safety – Operations and maintenance activities conducted at the NTTR are performed in accordance with applicable Air Force safety regulations, published Air Force Technical Orders, and standards prescribed by Air Force occupational safety and health requirements, such as AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*. Contractors working on the base must prepare appropriate job site safety plans explaining how job safety will occur throughout the life of a project. Contractors must also follow applicable Occupational Safety and Health Administration (OSHA) requirements.

To minimize the potential for starting fires, training activities are conducted according to established procedures that dictate restrictions on the types of munitions used during portions of the year to minimize the danger of fires. This includes evaluating the fire danger status and whether Fire Weather Watches or Red Flag Warnings have been issued.

Lasers – Many aircraft operating at the NTTR are equipped with laser targeting capability. Approximately 80 percent of the targets on the NTTR are approved for laser use. As part of this approval, each individual target and target complex is surveyed by a quality assurance evaluator to ensure that no hazards, such as standing water or other reflective surfaces are present in the target area. Only those targets that pose no threat to human health or safety are approved for lasing. If necessary to ensure safety, detailed operational constraints applicable to specific targets (limitations on the axis of

attack, dive angles, etc.) are documented. Protection levels and requirements associated with the use of lasers are outlined in AFI 48-139, *Laser and Optical Radiation Protection Program*. Lasers would not be of sufficient power to start fires or to pose health hazards to personnel outside the immediate training area.

Electromagnetic Radiation and Radio Frequency Emissions – To provide realism in training, threat simulation RF electronic emitters (radars) are located throughout the electronic combat ranges. The majority of this equipment is radar that simulates a threatening aircraft.

RF energy is absorbed by an animal or human body in the form of heat. At relatively low RF energy intensities, the heat induced can usually be accommodated by a body. Thus, any effects produced would generally be reversible. At high intensities, the thermoregulatory capabilities of any given species may be exceeded, which could lead to thermal distress or even irreversible thermal damage.

The radar units are normally placed on elevated ground and then emit skyward. They are not pointed at the ground or placed along roadways. The safe separation distances between the emitters and people or other equipment are provided in feet with the greatest distance under 1,000 feet (Bechtel SAIC Company, 2007).

RF emitters (radar jamming) used on aircraft pose no hazard to the public due to the aircraft's altitude, the energy levels used by the equipment, and the speed of the aircraft. Additionally, frequency management ensures that these transmitters do not create interference with other federal or civil transmitters or receivers. Radio frequency emissions near the Nevada Test Site are coordinated with the DOE, because there are communication and other electronic equipment at the Nevada Test Site that are sensitive to RF emissions. Thus, RF emissions are coordinated through the appropriate Spectrum Management Office to facilitate testing and training (Bechtel SAIC Company, 2007).

Protection levels and requirements associated with the use of emitters are outlined in AFI 48-109, *Electromagnetic Field Radiation (EMFR) Occupational and Environmental Health Program*.

3.13.1.4 Flight Risks

Aircraft Mishaps

It is impossible to predict when and if an aircraft accident may occur. Major considerations in any accident are loss of life and damage to property. The probability of an aircraft crashing into a populated area is extremely low, but it cannot be totally discounted. Several factors are relevant in the case of the NTTR. The surrounding region is made up primarily of natural or rural areas with relatively low population densities; military pilots are instructed to avoid direct overflight of population centers at very low altitudes; and, finally, the limited amount of time the aircraft is over any specific geographic area limits the probability that a disabled aircraft would crash into a populated area.

The NTTR has established a comprehensive aircraft mishap prevention program, as required by AFI 91-202, *U.S. Air Force Mishap Prevention Program* (U.S. Air Force,

2016f), to minimize loss of Air Force resources and protect personnel from death or injuries. Elements of the mishap prevention program include establishing:

- A process for tracking and trending incidents, as well as methods for determining program effectiveness.
- Metrics for measuring performance.
- Safety goals, objectives, and milestones that support Air Force established goals.
- Methods to identify and disseminate safety "best practices."

The Air Force defines four categories of aircraft mishaps: Classes A, B, C, and High Accident Potential. Class A mishaps result in a loss of life, permanent total disability, a total cost in excess of $1 million, destruction of an aircraft, or damage to an aircraft beyond economical repair. Class B mishaps result in total costs of more than $200,000, but less than $1 million, or result in permanent partial disability, but do not result in fatalities. Class C mishaps involve costs of more than $10,000, but less than $200,000, or a loss of worker productivity of more than eight hours. The High Accident Potential category represents minor incidents not meeting any of the criteria for Class A, B, or C. Class C mishaps and High Accident Potential events, the most common types of occurrences, represent relatively unimportant incidents because they generally involve minor damage and injuries, and rarely affect property or the public. This document focuses on Class A mishaps because of their potentially catastrophic results.

Over the last 10 years, there have been five Class A mishaps associated with manned aircraft operations in the NTTR region. Additionally, there have also been four mishaps associated with UAVs (Table 3-49). These smaller aircraft require no pilot on board. UAVs can be remote-controlled (e.g., flown by a pilot at a ground control station) or can fly autonomously using pre-programmed flight plans or more complex dynamic automation systems. Most of these mishaps occurred on NTTR ranges; however, in June 2016 an MQ-9 Reaper UAV crashed on the public, or east side, of the DNWR (in Area 63B High). The crash site was located approximately 7.5 miles north west of the Corn Creek visitor center and approximately 0.25 mile west of Alamo Road, a public access road. The crash resulted in approximately 1 acre of Mojave Desert habitat being burned. No injuries occurred (Christensen, 2016).

Table 3-49. Historical Mishaps at NTTR (2006–2016)

Report Date	Type Aircraft	Location
August 2008	Tornado GR-4	TPK-39, NTTR
July 2008	F-15	Railroad Valley MOA
February 2009	HH-60	Nellis AFB, 60 miles east of Tonopah
June 2011	F-16C	20 miles west of Caliente, Nevada
August 2013	CV-22	Range 64F
October 2013	UAV	Range 63B
October 2013	UAV	Range 65C
December 2014	UAV	Range 64F
June 2016	UAV	Area 63B High
August 2016	HH-60	Basin and Range National Monument

Source: (Christensen, 2016 Historical aircraft mishap data for Nevada Test and Training Range (NTTR), 2016)
AFB = Air Force Base; MOA = Military Operations Area; NTTR = Nevada Test and Training Range; UAV= unmanned aerial vehicle

In case of an in-flight emergency, military pilots are trained to take all appropriate emergency measures, including avoiding populated areas if at all possible. Well-established emergency response procedures are currently in place, if a mishap does occur. When normal, scheduled flying is in progress, the NTTR maintains highly trained emergency response teams.

If an aircraft accident occurs on non-federal property, the agency initially responding would likely be the local fire department. Mutual aid agreements for firefighting assistance on the NTTR have been established with Las Vegas, North Las Vegas, Boulder City, Henderson, and Clark County. The local fire departments may also request assistance in the case where a fire has spread into wildland. Note: Only some of the fire departments have wildland capability, and those that do, often request federal agency assistance with wildfires.

Once the situation is stabilized, an investigation area would normally be established around the accident scene. Air Force personnel would secure the site, and the investigation phase would ensue. After all required investigations and related actions on the site are complete, Air Force personnel would remove the aircraft.

Since the NTTR includes portions of the DNWR, additional effects could result from an aircraft mishap in these areas. The lands comprising the DNWR are managed by the USFWS as a National Wildlife Refuge, with special steps taken to preserve wilderness values of areas proposed for wilderness. To support these management objectives, the Air Force is party to agreements with the USFWS that place some restrictions on military operations conducted over some of these lands. These restrictions include such steps as establishing minimum flight altitudes. Steps such as these not only minimize intrusiveness on wilderness values, but also enhance safety by limiting the risks associated with low-altitude flight.

Should a mishap occur in these areas, response and recovery operations could require the use of motorized vehicles and excavation to contain contamination. This type of activity is normally prohibited in wilderness areas. While these actions could result in damage to the wilderness characteristics of the area, the Air Force would attempt to minimize direct damage and intrusiveness to the greatest extent practicable, consistent with national security considerations and the need to protect life and property from further risk.

Overall, the goals of these response procedures are to: (1) save lives, property, and material by timely and correct response to mishaps; (2) quickly and accurately report mishaps to higher headquarters; and (3) investigate the mishap to prevent the recurrence of the same or a similar mishap.

Bird/Wildlife Aircraft Strike Hazard

Bird-aircraft strikes constitute a safety concern because of the potential for damage to aircraft or injury to aircrews or local populations if an aircraft crash should occur. From 2005 to 2014 (the most recent year that data is available), the Air Force BASH Team documented 47,135 bird/wildlife strikes across the entire Air Force. Of these,

17 resulted in Class A mishaps. During the same period, the Air Force logged over 1.9 million flying hours (U.S. Air Force, 2016g).

Although aircraft may encounter birds at altitudes of 30,000 feet above sea level or higher, most birds fly close to the ground. Over 97 percent of reported bird strikes occur below 3,000 feet AGL. Approximately 30 percent of bird strikes happen in the airport environment, and almost 55 percent occur during low-altitude flight training. Other wildlife, such as deer, also present a collision danger to aircraft during takeoff or landing.

A bird-aircraft strike hazard exists at the NTTR and its vicinity due to resident and migratory bird species. Migratory waterfowl (e.g., ducks, geese, and swans) are hazardous to low-flying aircraft because of their size and their propensity for migrating in large flocks at a variety of elevations and times of day. Waterfowl are usually only a hazard during migratory seasons (fall and spring). These birds typically migrate at night and generally fly between 1,500 to 3,000 feet AGL during the fall migration and from 1,000 to 3,000 feet AGL during the spring migration.

The Air Force BASH Team maintains a database that documents all reported bird-aircraft strikes. Historical information indicates that from 2006 to 2016, a total of 151 bird/wildlife-aircraft strikes occurred throughout the NTTR environment. These resulted in total damages in the amount of approximately $480,000 (Shepherd, 2016). None of these resulted in a Class A mishap.

To minimize the potential for bird/wildlife-aircraft strikes, Nellis AFB has implemented an aggressive BASH program, including development of a BASH Plan (Nellis AFB, 2003). As part of this program, Nellis AFB has established a Bird Hazard Warning System to report significant bird activity noted at the NTTR. This system is used for the immediate exchange of information between ground agencies and aircrews concerning the existence and location of birds that pose a hazard to safe flying operations. Based on the potential for bird hazards, the following Bird Watch Conditions have been established:

- Bird Watch Condition **SEVERE**: heavy concentration of birds on or immediately above the active runway or other specific locations that represent an immediate hazard to safe flying operations. Aircrews must thoroughly evaluate mission need before operating in areas under condition SEVERE.
- Bird Watch Condition **MODERATE**: concentrations of birds observed in locations that represent a probable hazard to safe flying operations. This condition requires increased vigilance by all agencies and extreme caution by aircrews.
- Bird Watch Condition **LOW**: normal bird activity on and above the airfield with a low probability of hazard.

During periods of flight operations, the Bird Watch Conditions are updated in the hourly Automated Terminal Information System (ATIS) information. Additionally, when the Supervisor of Flying declares Bird Watch Condition MODERATE or SEVERE, the

Supervisor of Flying immediately notifies the Air Traffic Control tower, and Base Operations, local flying squadrons, and the Wing Commander's office are also notified.

Each flying unit must verify the Bird Watch Condition prior to commencing flying operations. Additionally, the Bird Watch Condition is included in the hourly ATIS information if the condition is either MODERATE or SEVERE. The absence of an advisory on the ATIS means the Bird Watch Condition is LOW. Any change in Bird Watch Condition is transmitted on Control Tower Frequency by the Supervisor of Flying. Finally, all personnel working on or near the airfields must be perceptive to potentially hazardous bird activity and must immediately notify the Base Operations Office of any such activity (Nellis AFB, 2003).

Operational changes are also made to avoid areas and times of known hazardous bird concentrations, to the extent permitted by a mission. Several actions may be implemented during periods of increased bird activity (Nellis AFB, 2003), such as raising traffic pattern altitude; changing traffic pattern direction or altitudes to avoid bird concentrations; avoiding takeoffs and landings at dawn/dusk, plus or minus one hour; limiting or prohibiting formation takeoffs and landings; and rescheduling local training or moving the training to a different location.

3.13.1.5 Munitions Use and Handling

Personnel at Nellis AFB control, maintain, and store all ordnance and munitions required for mission performance on NTTR. This includes training and inert bombs and rockets, live bombs and rockets, chaff, flares, gun ammunition, small arms ammunition, and other explosive and pyrotechnic devices. Ordnance is handled and stored in accordance with Air Force Manual 91-201, *Explosives Safety Standards*, and all munitions maintenance is carried out by trained, qualified personnel using Air Force-approved technical data. Sufficient storage facilities exist for the current types and amounts of ordnance, and all facilities are approved and sited for the ordnance they store.

Small arms training with blank rounds may also occur within withdrawal areas. Blanks are a type of cartridge containing gunpowder but no bullet or shot. Blanks use paper or plastic wadding to seal gunpowder into the cartridge. When fired, the blank makes a flash and an explosive sound (report), and the wadding is propelled from the barrel of the gun.

Chaff and flares are also used throughout the NTTR. Their use is controlled in accordance with standard operating procedures detailed in AFI 13-212. The types of use, locations, and altitudes authorized for release vary, depending on the type of chaff and flares used. When fire danger is extreme, all flare use is curtailed.

Chaff is small fibers of aluminum-coated mica packed into approximately 4-ounce bundles and ejected by aircraft to reflect radar signals. When dispensed from an aircraft, chaff forms a brief "cloud" that temporarily hides the aircraft from radar detection. Although the chaff may be ejected from an aircraft using a small pyrotechnic charge, the chaff itself is not explosive. Chaff is composed of silicon dioxide fibers

ranging in diameter from 0.7 to 1 mil (thousandth of an inch), coated by an aluminum alloy and a slip coating of stearic acid (fat). Analyses of the materials comprising chaff indicate that they are generally non-toxic in the quantities used (U.S. Air Force, 1997b).

Silicon dioxide is an abundant compound in nature that is prevalent in soils, rocks, and sands. The trace quantities of metals included in the mica fibers are not present in sufficient quantities to pose a health risk. Aluminum is one of the most abundant metals in the earth's crust and water. In general, aluminum is regarded as non-toxic. Trace quantities of silicon, iron, copper, manganese, magnesium, zinc, vanadium, or titanium may be found in the alloy. The quantities involved are a minuscule percentage of levels that might cause concern. Stearic acid is found naturally as a glyceride in animal fat and some vegetable oils. Chaff has also been test-fired in a controlled environment to determine its potential to break down into respirable particulates (PM_{10}). The findings of the test detected no PM_{10} (U.S. Air Force, 1997b).

Flares consist of small pellets of highly flammable material that burn rapidly at extremely high temperatures. The purpose of defensive flares is to provide a heat source other than the aircraft's engine exhaust to mislead heat-sensitive or heat-seeking targeting systems and decoy them away from the aircraft.

Use of live munitions during training is limited to ranges within Restricted Airspace. Air Force safety standards require safeguards on weapons systems and ordnance to ensure against inadvertent releases. All munitions mounted on an aircraft, as well as the guns carried in the aircraft, are equipped with mechanisms that preclude release or firing without activation of an electronic arming circuit.

If a malfunction prevents ordnance release during a mission, and the pilot must return to the base with "hung" ordnance (i.e., any ordnance of which an attempt to release, jettison, launch, or fire from an aircraft did not actuate as designed), the aircraft is parked in revetments in the hung ordnance area while the ordnance is rendered safe. This area is located east of Runway 03 Right and south of the Live Ordnance Loading Area (USFWS, 2012).

All ranges users must perform a dry/familiarization pass on that range before weapons delivery (day or night) for any of various training scenarios. Additionally, familiarization passes are required during the aircrew/aircraft operator's initial use of the range or if the aircrew/operator has not frequented the range within one year (USFWS, 2012).

On the day of a mission that employs munitions (practice or full-scale), each flight/mission lead shall confirm with Range Control the specific target, the planned ordnance on each target, and applicable restrictions (manned sites, etc.). In-flight "retargeting" exercises require approval of the Range Control Officer before expending ordnance on the new target, and the flight/mission lead shall confirm approval (USFWS, 2012).

Regulations also require that personnel conduct an explosives safety hazard assessment before each range clearance. The assessment shall include, at a minimum, the rationale for the range clearance, the number of personnel required, support requirements, the types of military munitions anticipated to be encountered, the most

hazardous munition expected, and expected UXO densities. All hazard assessments must be updated when new hazards (e.g., military munitions types) are identified or new technologies or procedures are used (DoD, 2005). To further ensure public safety, NTTR personnel perform an annual assessment to establish specific weapons restrictions, procedures, armament switch settings, and so on, for aircraft that deliver ordnance on the range.

Finally, the fire danger status is evaluated prior to training events to ensure that the types of munitions used are appropriate to minimize the danger of fires.

3.13.2 Environmental Consequences

The Air Force recognizes that it is difficult to determine significance at the programmatic level. Should the areas associated with the any of the proposed alternatives be withdrawn for military use, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made. However, at a programmatic level, the Air Force has identified no adverse impacts to health and safety issues connected with the proposed alternatives overall.

3.13.2.1 Analysis Methodology

This section evaluates the potential for the proposed alternatives to increase safety risks, as well as the Air Force's capability to manage these risks. Safety includes issues related to fire risks and ground safety, as well as aircraft flight risks resulting from mishaps and bird/wildlife-aircraft strike hazards. Potential risks associated with the use and handling of munitions are also evaluated. Potential impacts related to safety were considered significant if proposed activities would endanger life or health or pose an unusual risk to military personnel or nearby residents and the general public off-site.

3.13.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

It is expected that the level of sortie operations would continue at current levels. Over the last 10 years, there have been five Class A mishaps associated with manned aircraft operations in the NTTR region. None of these mishaps resulted in injury to the public or damage to private property. Risks associated with aircraft mishaps are anticipated to remain relatively unchanged. Should new aircraft enter the military's inventory, potential risks would be assessed at that time.

The majority of flight operations would be conducted over remote areas, where population densities are very low; in the unlikely event that an aircraft accident occurs, it should not create undue risk to people or property on the ground. However, if an accident were to occur, existing response, investigation, and follow-on procedures would be enforced; no new accident response procedures would be required. Potential

issues associated with wildland fires from an aircraft mishap are discussed later in this section.

A total of 151 bird-aircraft strikes have been documented for Nellis AFB over the period of 2006 to 2016. The overall risks associated with bird-aircraft strikes is expected to remain low; none of the bird-aircraft strikes occurring at the NTTR have resulted in a Class A mishap, although some resulted in damage to aircraft. To minimize the potential for any future bird/wildlife-aircraft strikes, NTTR personnel would continue to implement an aggressive BASH program.

No significant adverse impacts to safety due to aircraft operations with Alternative 1 would be expected with continued implementation of existing mishap prevention and BASH program procedures.

Use of live and training munitions would continue on the NTTR. All munitions would be handled by trained and qualified personnel in accordance with all explosive safety standards and detailed published technical data. It is expected that the type and amount of munitions expended would continue at current levels. If new targets were developed, or the use of existing ones changed, or if different ordnance were planned for use, prior to approval for use a comprehensive safety footprint analysis would be accomplished around the target to ensure no safety risks arise. If necessary, operational constraints pertaining to the use of specific delivery tactics, munitions type, or aircraft headings would be developed to mitigate any potentially unsafe condition.

The use of munitions poses the potential for wildland fires. Since the type and level of use of the NTTR is not expected to substantially change, there is minimal anticipated increase in fire risk. However, the Air Force does acknowledge that there is an increasing regional trend occurring with the size and intensity of wildfires in recent years; nonetheless, the activities of the Air Force under Alternative 1 will not by themselves increase wildfire risk. As a result of this increasing wildfire trend, federal fire-fighting agencies in the western half of the country have increased federal appropriations devoted to wildfire management from 13 percent of annual appropriations in 1992 to more than 50 percent in 2014 (Hand, Thompson, & Calkin, 2016). The Air Force will continue to work with other federal agencies in managing wildfire concerns as appropriate. This will be crucial in future planning since there has been reduced precipitation in recent years.

The NTTR would continue to implement the Nellis AFB Wildland Fire Management Plan to address fire-related issues, and NTTR operations would continue to rely on National Weather Service Fire Weather Watches and Fire Weather Red Flag Warnings to assess potential fire risks and the appropriate use of munitions, including flares. NTTR personnel would also coordinate regarding fire-related issues with BLM in the North Range and the USFWS on the South Range.

As previously discussed, the Air Force has no internal personnel certified to fight wildland fires. Additionally, the Air Force has no aircraft capable of fire suppression in their inventory of aircraft; civilian firefighting aircraft would continue to be used; consequently, wildfire suppression would continue to be coordinated with other federal

and state agencies, including BLM, in accordance with a new MOU. The Air Force and BLM would also continue to coordinate to implement appropriate joint fire management policies that would be consistent with guiding principles, policies, and implementation actions for wildland fire management on DoD lands, as described in AFI 32-7064, *INRMP, Chapter 13, Wildland Fire Management* (U.S. Air Force, 2014f). Note: The BLM fire suppression policy does not apply on the South Range. In this area, the USFWS addresses fire suppression response on a case-by-case basis.

Adherence to established safety protocols for any wildland fire management activity would continue. All personnel responding to a fire would be briefed regarding appropriate personal protective equipment, hazards, lookouts, escape routes, and safety zones. Adequate communication links between all parties would also be established. These areas would continue to be restricted from public access, so impacts to the public from munitions use on the range would be highly unlikely.

Ground operations on the NTTR would occur at current or similar levels and would continue to use the same processes and procedures as current operations. All actions would be accomplished by technically qualified personnel and would be conducted in accordance with applicable Air Force safety requirements, approved technical data, and AFIs. As a result, Alternative 1 would have no additional impacts outside of those identified for current ongoing activities.

Use of electronic emitters to provide training in electronic warfare and add realism to other types of training activity would continue on the NTTR. Safe separation distances from specific emitters have been established. Operation of this equipment would continue with the required safety zones. All laser use would continue to be conducted in accordance with AFI 48-109, *Electromagnetic Field Radiation (EMFR) Occupational and Environmental Health Program*.

Additionally, aircraft equipped for laser targeting would continue to operate and train on the NTTR. Laser use would be limited to targets that have been surveyed and have been specifically approved for such use. If new or additional targets were recommended for laser use, the target and target area would be surveyed and assessed before being approved for laser use to ensure that no potential hazards exist that could create safety risks. If required, some operational constraints may be placed on the use of the target to mitigate any potentially hazardous condition. All laser use would continue to be conducted in accordance with AFI 48-139, *Laser and Optical Radiation Protection Program.*

These areas would continue to be restricted from public access, so impacts to the public from emitter operations on the range would be highly unlikely.

3.13.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

It is anticipated that establishing ready access would increase test and training activities an estimated 30 percent. This increase in air operations would result in an associated increase in the potential for mishaps or bird strikes. As with Alternative 1,

implementation of procedures discussed in Section 3.13.2.2 (Alternative 1) would ensure that the potential for mishaps and bird strikes would remain low; consequently, no significant safety-related impacts due to aircraft operations would occur with Alternative 2.

The increase in training activities has the potential to increase munitions-related fires. Additionally, those areas within the area proposed for wilderness and the DNWR would be more vulnerable to fire, as these areas would be more difficult for fire response equipment and personnel to access. However, as with Alternative 1, adherence to established safety protocols for any wildland fire management activity would continue, including the use of appropriate personal protective equipment and communications links between all parties; consequently, no significant safety-related impacts due to munitions use would occur with Alternative 2.

With regard to the potential increase in impacts from ground disturbance, as with Alternative 1, all actions would be accomplished by technically qualified personnel and would be conducted in accordance with applicable Air Force safety requirements, approved technical data, and AFIs; consequently, no significant safety-related impacts due to ground disturbance would occur with Alternative 2.

The potential impacts resulting from an increase in emitter operations would be the same with Alternative 2 as the impacts with Alternative 1 since they would still occur with the existing NTTR boundary and existing procedures would ensure safety; consequently, no significant safety-related impacts due to emitter operations would occur with Alternative 2.

3.13.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

Aircraft operations currently occur and would continue to occur with an increase of 30 percent, over Alternatives 3A, 3A-1, 3B, and 3C proposed expansion areas. The increase in aircraft operations may increase the risk for bird strikes, especially during periods of migration. Many bird species use mountain ranges as migration corridors, and the Sheep Range attracts various bird species because of the elevation, habitat diversity, and presence of water. However, potential impacts associated with bird strikes would continue to remain low; consequently, it is not anticipated that significant safety-related impacts would occur due to aircraft operations over those discussed for Alternative 2.

No munitions would be used on the expansion areas proposed by Alternative 3A, 3A-1, or 3B; the areas would be employed as a safety buffer for test and training activities. Note: a safety buffer is an area where there is a potential for an impact to occur as result of a malfunctioning munition; see Section 2.2.1 (Increase MCO Test/Training Capability) for a more detailed discussion of safety footprints and buffers. There is a potential that training-initiated fires on other areas could spread to this area. Due to some remote locations, firefighting in the proposed expansion area for Alternative 3A or 3A-1 may also prove more difficult in these isolated areas. All firefighting activities would be coordinated with USFWS to determine appropriate fire response procedures.

For Alternative 3C, IW training with blank rounds may occur within the proposed expansion area. Also discussed in Section 3.13.1.5 (Munitions Use and Handling), blanks are a type of cartridge containing gunpowder but no bullet or shot, and when fired, the wadding is propelled from the barrel of the gun. There is an unlikely potential for a fire to be ignited if smoldering wadding comes in contact with dry vegetation on the ground. To the greatest extent possible, a “leave no trace” policy to collect and remove all spent cartridges would be implemented on the NTTR.

For Alternatives 3A, 3A-1, and 3B, adherence to established fire safety protocols would continue to minimize the potential for fires to occur, and if a fire occurred, for it to spread to these areas. Consequently, no significant safety-related impacts due to munitions use would occur with these alternatives. For Alternative 3C, ground disturbance has the potential to result in an expansion of invasive annual grass that could result in increased wildfire risk. Reduced access for the purposes of safety and security into this area could increase or delay response times, which could result in larger fires. Airspace de-confliction could increase where a wildfire response would include civilian firefighting aircraft.

For Alternatives 3A, 3A-1, and 3B, ground safety impacts would not occur because no training activities would take place in the proposed expansion areas; consequently, no significant safety-related impacts due to ground disturbance would occur with these alternatives.

For Alternative 3C, ground disturbance, including conceptual construction and troop movement, would occur within the proposed expansion area; however, potential impacts would be the same as those discussed under Alternative 1. Consequently, no significant safety-related impacts due to ground disturbance would occur with this alternative.

For Alternatives 3A, 3A-1, and 3B, there would be no emitter operations within the proposed expansion areas; consequently, no significant safety-related impacts due to emitter operations would occur with these alternatives.

For Alternative 3C, emitter operations could occur depending on future test and training requirements within the proposed expansion area. The Air Force would coordinate with the USFWS to ensure that the public is made aware of areas closed for military operations. Potential impacts would be the same as those discussed under

Alternative 1; consequently, no significant safety-related impacts due to emitter operations would occur with this alternative.

3.13.2.5 Alternative 4 – Establish the Period of Withdrawal

The proposed withdrawal periods associated with Alternative 4—Alternative 4A (20-year withdrawal period), Alternative 4B (50-year withdrawal period), and Alternative 4C (indefinite)—must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect health or safety, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen Alternatives may end.

3.13.2.6 No Action Alternative

Wildland Fire Risk and Management/Ground Safety

Under the No Action Alternative, all military-related air-to-ground and ground-based activity would cease, and potential impacts from training actions, such as munitions-related fires, currently creating the greatest source of fire risk would no longer occur. Furthermore, since the Air Force would no longer operate or maintain anything on the lands currently comprising the NTTR after the land management transfer, there would be no military-related ground safety concerns. BLM would be responsible for fire response on the North Range and the USFWS would be responsible for fire response on the South Range. BLM would continue to provide wildland fire management support to the USFWS and the South Range through mutual aid and the USFWS assistance agreement. If lands are opened to the public, increased human presence may be a source of increased fire risk. Fire response times would decrease because of increased access, possibly decreasing fire size due to timely suppression actions. BLM and the Air Force are currently working to improve fire reporting and fire record keeping for the NTTR. Overall fire management activities would increase.

Since the lands currently comprising the NTTR would be administered and managed by the BLM and USFWS, those agencies would ultimately determine land uses. Environmental cleanup of some non-renewed lands may not be able to ensure ground safety. DOE, Air Force, USFWS and BLM review would be required to determine what areas would need to be fenced to ensure public safety. These areas are currently unknown and cannot be assessed for fire or ground safety risk. Restricted access would limit wildfire response and provide for firefighter and public safety.

Flight Safety Risks

Military training in the designated airspaces would continue. Although all air-to-ground training activity would cease, air-to-air training would still be possible. This may result in an overall decrease in overall flight operations; consequently the potential for mishaps

or bird/wildlife-aircraft strikes would be reduced, resulting in an overall decrease in risks associated with aircraft flight training.

Munitions Use and Handling

There would be no impacts related to munitions use and handling as munitions training would cease. Routine cleaning of munitions from ranges would also no longer be required; however, before the non-renewed lands could revert to BLM and USFWS control, the Air Force, DOE, USFWS and BLM would be required to assess the level of UXO cleanup required and to implement appropriate remedial measures. Firefighter and public safety would benefit and increase upon the cessation of munitions training and remediation of UXO.

3.13.3 Proposed Resource-Specific Mitigations and Management Actions

No mitigations have been identified for health and safety.

3.13.4 Native American Perspective on Health and Safety

The CGTO believes health and safety applies to all living things within the affected environment, including but not limited to: socio economics related to tribal communities; cultural resources; air space; noise; air quality; visual resources; wilderness; biology; earth resources, including geology, soils, minerals; and paleontological resources; and water resources. The CGTO knows equal consideration must be applied to culturally perceived impacts that affect tribal communities and the resources associated with the land on which they rely upon. The health of tribal communities can be impacted by an imbalance in the cultural equilibrium that is derived from the land or its resources within our traditional homelands when it is sick or out of balance. If tribal communities are denied or granted limited access to culturally important areas as prescribed according to traditional protocol, sickness occurs raising health risks. When the land or related resources are disrespected and not treated in culturally appropriate ways, those resources will react, elevating safety concerns for individuals that rely on resources on the NTTR or proposed expansion areas.

3.14 TRANSPORTATION

3.14.1 Affected Environment

3.14.1.1 Description of Resource

For the Native American perspective on information in this section, please see Section 3.14.4 and Appendix K, paragraph 3.14.1.1.1.

Transportation resources include the infrastructure required for the movement of people, materials, and goods. Transportation infrastructure, within the context of the

LEIS, includes the public roadways and access points that provide access to the NTTR, the road and trail network within the NTTR, and the roads and trails located within the proposed expansion areas.

3.14.1.2 Region of Influence

The ROI for transportation includes the highways surrounding the NTTR within Clark, Lincoln, Nye, and Esmeralda Counties.

Interstate 15 (I-15) is the nearest major interstate to the NTTR. I-15 begins near the Mexico-United States border in San Diego County and stretches north to Alberta, Canada, passing through the states of California, Nevada, Arizona, Utah, Idaho, and Montana. Major U.S. routes that surround and provide access to the NTTR include U.S. Route 93 (Great Basin Highway), U.S. Route 95 (Veterans Memorial Highway), and U.S. Route 6. Nevada State Route (S.R.) 375 (Extraterrestrial Highway) connects U.S. Route 6 and U.S. Route 93 northwest of the NTTR. The location of I-15, the U.S. Routes, and S.R. 375 relative to the NTTR are shown on Figure 3-39.

Figure 3-39 also shows the network of minor roads within the NTTR. Additionally, the NTTR contains a patchwork of trails related to activities such as mining, agricultural grazing, wildlife resource management, and historical exploration of the area. Off-road access to these trails is extremely limited and restricted. The road network is more extensive in the North Range than the South Range due to the presence of the Tonopah Airfield, target complexes associated with the Tonopah ECR, Tolicha Peak ECR, EC South, and facilities operated by DOE/NNSA in the North Range and the land management restrictions in the South Range preventing road development or improvement outside of the Air Force's target impact areas.

Roads in the South Range are primarily associated with five target impact areas and their associated target complexes (i.e., 60-series ranges). The minor road network is a mix of maintained paved and nonpaved roads along with nonmaintained dirt roads (Figure 3-40).

Primary access points to the North Range are located along U.S. Route 95 between Beatty and Goldfield, from U.S. Route 6 east of Tonopah, and off of S.R. 375 north and south of the town of Rachel. Access to the South Range is primarily associated with Creech AFB located northwest of Las Vegas along U.S. Route 95. Access to the eastern side of the South Range and within the Alamo airspace area is provided via Corn Creek Road and Alamo Road. These are also the primary access roads into the DNWR.

There are no active railroads in the vicinity of the NTTR. The closest major commercial airport is located in Las Vegas, but smaller private-use airports and airstrips are located in close proximity to the site. It should be noted that the NTTR lies under restricted airspace.

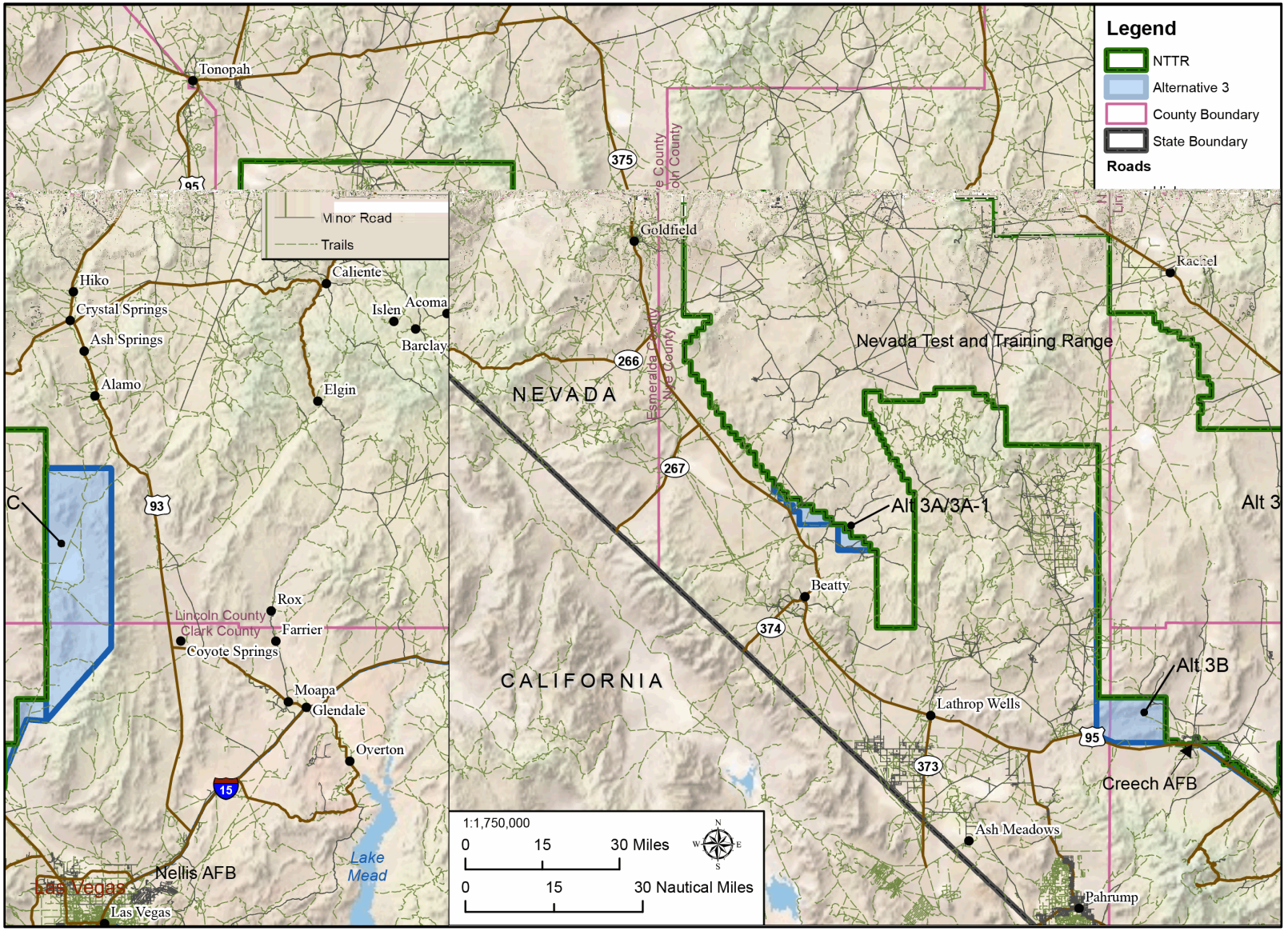

Figure 3-39. NTTR Highway and Road Network

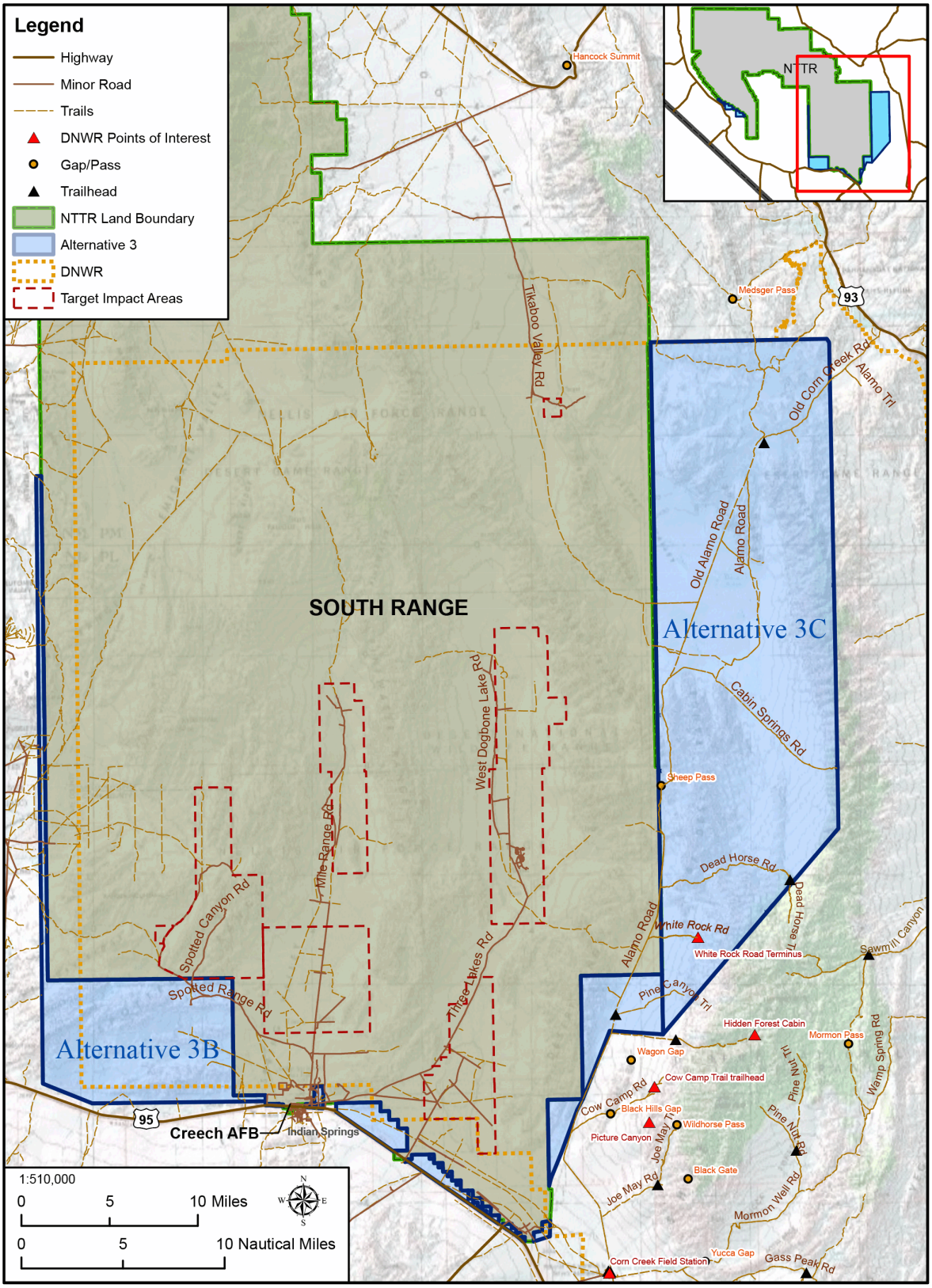

Figure 3-40. NTTR South Range Road and Trail Network

3.14.2 Environmental Consequences

The Air Force acknowledges that determining significance at the programmatic level is intricate. If the areas associated with the any of the proposed alternatives be withdrawn for military use, more detailed site-specific analysis of proposed future actions and alternatives will be conducted to determine the scope of any potential significant impacts and additional mitigations will be identified and developed at that time, if deemed necessary and feasible, before any decision to implement the action is made. However, at a programmatic level, the Air Force has identified no adverse impacts to transportation issues connected any of the proposed alternatives overall.

3.14.2.1 Analysis Methodology

Potential transportation impacts were assessed with respect to the potential for disruption or improvement of existing levels of service and changes in existing levels of transportation safety. Impacts may arise from changes to traffic circulation (e.g., temporary/permanent closures associated with safety footprints and other military activities), construction-related traffic and activities, or changes in traffic volumes. Adverse impacts would be significant if highways and roads with no history of capacity exceedance had to operate at or above their full design capacity as a result of an action.

3.14.2.2 Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

Aircraft operations would not have any interaction with the existing transportation infrastructure, current levels of service, or traffic patterns within the NTTR or the surrounding area. Specifically, the airspace above the NTTR would remain restricted and not impact commercial or private aircraft travel routes outside of the current baseline condition.

Munitions use would be contained within the boundaries of NTTR, and safety weapons footprints cannot extend over public transportation infrastructure. Impacts on the existing roads within the NTTR would not change, and there would not be any interaction with the existing transportation infrastructure, current levels of service, or traffic patterns in the surrounding area.

Any future new construction planned within the NTTR is not expected to be large enough to adversely impact the existing roadways within the NTTR. Transport of construction materials and personnel over the surrounding highways and NTTR roads would also not have adverse impacts due to the relatively good condition of the roadways and existing low traffic volumes. Troop movements would likely consist of small convoys (5 to 10 vehicles) used to transport troops to/from various training sites and would not result in any transportation issues. Additional NEPA documentation would be completed for any future projects to address site-specific impacts to the transportation network.

Transport of new emitters or movement of existing emitters to new locations would only require occasional trips utilizing a small number of transport and support vehicles and would not adversely impact any roadways that would be used. Emitter operations would not have any interaction with the existing transportation infrastructure, current levels of service, or traffic patterns within the NTTR or the surrounding area.

3.14.2.3 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

For Alternative 2, potential transportation impacts associated with aircraft operations, munitions use, and emitter operations would be equivalent to those for Alternative 1.

Any future new construction planned within the NTTR is not expected to be large enough to adversely impact existing roadways. Ready access throughout the South Range could include the potential for improvements to existing roads and trails associated with new emitter locations. Transport of construction materials and personnel over the surrounding highways and NTTR roads would also not have adverse impacts due to the relatively good condition of the roadways and existing low traffic volumes. Troop movements would likely consist of small convoys (5 to 10 vehicles) used to transport troops to/from various training sites and would not result in any transportation issues.

3.14.2.4 Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Alternative 3 includes subalternatives, as described in Section 2.3.3:

- Alternative 3A – Range 77 – EC South Withdrawal
- Alternative 3A-1 – Amended Range 77 – EC South Withdrawal
- Alternative 3B – Range 64C/D and 65D Withdrawal and Administrative Incorporation
- Alternative 3C – Alamo Withdrawal

Alternatives 3A, 3A-1, and 3B would only be used to add buffer to the safety footprint of Range 77 and operational security and safety buffers to the NTTR, respectively, and no aircraft operations, munitions use, ground disturbance, or emitter operations are associated with these alternatives. Alternatives 3A, 3A-1, and 3B would have no interaction with the existing transportation infrastructure, current levels of service, or traffic patterns within the NTTR or the surrounding area.

For Alternative 3C, aircraft operations over the Alamo withdrawal areas also would not have any interaction with the existing transportation infrastructure, current levels of service, or traffic patterns within the NTTR or the surrounding area.

For Alternative 3C, blank munitions use in currently designated target impact areas would not have any interaction with the existing transportation infrastructure, current levels of service, or traffic patterns within the NTTR. However, the addition of safety buffers within the proposed withdrawal area could require road closures within the

DNWR. This would primarily impact Alamo Road and smaller roads/trails that intersect with Alamo Road in a westerly direction (Figure 3-40).

New construction within the Alamo withdrawal area for Alternative 3C associated with implementing additional IW capabilities is not expected to be large enough to adversely impact the existing roads within the area. However, minor improvements could be made to existing roads and trails within the DNWR. Additionally, transport of construction materials and personnel over the surrounding state/county highways would not have adverse impacts due to the relatively good condition of the roadways and existing low traffic volumes. Troop movements would likely consist of small convoys (5 to 10 vehicles) used to transport troops to/from various training sites and would not result in any transportation issues.

Maintenance, operation, and transport of emitters to new locations for Alternative 3C would only require occasional trips utilizing a small number of transport and support vehicles and would not adversely impact any existing roadways that would be used. However, there could be minor improvements made to existing roads and trails, along with the potential for new road construction. This could occur within the existing NTTR area and in the proposed withdrawal area that is part of the DNWR. Emitter operations would not have any impact on current levels of service or traffic patterns within the NTTR or the surrounding area.

3.14.2.5 Alternative 4 – Establish the Period of Withdrawal

The proposed withdrawal periods associated with Alternative 4—Alternative 4A (20-year withdrawal period), Alternative 4B (50-year withdrawal period), and Alternative 4C (indefinite)—must be implemented in conjunction with one or more of the other alternatives or subalternatives. Alternative 4 would not result in any interaction with the existing transportation infrastructure, current levels of service, or traffic patterns within the NTTR or the surrounding area. Because Alternative 4 reflects periods of time, which do not in and of themselves affect transportation resources, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen alternatives may end.

3.14.2.6 No Action Alternative

The No Action Alternative could result in impacts to the existing transportation infrastructure, current levels of service, and traffic patterns within and surrounding the former NTTR lands. However, potential impacts would depend on the future land use planning and resource management objectives for the BLM-administered public lands and management of the DNWR by the USFWS.

3.14.3 Proposed Resource-Specific Mitigations and Management Actions

The proposed resource-specific mitigations and/or management actions for transportation across all action alternatives include the following:

- To minimize any potential transportation impacts from road closures, the Air Force would provide advanced notice to the public regarding any permanent

or temporary road closures associated with withdrawn lands. This would allow the public sufficient time to make alternate transportation arrangements.

3.14.4 Native American Perspective on Transportation

The CGTO knows transportation resources, include infrastructure required for the movement of people, materials, and goods. This infrastructure within the context of the 2018 LEIS, includes the public roadways and culturally important access points that provide access to and from our homelands, including those on the NTTR.

The road and trail network within the NTTR, and include culturally significant songscapes and storyscapes that also fall within the proposed expansion areas. These locations are vital for access areas to sustain cultural equilibrium. When transportation infrastructure is developed or considered to support Air Force activities without CGTO involvement, the potential for inadvertent damage to culturally sensitive resources and locations increases greatly.

Portions of the current road system within the western US is based on ancient pathways developed by Indian people. The Southwestern Desert Trail System was not used for trivial activities, but for important trade, commerce, pilgrimage, and most often for a hasty retreat or pursuit of an enemy in the event of warfare or intrusion. Trails were used to relay important messages to distant tribal groups in times of trouble or when cultural imbalance occurred within the traditional homelands.

In an attempt to minimize potential impacts to trail systems and sustain their cultural integrity, the CGTO and Air Force must work together to exchange information and develop plans based on systematic ethnographic studies designed to evaluate the culturally perceived impacts associated with the effects of transportation.

Tribal governments support safe transportation practices and believe ongoing consultation with tribal governments must occur and include a ethnographic perceived risk study to evaluate cultural implications associated with transportation impacts to culturally sensitive resources and locations. Such studies must be facilitated by a qualified ethnographer and the CGTO. [AIWS 1997].

3.15 SUMMARY OF IMPACTS

For the Native American perspective on information in this section, please see Section 3.15.2 and Appendix K, Table 3-49.1.

The following table (Table 3-50) provides a summary of the potential impacts associated with each alternative, as described in Sections 3.1 (Airspace) through 3.14 (Transportation) for each resource area. The potential impacts from selecting a combination of the alternatives presented in Section 2.3 (Alternatives) are illustrated in a quick-reference, color-coded table in Section 2.8 (Environmental Comparison of Alternatives) and described in Section 3.15.1 (Summary of Impacts for Potential Alternative Combinations).

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
Airspace	**1**	Under Alternative 1, congestion, range constraints, and the inability to properly test and train would continue across the NTTR.
	2	Air operations could increase; however, no changes to the boundary of existing airspace would occur. Despite a potential for increased air operations, the existing airspace would be more efficiently utilized by allowing ready access, which would reduce airspace scheduling conflicts. Therefore, no significant impacts are anticipated.
	3A **3A-1** **3B** **3C**	No changes to the boundary of existing airspace would occur; therefore, no significant impacts are anticipated.
	4	The proposed withdrawal periods associated with Alternative 4 must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect airspace, there are no specific impacts associated with Alternative 4, and it is not anticipated that any of the subalternatives (4A, 4B, or 4C) would impact how the airspace is used.
	No Action Alternative	The DoD would continue to utilize the airspace but would not be able to conduct live-fire testing or training activities since the underlying ground space would no longer controlled by the DoD.
Noise	**1**	Operational tempo is anticipated to remain similar to previous levels. Therefore, noise levels would continue as described under baseline conditions, which at this time are not considered to result in a significant adverse impact. Likewise, those SUAs in the northernmost portions of the NTTR would remain at the baseline 61-dB level, which is well below levels that result in land use compatibility concerns.
	2	Air operations, munitions use, vehicle use, and emitter operations would increase; however, increases in noise levels would be minimal (<1 dB). The number of sonic booms per day would be expected to increase by one sonic boom over the baseline levels. Therefore, no significant impacts are anticipated.
	3A **3A-1** **3B**	Munitions use and emitter operations would not occur within these proposed expansion areas. Ground-disturbing activities and vehicle use may also increase on the NTTR, with these activities also occurring in the proposed expansion areas associated with fencing installation. However, increases in noise levels would be minimal (<1 dB). The number of sonic booms per day would be expected to increase by one sonic boom over the baseline levels. Therefore, no significant impacts are anticipated.
	3C	Blank munitions use, emitter operations, and ground disturbance associated with troop movements, vehicle use, and construction would occur within this proposed expansion area. However, increases in noise levels would be minimal (<1 dB). The number of sonic booms per day would be expected to increase by one sonic boom over the baseline levels. Therefore, no significant impacts are anticipated.

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
	4	The proposed withdrawal periods associated with Alternative 4 must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect noise, there are no specific noise impacts associated with any subalternatives of Alternative 4, except to provide a point in time at which impacts from other chosen alternatives may end.
	No Action Alternative	The land withdrawal for the NTTR would not be renewed. Noise associated with military activities would continue since the airspace overlying the current NTTR would be available for DoD activities. However, since the ability to conduct live-fire exercises on the ground below the airspace is not available, it is anticipated that operational tempo would decrease greatly initially, and noise would decrease overall. However, in the long term, industrial activities such as mining and cleanup activities requiring heavy machinery use could be associated with increased noise overall and in areas where the public is more significantly impacted. Public use in these areas could further contribute to increased noise through vehicle operation, firearms use, and other recreational activities that may impact other users and surrounding communities adversely. Noise impacts (i.e., increased public annoyance) may occur under the No Action Alternative, but significance cannot be determined at this time.
Air Quality	**1**	Operational tempo is anticipated to remain similar to previous levels. Therefore, air emissions would continue as described under baseline conditions, which at this time are not considered to result in significant adverse impact to air quality.
	2	Air operations, munitions use, vehicle use, and emitter operations would increase; however, increases in criteria pollutant and GHG levels would be minimal and those from construction activities would be temporary. Therefore, no significant impacts to regional air quality are anticipated.
	3A **3A-1** **3B**	Munitions use and emitter operations would not occur within these proposed expansion areas. Ground-disturbing activities and vehicle use may also increase on the NTTR, with these activities also occurring in the proposed expansion areas associated with fencing installation. However, increases in criteria pollutant and GHG levels would be minimal and those from construction activities would be temporary. Therefore, no significant impacts to regional air quality are anticipated.
	3C	Blank munitions use, emitter operations, and ground disturbance associated with troop movements, vehicle use and construction would occur within this proposed expansion area. However, increases in criteria pollutant and GHG levels would be minimal and those from construction activities would be temporary. Therefore, no significant impacts to regional air quality are anticipated.
	4	The proposed withdrawal periods associated with Alternative 4 must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect air emissions, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen alternatives may end. Emissions are analyzed on an annual basis, and there would be no change to criteria pollutant or GHG emissions affected

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
		by the period of withdrawal. Annual emissions would remain at or near the baseline or implemented alternative level throughout the period of withdrawal. Any substantial change in mission activity or overall operations affecting air quality would be vetted in accordance with 32 CFR 989.12, Air Force Form 813 Request for Environmental Impact Analysis processes, and analyzed through the standard NEPA process for that activity or activities.
	No Action Alternative	The land withdrawal for the NTTR would not be renewed. Criteria pollutant and GHG emissions associated with military activities would decrease greatly initially, and air quality would likely improve overall. However, in the long term, industrial activities such as mining and cleanup activities requiring heavy machinery use could be associated with increased air emissions overall. Further, public use in these areas could also contribute to increased overall air emissions through vehicle operation, firearms use, and other recreational activities. Air quality impacts may occur under the No Action Alternative, but significance cannot be determined at this time.
Land Use Recreation and Visual Resources	**1**	Land use, recreation, and visual resources on the NTTR would continue as described under current baseline conditions. Land use, land status, and existing land and visual resource management plans would also remain unchanged under Alternative 1.
	2	Land use would remain unchanged under Alternative 2 except for the addition of ready access in the South Range. A legislative mechanism granting ready access to the DoD would be developed to update existing land use management that currently is conducted by the USFWS on the DNWR. This would include no longer managing the areas that were proposed for wilderness as de facto wilderness in the South Range (see Wilderness section). Additionally, ready access could introduce new threat emitter locations into areas previously unavailable especially in the South Range. Hunting could be temporarily limited or prohibited within the DNWR during certain military training activities but the Air Force plans to continue to allow limited bighorn sheep hunting. The change in land management in the South Range and subsequent introduction of military training, including ground-disturbing activities from munitions use and infrastructure development, as well as construction of facilities in support of training, in an otherwise untrammeled landscape could cause significant impacts to the visual characteristics in that area. The visual resources management designations and objectives in the South Range would need to be modified in order to support the new activities. In addition, any development and infrastructure improvements could introduce permanent or persistent light-emitting sources that contribute to light pollution in the region and thus adversely impact natural night skies. Impacts to natural night skies would be worse over areas where persistent and permanent light sources are concentrated.

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
	3A	Additional land use impacts would result from restricted access in the Alternative 3A proposed withdrawal area. This would affect one active mining claim and eliminate existing recreational uses (i.e., biking and OHV use) within the area. Hunting is likely to continue to be allowed but it could be temporarily limited during certain military training activities. Impacts to the Bullfrog HMA are not expected but because fencing locations are not known at this time, the Air Force would need to perform site-specific NEPA analysis in those situations where fencing might overlap the HMA. There would be no changes to visual resource management designations. Changes made to prevent access, such as fencing, are consistent with existing management objectives and visual characteristics; therefore, impacts would not substantially increase over baseline conditions. The landscape changes would not introduce new light sources; therefore, impacts to natural night skies would not increase over baseline conditions.
	3A-1	As a result of the reduction in the amount of land area to be withdrawn under Alternative 3A-1, there would be a reduction in the land use and recreation impacts as discussed under Alternative 3A. One active mining claim would be affected. The affected acreage of the unallocated grazing area and Razorback grazing allotment would be reduced by a total of approximately 2,600 acres. Less acreage would also be affected in the NDOW hunting unit 253 and the Bullfrog HMA. Alternative 3A-1 would eliminate the impact to an existing 4.2-mile section of the Trails-OV Transvaal Flats Trail System (Windmill Road) and 0.24-mile of the Ridgeline Trail. It would also eliminate the impact to about 4 miles of the road/trail system that is used for OHV activities like the Beatty VFW Bullfrog Poker Run and the Best in the Desert Vegas to Reno off-road race. The potential impacts to visual resources under Alternative 3A-1 would be the same as those discussed under Alternative 3A, as the amount of linear feet required to fence the area would be similar.
	3B	Additional impacts to land use and recreational use within the Alternative 3B proposed withdrawal area would be limited due to the lack of designated roads and trails. Hunting is likely to continue to be allowed but it could be temporarily limited during certain military training activities. Since fencing locations are not known at this time, the Air Force would need to perform site-specific NEPA analysis in those situations where fencing might overlap the Wheeler Pass HMA. No changes to visual resource management designations would occur and use would be consistent with existing management objectives; however, minor changes to the landscape as a result of fencing and ground disturbance associated with these activities would create dispersed modification; therefore, minor impacts to the visual qualities and the visual resources of the area are anticipated. However, impacts would not substantially increase over baseline conditions because portions of this area are already characterized by human development. Non-permanent and dispersed light sources may be introduced as part of the infrastructure used in training activities; these light pollution sources could cause a small but temporary increase of adverse impacts to natural night skies over baseline conditions.

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
	3C	Additional land use impacts associated with this proposed expansion area could potentially be significant. Existing land use within the affected DNWR area would go from a wildlife management and recreation area to a military training area. Areas for current recreational activities (e.g., hiking, bird-watching, backpacking, and horseback riding) would become closed to the public for safety and security reasons. Hunting is likely to continue to be allowed but would be limited to times when there are no military training activities occurring. The change in land management as part of this alternative, which includes introduction of military training, including ground-disturbing activities from munitions use (such as small arms blanks or paintballs) and infrastructure development, as well as construction of facilities in support of training, in an otherwise untrammeled landscape would change the area from "undeveloped" to one with human development and interference. The visual resources management designations and objectives in the proposed expansion area would need to be modified in order to support the new activities. In addition, any development and infrastructure improvements could introduce permanent or persistent light-emitting sources that contribute to light pollution in the region and thus adversely impact natural night skies. Impacts to natural night skies would be worse over areas where persistent and permanent light sources are concentrated.
	4	The proposed withdrawal periods associated with Alternative 4 must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect land use, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen alternatives may end. Changes to the withdrawal period would cause no changes to either visual resource management designations nor to the visual quality of the area. Thus, there are no specific land use, recreational, or visual impacts associated with Alternative 4.
	No Action Alternative	Military activities and land use restrictions would expire. Land uses such as mining, mineral leasing, or livestock grazing could potentially be reintroduced into previously restricted areas. The DNWR would withdraw the South Range from mining, and cleanup activities conducted by the Air Force would be localized and short term. There could also be increased recreational use of the former NTTR lands but due to past activities and use, certain areas would continue to have restricted access. The conditions on the South Range would be managed the same as those on the east side of the DNWR are currently. Current land use management objectives of BLM lands on the perimeter or the vicinity of the NTTR would continue and no changes in the land status of these adjacent lands would be expected. The expiration of military activities and subsequent mitigation of contaminated sites will be consistent with the baseline landscape characteristics of the human-modified environment; therefore, no significant impacts are anticipated. Cessation of military activities and removal of the associated infrastructure may have a positive impact on the night skies by eliminating sources of light pollution.

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
Wilderness and Wilderness Study Areas	**1**	No changes to the land boundaries or baseline NTTR operations would occur. No impacts to untrammeled, natural, and undeveloped qualities are anticipated. Solitude or primitive and unconfined recreation quality of Wilderness Areas, areas proposed for wilderness, and WSAs may be adversely impacted from noise associated with aircraft operations, munitions use, and emitter operations. Impacts would not increase over baseline conditions.
	2	Ready access may be directed through a Congressionally directed change and would reduce the land area managed as de facto wilderness within the DNWR by 590,000 acres (42 percent). However, based on the amount of land remaining that possess wilderness qualities in the ROI, Alternative 2 would not significantly reduce the opportunity of people to experience wilderness in the state of Nevada. Impacts to wilderness qualities within Wilderness Areas, remaining areas proposed for wilderness, and WSAs outside the NTTR withdrawal boundaries were considered in the analysis. Similar to Alternative 1, no impacts to untrammeled, natural, and undeveloped qualities are anticipated. Solitude or primitive and unconfined recreation of surrounding areas with wilderness characteristics may be adversely impacted from noise associated with increased aircraft operations, munitions use, and emitter operations. Increased air operations would not substantially increase noise levels; therefore, impacts are not expected to appreciably increase over baseline conditions.
	3A **3A-1**	No Wilderness Areas, areas proposed for wilderness, or WSAs occur within these proposed expansion areas. Therefore, no impacts to wilderness qualities would occur under this proposed expansion.
	3B	About 33,000 acres (2 percent) of areas proposed for wilderness within the DNWR would be impacted by this proposed expansion. Impacts to solitude or primitive and unconfined recreation would result from increased levels of aircraft operations and munitions use within the current NTTR (noise associated with the munitions). Impacts would not appreciably increase over baseline conditions. Ground disturbance activities associated with perimeter fencing would impact the undeveloped quality of remaining areas proposed for wilderness outside the NTTR boundary, however, impacts would not substantially increase over baseline conditions because portions of this area have already been shown to be disturbed.
	3C	Approximately 227,000 acres (16 percent) of areas proposed for wilderness within the DNWR would be impacted by this proposed expansion. Impacts to solitude or primitive and unconfined recreation in surrounding Wilderness Areas, areas proposed for wilderness, and WSAs would result from increased levels of aircraft operations, munitions use (associated noise), and emitter operations. Noise levels would only marginally increase; therefore, impacts would not substantially increase over baseline conditions. Ground disturbance activities associated with perimeter fencing would adversely impact the undeveloped quality of remaining areas proposed for wilderness outside the NTTR boundary.
	4	Impacts to areas proposed for wilderness from the withdrawal periods proposed are dependent on the combination of alternatives selected. Selection of Alternative 1 would not result in any changes to the

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
		management of areas proposed for wilderness in the South Range. In this scenario, the length of the withdrawal period may result in an improvement of wilderness characteristics in areas proposed for wilderness. Selection of Alternative 3A or 3A-1 would not affect wilderness. Selection and implementation of Alternative 2, Alternative 3B, and/or Alternative 3C would reduce the total area managed as wilderness in southern Nevada. Under those alternatives, the length of the withdrawal period is not relevant, because wilderness characteristics would no longer need to be considered. As a result, there would be no impacts to wilderness for Alternative 4A, 4B, or 4C if Alternative 2, 3A, 3B, or 3C is selected. Wilderness Areas, WSAs, and areas proposed for wilderness outside the NTTR boundaries would continue to experience impacts to solitude qualities from noise associated with military activities, but other wilderness qualities would not be impacted. Continued management practices of Wilderness Areas, WSAs, and areas proposed for wilderness outside the NTTR would conserve and improve wilderness qualities over the various time periods proposed for Alternatives 4A, 4B, and 4C.
	No Action Alternative	The absence of military operations at the NTTR would likely improve wilderness qualities within Wilderness Areas, areas proposed for wilderness, and WSAs in the southern Nevada region.
Socioeconomics	**1**	The total economic impact of the Nellis AFB, Creech AFB, and NTTR activities is estimated at $5.549 billion during 2015. The Nellis AFB Economic Impact Assessment model estimates that the number of indirect and induced jobs is 5,783 for 2015 with a total indirect/induced payroll of $242.6 million.
	2	The estimated economic increase associated with lodging and per diem for TDY personnel associated with a 30 percent increase in aircraft operations under Alternative 2 would be approximately $67 million per year, primarily in Clark County.
	3A	The withdrawal of the additional acreage may have a potential impact on the PILT for Nye County of approximately $6,400. The current recreational uses of the land along with any agricultural activities such as grazing that may be taking place on those lands would likely be eliminated or available to the public on a limited basis or through specific agreements (in cases such as grazing rights). Energy Corridor 18-224 would be impacted by Alternative 3A in the northern land area. This may be mitigated through coordination with NTTR to gain access or by construction of the proposed boundary fence along the eastern boundary of energy Corridor 18-224 within the proposed safety buffer area. Certain recreational uses, particularly near the NTTR boundary towards Beatty, including 4.88 miles of proposed bike trails and potentially portions of off-road racing routes may be impacted depending on the routes, which vary between years. The BLM Razorback grazing allotment, which would be impacted by Alternative 3A, consists of 266,329 acres and has an allotment of 1,926 animal unit months (AUM[7]).

[7] The AUM provides sufficient forage for one cow and calf for a month.

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
		Currently, there are 386 AUM suspended. Assuming uniform forage production within the allotment, an 18,000-acre reduction in the allotment due to Alternative 3A would be 6 percent or $128,000. However, it should be noted that this would be an 83 percent reduction in available grazing area to the rancher leasing the AUM and would be a significant impact. The Air Force plans to work directly with the rancher to address this impact. In addition, to minimize potential conflicts between NTTR operations and population, housing, and economic activity in the region (to include grazing and mining), the Air Force would continue coordination between the military and local and regional planning departments.
	3A-1	Impacts under Alternative 3A-1 would be similar to those stated under Alternative 3A. There would be no construction disturbance (except for fencing installation) or munitions use in this area. It would only serve as a safety buffer for live weapons deployment on the interior of Range 77. As a result in the reduction of land area that would be withdrawn (2,592 acres) under Alternative 3A-1, there would be an estimated reduction of approximately $5,500 in PILT allocation to Nye County. One of the new proposed bike trails being developed in the Beatty, Nevada, would be impacted by the proposed expansion under Alternative 3A-1. However, the Best in The Desert's Vegas-to-Reno race route and the energy Corridor 18-224 would be impacted by Alternative 3A-1 in the northern land area. This may be mitigated through coordination with NTTR for access or by construction of the proposed boundary fence along the eastern boundary of energy Corridor 18-224 within the proposed safety buffer area. Alternative 3A-1 would overlap areas of grazing allotments and reduce grazing in Nye County by about 15,000 acres. The BLM Razorback grazing allotment would also be impacted by Alternative 3A-1; however, the allotment capacity reduction and potential economic impact would be approximately the same as Alternative 3A.
	3B	The withdrawal of the additional acreage may have a potential impact on the PILT for Nye County of $3,600. There are approximately 26,000 acres of BLM lands that are included in Alternative 3B that could be used for hiking and recreational activities. Loss of this area would have a value of approximately $228,020. Although there is no overlap, adjacent to and south of Alternative 3B, there is a 400-foot-wide RETC, which is for the construction and maintenance of high-voltage transmission facilities. Also adjacent to and south of Alternative 3B is a locally designated transportation and utility corridor labeled US95-Crater Flat that was designated pursuant to Section 503 of the FLPMA.
	3C	The current recreational uses of the land would likely be eliminated or available to the public on a limited basis or through specific agreements (in cases such as grazing rights). The estimated recreational-use economic impact would be $1,990,790 under Alternative 3C. Additional expenditures from the new training configurations potentially could offset some of the resulting economic losses.
	4	Alternative 4 establishes the period of withdrawal. This alternative will be paired with one or more of the other alternatives. Alternative 2 combined with Alternative 4 would likely include increased annual expenditures

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
		associated with the increased NTTR use and continue to provide economic stimulus throughout the region. With each time period proposed, it is assumed that economic indicators would increase at the national average of 2.2 percent annually, which has been the national average based on the last 17 years.
	No Action Alternative	The No Action Alternative would result in the removal of Air Force and DOE/NNSA activities from the NTTR. The initial impact would be a $500.8 million reduction in economic impact, including a $138 million reduction in payroll, a $340 million reduction in expenditures, and a $21 million reduction due to the loss of jobs. The removal of all facilities and buildings from the NTTR and Creech AFB is estimated to cost $213 million. Secondly, the cost for full decontamination of the NTTR is estimated at about $2.5 billion. These actions would delay opening some of the NTTR land to public use by up to 18 years, particularly land where decontamination is necessary. The replacement costs of facilities on the NTTR are estimated at $122 million and $1.1 billion at Creech AFB. A new range location may also require moving the aggressor squadrons and facilities from Nellis AFB to the new location. The acres in Nye County eligible for PILT payments would increase, at 2016 rates, an estimated $682,000 to the Nye County PILT payments. Clark and Lincoln County payments are estimated with population limitations and would not necessarily experience such direct impacts on the magnitude of their PILT payments.
Environmental Justice	**1**	Aircraft, operations, munitions use, ground disturbance, and emitter operations would continue as described under baseline conditions. No disproportionately high and adverse impacts to environmental justice communities and no disproportionately high and adverse environmental health and safety impacts to children are anticipated under this alternative.
	2	Under this alternative, the six census tracts and the associated environmental justice and youth/elderly populations residing under the Caliente and Coyote SUAs that are currently exposed to 65–69 dB DNL associated with subsonic aircraft noise would continue to be exposed to this range of noise. Munitions use would continue as under existing conditions and noise levels of 62 CDNL outside of the NTTR boundary would not extend into populated areas. No adverse significant noise or safety impacts associated with ground disturbance, munition use, and emitter operations have been identified that would impact the public. Therefore, no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children would be anticipated from aircraft operations resulting in subsonic noise over and above current baseline conditions under this alternative.
	3A **3A-1** **3B**	For Alternatives 3A, 3A-1, and 3B, the potential impacts to environmental justice and youth and elderly populations resulting from supersonic and subsonic aircraft noise, as well as munitions use, would be similar to those described for Alternative 2. No ground disturbance activities that would impact the public or emitter operations would occur within Alternative 3A, 3A-1, or 3B's proposed expansion areas. Therefore, no disproportionately high and adverse

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
		impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children from ground disturbance or emitter operations would be anticipated with these proposed expansion areas.
	3C	For Alternative 3C, no adverse noise or safety impacts associated with ground disturbance have been identified that would impact the public (see Section 3.2, Noise, and Section 3.13, Health and Safety), and there would be no ground disturbance performed on or in close proximity to cultural or historical sites or other noise-sensitive areas. Additionally, no adverse noise or safety impacts associated with potential emitter operations have been identified that would impact the public (see Section 3.2 and Section 3.13). Therefore, no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children from ground disturbance or emitter operations would be anticipated with Alternative 3C.
	4	The proposed withdrawal periods associated with Alternative 4 must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect environmental justice communities, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen alternatives may end.
	No Action Alternative	Activities associated with the NTTR are an important economic contributor, and under the No Action Alternative there would be a loss of employment, income, and expenditures throughout the three counties. Adverse socioeconomic impacts would affect the general public and would not only impact minority, low-income, youth, and elderly populations. Therefore, no disproportionate impacts to environmental justice populations are anticipated under this alternative.
Biological Resources	**1**	There would be no changes to air operations or existing airspace, and no changes in land area or baseline NTTR uses are anticipated. Wildlife may be adversely impacted from noise associated with aircraft operations, munitions, and emitter operations, but impacts would not increase over baseline conditions. Therefore, impacts to biological resources would remain less than significant. Impacts associated with the continued withdrawal of the NTTR could be beneficial to biological resources as the lands would continue to be excluded from intense land uses that could lead to development and cause habitat destruction and degradation. Environmental review (NEPA analysis) and planning would be required prior to any future construction or ground clearing, which would avoid or reduce impacts to biological resources to neutral or less than significant.
	2	Air operations could increase; however, impacts to biological resources (e.g., wildlife) from noise and aircraft strikes are not expected to appreciably increase over baseline conditions. Increased potential for direct impacts to biological resources could occur from an associated increase in use of existing target areas; construction and maintenance of new facilities, targets, or roads; placement of threat emitters; and increased

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
		ground training (including access by vehicles and personnel). Increased potential for indirect impacts could occur from soil contamination and subsequent cleanup of target impact areas; accidents such as fuel spills or fire; or non-native species invasion in areas previously inaccessible for military training. However, impacts would likely be site-specific, represent a small portion of the area within the NTTR, and be reduced through proper planning, monitoring, and maintenance. Impacts associated with potential increases in military training within the areas that were proposed for wilderness in the NTTR South Range currently managed as wilderness could be avoided or minimized through proper planning, monitoring, and maintenance, as under current Air Force management practices. Additionally, environmental review and planning would be required prior to any future construction or ground clearing, which would avoid or reduce impacts to biological resources to neutral or less than significant.
	3A	Impacts to biological resources (e.g., wildlife) from noise and aircraft strikes would be less than significant. No military ground operations are proposed in this area, as the area would be used as a safety buffer. The additional land would be managed the same as the existing NTTR withdrawn lands under current Air Force management practices. Environmental review and planning would be required prior to any future construction or ground clearing, which would avoid or reduce impacts to biological resources to neutral or less than significant. Perimeter fencing along the 25-mile boundary has the potential to impact biological resources, by removing native vegetation or special status plant species, fragmenting wildlife habitat, creating barriers for wildlife movement, causing injury to large mammals that run into or get caught in the fence, increasing threats due to predation from supplemental perches via fencing, damming or altering streams, or creating corridors for weed dispersion. The level of impacts to biological resources from fencing may be adverse but could be avoided or minimized depending on the biological resources affected and implementation of associated mitigation measures. A fence maintenance and monitoring plan that includes appropriate fence design for wildlife in the area and no fencing in mountainous areas would further avoid or reduce impacts.
	3A-1	Potential impacts would be similar to Alternative 3A. Impacts associated with the withdrawal of 15,314 acres (2,592 acres less than Alternative 3A) in the proposed EC South withdrawal area could be beneficial (an additional 15,314 acres of land would be excluded from other uses) or adverse (should construction or clearing of lands be proposed at a future date), but are likely to be low intensity and thus neutral or less than significant. Perimeter fencing along the boundary has the potential to impact biological resources, with the level of impacts (i.e., impacts remain adverse and significant or reduced to less than significant) dependent on the biological resources directly or indirectly affected by the installation, monitoring, and maintenance of the fencing and whether mitigation measures can reduce those impacts.
	3B	Impacts to biological resources (e.g., wildlife) from noise and aircraft strikes would be less than significant. The additional land would be managed under the same management practices that the Air Force employs on the existing NTTR. Environmental review and planning would be required prior to any future construction or

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
		ground clearing, which would avoid or reduce impacts to biological resources to neutral or less than significant. There would be no munitions use in this area, as it would serve as a safety buffer for live weapons deployment on the interior of the South Range and may include potential impacts due to mishaps from live weapon deployment. An emitter may be placed here, which would impact biological resources from installation of a 0.5-acre pad, road construction, and disturbance. Perimeter fencing along the 30-mile boundary has the potential to impact biological resources, similar to those described under Alternative 3A. Fencing impacts could be avoided or minimized depending on the biological resources affected and implementation of associated mitigation measures as described under Alternative 3A.
	3C	Impacts to biological resources (e.g., wildlife) from noise and aircraft strikes would be less than significant. The additional land would be managed the same as the existing NTTR withdrawn lands under current Air Force management practices. Environmental review and planning would be required prior to any construction or ground clearing, should this be proposed at a future date, which would avoid or reduce impacts to biological resources to neutral or less than significant. Military ground operations are proposed in this area and include development of insertion points, emitter sites, and two runways, which have the potential to impact biological resources. Installation of 0.5-acre pads, generators running, road construction and maintenance of 15 half-acre pads would fracture contiguous habitat. However, impacts would likely be site-specific, represent a small portion of the area within the Alternative 3C area, and avoided or reduced through proper planning, monitoring, and maintenance. No adverse impacts are anticipated from emitter use. Perimeter fencing along the 60-mile boundary has the potential to impact biological resources, similar to those described under Alternative 3A. The level of impact to biological resources from fencing may be adverse but avoided or minimized depending on the biological resources affected and implementation of associated mitigation measures. The additional approximately 227,000 acres of land is proposed for wilderness and national wildlife refuge and is managed as wilderness, which is already excluded from more intense land uses, therefore the exclusion would not provide an additional beneficial impact to biological resources.
	4	The proposed withdrawal periods associated with Alternative 4 must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect biological resources, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen alternatives may end.
	No Action Alternative	Under the No Action Alternative, land use restrictions placed on the military withdrawn lands within the NTTR would expire. Access to the DNWR would be under the jurisdiction of the USFWS and would be managed to preserve desert bighorn sheep and other wildlife uses. Access to all other lands would be under the jurisdiction of the BLM and may eventually be opened for appropriative land uses (such as mining, geothermal leasing, or livestock grazing) after new management planning under FLPMA and NEPA regulations could be completed.

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Resource Area	Alternative	Summary of Impacts
Cultural Resources	**1**	Under the status quo alternative, only the current NTTR boundary would be withdrawn. No direct physical impacts to resources are anticipated as a result of aircraft operations. However, indirect visual or auditory impacts can potentially occur from aircraft or other vehicular operations. With the implementation of avoidance areas around specific traditional cultural properties and sacred sites and scheduling of mission activities around tribal events, no adverse effects to cultural resources would be anticipated from aircraft operations. Cultural resources have the potential to be physically impacted by munitions use or other ground-disturbing activities resulting from the military mission. Current mission activities occur only in previously approved areas and any new or proposed activities would be subjected to the Air Force's EIAP process and Section 106 of the NHPA prior to implementation. Given proposed mitigations, the Section 106 of the NHPA process, the requirements mandated by the Nellis AFB ICRMP, and existing management requirements, no adverse effects to cultural resources within the context of the NHPA would be anticipated from aircraft operations, munitions use, or other ground-disturbing activities. If an inadvertent discovery of cultural resources or human remains occurs during any ground-disturbing activity, procedures set forth in the Nellis AFB ICRMP and AFI 32-7065 would be implemented.
	2	Although aircraft operations would increase under Alternative 2, auditory and visual effects from aircraft operations are similar to those described under Alternative 1, and no physical impacts to cultural resources are anticipated as a result of aircraft operations. With the implementation of avoidance areas around specific traditional cultural properties and sacred sites and scheduling of mission activities around tribal events, no adverse effects to cultural resources would be anticipated from aircraft operations. Ready access for the South Range would result in increased potential for impacts to cultural sensitive resources as the Air Force expands military activities in these areas. However, the actual impacts to cultural resources from ground disturbance, emitter operations, and munitions use would be the same as discussed under Alternative 1, and culturally sensitive areas would be avoided to the extent practicable. Any new or proposed activities would be subjected to the Air Force's EIAP process and Section 106 of the NHPA prior to implementation. Given proposed mitigations, the Section 106 of the NHPA process, the requirements mandated by the Nellis AFB ICRMP, and existing management requirements, no adverse effects to cultural resources within the context of the NHPA would be anticipated from aircraft operations, munitions use, or other ground-disturbing activities. If an inadvertent discovery of cultural resources or human remains occurs during any ground-disturbing activity, procedures set forth in the Nellis AFB ICRMP and AFI 32-7065 would be implemented.

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
	3A **3A-1** **3B**	Impacts associated with aircraft use over these areas would be the same as those described for Alternative 1. No munitions use or emitter operations would occur in these proposed withdrawal areas. However, ground disturbance would occur from installation of fencing. These withdrawal areas would fall under the management requirements of the Nellis AFB ICRMP and additional compliance with NEPA and the NHPA would be required if areas of potential disturbance are anticipated within unsurveyed or sensitive areas. Given proposed mitigations, the Section 106 of the NHPA process, the requirements mandated by the Nellis AFB ICRMP, and existing management requirements, no adverse effects to cultural resources within the context of the NHPA would be anticipated from aircraft operations, munitions use, or other ground-disturbing activities. If an inadvertent discovery of cultural resources or human remains occurs during any ground-disturbing activity, procedures set forth in the Nellis AFB ICRMP and AFI 32-7065 would be implemented. An ancillary benefit to withdrawal of these areas is that public access would be restricted, thereby increasing the opportunity for beneficial impacts to cultural resources associated with greater protection and management. Removing unfettered access would decrease the likelihood of direct impacts to cultural resources in the Alternative 3B area from foot traffic, vehicular traffic, and vandalism or looting.
	3C	Impacts associated with aircraft use over this area would be the same as those described for Alternative 1. No ground-disturbing munitions use would occur within this withdrawal area (blanks may be used). However, ground disturbance associated with troop movements, emitter placement, runway construction, and fencing installation would occur. This area would fall under the management requirements of the Nellis AFB ICRMP, and culturally sensitive areas would be avoided to the extent practicable. Additional compliance with NEPA and the NHPA would be required if areas of potential disturbance are anticipated within unsurveyed or sensitive areas. Given proposed mitigations, the Section 106 of the NHPA process, the requirements mandated by Nellis AFB ICRMP, and existing management requirements, no adverse effects to cultural resources within the context of the NHPA would be anticipated from aircraft operations, munitions use, or other ground-disturbing activities. If an inadvertent discovery of cultural resources or human remains occurs during any ground-disturbing activity, procedures set forth in the Nellis AFB ICRMP and AFI 32-7065 would be implemented. As with the other alternative areas, an ancillary benefit to withdrawal of these areas is that public access would be restricted, thereby increasing the opportunity for beneficial impacts to cultural resources associated with greater protection and management. Restricting unfettered access would decrease the likelihood of direct impacts to cultural resources in the Alamo areas from foot traffic, vehicular traffic, and vandalism or looting.

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
	4	For Alternative 4, the period of withdrawal would be established and combined with other alternatives, conjunctively determining the temporal and spatial limits of the withdrawal. The longer the term of the withdrawal and the greater the geographic extent of the withdrawal, the greater the opportunity for beneficial impacts to cultural resources due to a lack of access by the general public. This lack of access would decrease the likelihood of direct impacts to cultural resources within the NTTR and/or the proposed expansion areas from foot or vehicular traffic and vandalism or looting.
	No Action Alternative	In the event that the land withdrawal for the NTTR is not extended, much of the approximately 3 million acres currently closed to the public would potentially be open to use under BLM and USFWS administration. The potential for the public to interact with known cultural resources or traditional properties or cultural landscapes would increase. Currently protected tribal resources could potentially be unprotected and open to potential damage from looting or vandalism. Appropriate environmental documentation and safeguards would be the responsibility of the permitting federal agency, which in this case would be the BLM and USFWS.
Earth Resources	**1**	Earth resources have the potential to be physically impacted by munitions use or other ground-disturbing activities resulting from the military mission. Because missions would occur in areas previously approved for specific activities, aircraft operations, and munitions use, ground-disturbing activities would have no significant impact on soils, paleontological, or geologic resources within the existing withdrawn lands under Alternative 1. Future actions, such as construction, would be subjected to additional consideration under NEPA and other applicable regulations and may require permits and BMPs that could include stormwater diversion, erosion control, or any number of best practices. An extension of the withdrawal of current NTTR lands, however, could restrict economic opportunity associated with extraction of some mineral resources. Potentially valuable deposits of mineral resources are present throughout the NTTR. Safety footprints required to support the various military missions would necessarily restrict public and industrial access to the NTTR. In terms of mineral exploration, the withdrawal extension of the NTTR would prevent the discovery and exploitation of economically viable resources. Because this alternative would preserve the current boundaries of the NTTR and not greatly increase the intensity of activities, no significant impacts are anticipated with respect to earth resources within the NTTR.
	2	Aircraft operations, munitions use, emitter operations and ground-disturbing activities would consist of similar types of activities and associated impacts as under Alternative 1, but ready access under Alternative 2 would allow these activities to be conducted in areas proposed for wilderness that are currently managed as wilderness. Therefore, impacts to earth resources would be similar if not the same as discussed under Alternative 1, although occurring in some areas previously undisturbed within the South Range. Activities would avoid to the extent practicable erosion-prone areas (e.g., steep slopes, seep/spring banks, etc.) and future actions, such as construction, would be subjected to additional consideration under NEPA and other applicable regulations and may require permits and BMPs that could include stormwater diversion,

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
		erosion control, or any number of best practices. As with current restrictions placed on mineral exploration within the DNWR, a change in jurisdiction would result in a continuation of this situation and would reflect a neutral impact to mineral exploration.
	3A **3A-1**	Ground-disturbing activities within these proposed expansion areas would be limited to fencing installation and would have no significant impact on soils, paleontological, or geologic resources. Any projects in the future may be subjected to additional consideration under NEPA and other applicable regulations. Expansion within this area would prevent the discovery and exploitation of economically viable resources. At present there is one active mining claim within the proposed Range 77 expansion area. If the Air Force withdraws this parcel, a subsequent potential restriction of access to this active claim could potentially represent an impact to earth resources. The significance of these impacts are difficult to quantify until the final disposition of these claims are resolved between the claimants and the Air Force. The potential for impacts would also be altered depending on the term of withdrawal to be implemented under Alternative 4. An ancillary benefit of withdrawal of this area would be access control that would provide the opportunity to restrict access to sensitive paleontological, or geologic resource areas and increase the opportunity for beneficial impacts to earth resources owing to this lessened potential for impacts.
	3B	Ground-disturbing activities within this proposed expansion area would be limited to fencing installation and would have no significant impact on soils, paleontological or geologic resources. Any projects in the future may be subjected to additional consideration under NEPA and other applicable regulations. The potential for impacts would also be altered depending on the term of withdrawal to be implemented under Alternative 4. An ancillary benefit of withdrawal of this area would be access control that would provide the opportunity to restrict access to sensitive paleontological or geologic resource areas and increase the opportunity for beneficial impacts to earth resources owing to this lessened potential for impacts.
	3C	Ground-disturbing activities within this proposed expansion area would include troop movements, emitter placement, runway construction, and fencing installation. These activities would avoid erosion-prone areas and would be subject to further NEPA and NPDES requirements depending on the action and scope of activity. As a result, implementation of mitigations and BMPs resulting from further site-specific environmental evaluations and regulatory requirements would minimize impacts to soils, paleontological, or geologic resources to less than significant. Any projects in the future outside the scope of those analyzed in this LEIS may also be subjected to additional consideration under NEPA and other applicable regulations. With the proposed expansion in this area, restricted access to mineral exploration could impact earth resources, depending on the actual interest by industry or the public in these resources. Currently, NTTR and USFWS DNWR lands are withdrawn from mineral exploration. The potential for impacts would also be altered depending on the term of withdrawal to be implemented under Alternative 4.

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
	4	For Alternative 4, the period of withdrawal would be established and combined with other alternatives, conjunctively determining the temporal and spatial limits of the withdrawal. The potential for mineral or other geologic resource exploration in many areas of the Proposed Action would be affected by the geographic extent and time period of the withdrawal. The longer the term of the withdrawal and the greater the geographic extent of the withdrawal, the greater the opportunity for future negative impacts due to potential lack of access to industry and the public. Conversely, earth resources such as paleontological and soil resources would benefit from a probable reduction in impacts from mineral exploration and a restriction of public access. Additionally, how the land use is managed after withdrawal (restricted, multiple use, etc.) would greatly impact future mineral and resource exploration. Currently, NTTR and USFWS DNWR lands are withdrawn from mineral exploration. Alternative 4A would have a minor potential to affect earth resources and offer the most flexibility for future economic development, as it represents the shortest withdrawal period proposed (20 years). Alternative 4B (50 years) would also have a moderate potential to affect earth resources and would offer less flexibility than Alternative 4A for future economic development because Alternative 4B represents a longer withdrawal period than Alternative 4A. The indefinite withdrawal period proposed for Alternative 4C would offer less flexibility than Alternative 4A or Alternative 4B for future economic development, as it represents the longest withdrawal period. Protections to soils and paleontological resources offered by Air Force land access controls would be beneficial to a greater degree with Alternative 4B than with Alternative 4A, and to the greatest degree with Alternative 4C.
	No Action Alternative	If the land withdrawal for the NTTR is not extended, the area currently closed to the public would potentially be open to use under BLM administration. Access to mineral resources under the No Action Alternative could be less restrictive under BLM management than under Air Force administration, resulting in beneficial impacts to local mining interests. Conversely, potential mining in the non-renewed lands could result in removal or significant alteration of geologic features or existing topsoil. The removal or shifting of topsoil could potentially result in increased soil erosion. Depending on the location, type, and intensity of future BLM-permitted developments and uses, unique geologic features or hazards to paleontological resources could be impacted.

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
Water Resources	**1**	There would be no changes to the baseline quantity or locations of munitions use or ground-disturbing activities, and therefore no change in the potential for water resources to be affected by erosion or deposition of metals and explosive materials. There would be no requests for additional surface or groundwater appropriations. Impacts would not increase over baseline conditions.
	2	There would be an increase in the quantity and locations of munitions use and ground-disturbing activities on the South Range. These activities would increase the potential for erosion and deposition of metals and explosive materials. However, all new activities would be subject to NEPA review and would involve applicable avoidance/minimization measures. Potential increases in water use could likely be fulfilled through current or existing water rights. Access protocols for water quality and wildlife management would be developed. With implementation of these measures, no significant impacts are anticipated.
	3A	A spring and small floodplain area, as well as two wells and one groundwater right, occur in this proposed expansion area. However, there would be no ordnance use or ground activities in the area, and perimeter fencing would result in only minimal ground disturbance. Access restrictions could affect water quality sampling in the upper Amargosa River watershed; access protocols for these activities would be developed. There would be no requests for additional surface or groundwater appropriations. No significant impacts are anticipated.
	3A-1	A spring and small floodplain area, as well as a groundwater right, occur in this area. Water wells do not occur within the Alternative 3A-1 boundary. This alternative occurs within the same hydrographic basin as Alternative 3A and this area would serve as a safety buffer only. There would be no ordnance use or ground disturbance that could result in surface water or groundwater contamination, or erosion-related impacts.
	3B	Small floodplain areas, several wells, and one groundwater right occur in this proposed expansion area. There would be no ordnance use in the area. Perimeter fencing (including crossing of intermittent surface water) would be constructed according to applicable design standards. Access protocols for water sampling would be developed. There would be no requests for additional surface or groundwater appropriations. No significant impacts are anticipated.
	3C	A total of 12 springs, wildlife water developments, and surface water features (including guzzlers, enhanced springs, and stormwater catchments), as well as potential floodplains and wetlands occur in this proposed expansion area. Two additional springs occur very close to the eastern border. Increased munitions use and ground-disturbing activities would increase the potential for erosion and deposition of metals and explosive materials. However, all new activities would be subject to NEPA review and would involve applicable avoidance/minimization measures. Fuel spills could occur during FARRP activities, and fuel could potentially migrate to groundwater or surface waters. However, spill response would be part of training preparation, and the potential for contamination would be reduced by the location (dry lake bed) and soil conditions of training areas. Perimeter fencing (including crossing of intermittent surface water) would be constructed according to

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
		applicable design standards. Access protocols for water sampling would be developed. Any new water requirements would be evaluated by the Nevada Division of Water Resources. With these actions, no significant impacts are anticipated.
	4	The proposed withdrawal periods associated with Alternative 4 must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect water resources, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen Alternatives may end. For example, generally, increased duration of the withdrawal period would correspond to increased deposition of ordnance and target constituents, as well as erosion potential. Restricted access to water resources for water quality and wildlife management actions would also be extended, although it is expected that access protocols would be developed.
	No Action Alternative	Under the No Action Alternative, much of the water-related potential for impacts (erosion and deposition of metals, explosive materials, and depleted uranium) due to military testing and training would cease. Other appropriate land uses could be reintroduced and would likely require evaluation regarding impacts to water resources. If the land were returned to the BLM, water rights would remain the property of the Air Force unless the BLM requested that the water rights be vacated or transferred to the BLM. With implementation of appropriate mitigation measures associated with reintroduced land use, no significant impacts to water resources are anticipated.
Hazardous Materials and Solid Waste	**1**	No changes in the quantity of hazardous materials used or hazardous materials generated and no off-site impacts related to regional disposal capacity would occur. All hazardous materials or wastes would be managed according to established procedures, and no significant impacts are anticipated.
	2	Increased training operations would not result in a significant change in the quantity of hazardous materials used, the quantity of hazardous or non-hazardous waste generated, or in off-site impacts related to regional disposal capacity. Therefore, no significant impacts are anticipated.
	3A **3A-1** **3B**	Fencing that will meet BLM standards is proposed and may require maintenance. However, there would be no other activities within these proposed expansion areas that would involve hazardous materials or generate hazardous wastes. All hazardous materials or wastes would be managed according to established procedures, and no significant impacts are anticipated.
	3C	In this proposed expansion area, hazardous materials would be used and wastes would be generated from runway construction, installation and operation of emitters, and possibly from fencing installation and maintenance. However, all hazardous materials or wastes would be managed according to established procedures, and no significant impacts are anticipated.

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
	4	The proposed withdrawal periods associated with Alternative 4 must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect hazardous or solid wastes, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen alternatives may end.
	No Action Alternative	Hazardous materials would not be used and hazardous wastes would not be generated from maintenance processes, as these would cease. Hazardous materials would be removed from the range and disposed of or reissued elsewhere. Hazardous materials utilized in other land uses on what had been the NTTR would receive separate environmental review and would be administered by BLM. Therefore, no significant impacts are anticipated.
Health and Safety	**1**	There would be no changes in the operational tempo. All actions would continue to be performed by technically qualified personnel in accordance with applicable safety requirements; consequently, there would be no significant impacts related to aircraft mishaps, munitions use, or emitter operations over the baseline condition.
	2	There may be slight increases in risk potentials relative to any increase in operational tempo. However, all actions would be performed by technically qualified personnel in accordance with applicable safety requirements; consequently, there would be no significant impacts related to aircraft mishaps, munitions use, or emitter operations.
	3A **3A-1** **3B** **3C**	Air operations could increase with the availability of these proposed expansion areas; consequently, the potential for aircraft mishaps and from mishap-related fires would incrementally increase when compared to Alternative 1. Safety impacts resulting from training-initiated fires would not occur, as no air-to-ground or ground-based munitions training would occur in Alternatives 3A, 3A-1, or 3B. All actions would be performed by technically qualified personnel in accordance with applicable safety requirements; consequently, no significant impacts would occur. For Alternative 3C, ground disturbance has the potential to result in an expansion of invasive annual grass that could result in increased wildfire risk. Reduced access for the purposes of safety and security into this area could increase or delay response times, which could result in larger fires. Airspace de-confliction could increase where a wildfire response would include civilian firefighting aircraft.
	4	The proposed extension periods associated with Alternative 4 must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves affect health or safety, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen Alternatives may end.
	No Action Alternative	Potential impacts related to air-to-ground and ground-based activities would not occur, as these operations would cease; however, air-to-air training would still be possible. This may result in an decrease in overall flight operations; consequently, the potential for mishaps or bird/wildlife aircraft strikes would be reduced,

Table 3-50. Summary of Impacts

Resource Area	Alternative	Summary of Impacts
		resulting in an overall decrease in risks associated with aircraft flight training. Fire response times would decrease because of increased access, possibly decreasing fire size due to timely suppression actions. Overall fire management activities would increase.
Transportation	**1**	Impacts on existing NTTR roads would not be expected to change, and there would be no interaction with existing transportation infrastructure, current levels of service, or traffic patterns in the surrounding area beyond existing baseline conditions.
	2	Ready access could include improvements to existing roads and trails along with possible road/trail relocations especially within the South Range. Troop movements on NTTR roads and surrounding highways would not result in any adverse transportation issues.
	3A **3A-1** **3B**	The proposed expansion areas would have no interaction with the existing transportation infrastructure, current levels of service, or traffic patterns within the NTTR or the surrounding area beyond existing baseline conditions.
	3C	In addition to baseline transportation conditions there is the potential for new road construction within the proposed Alamo withdrawal areas. Addition of safety buffers could also require DNWR road closures (primarily Alamo Road and smaller intersecting roads and trails).
	4	The proposed withdrawal periods associated with Alternative 4 must be implemented in conjunction with one or more of the other alternatives or subalternatives. Alternative 4 would not result in any interaction with the existing transportation infrastructure, current levels of service, or traffic patterns within the NTTR or the surrounding area. Because Alternative 4 reflects periods of time, which do not in and of themselves affect transportation resources, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen alternatives may end.
	No Action Alternative	Impacts to the existing transportation infrastructure, current levels of service, and traffic patterns within and surrounding former NTTR lands would depend on future land use planning and resource management objectives of the land management agencies.

< = less than; AFB = Air Force Base; AFI = Air Force Instruction; Alt; Alternative; AUM = animal unit months; BLM = Bureau of Land Management; BMP = best management practice; CFR = Code of Federal Regulations; CDNL = C-weighted day-night sound level; dB = decibel; DNL = day-night average sound (or noise) level; DNWR = Desert National Wildlife Range; DoD = U.S. Department of Defense; DOE/NNSA = U.S. Department of Energy/National Nuclear Security Administration; EC = Electronic Combat; EIAP = Environmental Impact Analysis Process; FARRP = Forward Air Refueling and Rearming Procedures; FLPMA = *Federal Land Policy Management Act*; GHG = Greenhouse Gases; HMA = Herd Management Area; IADS = Integrated Air Defense System; ICRMP = Integrated Cultural Resource Management Plan; INRMP = Integrated Natural Resources Management Plan; LEIS = Legislative Environmental Impact Statement; MOA = Memorandum of Agreement; NEPA = *National Environmental Policy Act*; NDOW = Nevada Department of Wildlife; NHPA = *National Historic Preservation Act (of 1966)*; NPDES = National Pollutant Discharge Elimination System; NTTR = Nevada Test and Training Range; OHV = off-highway vehicle; OV = Oasis Valley; PILT = Payment in Lieu of Taxes; RETC = Renewable Energy Transmission Corridor; SUA = Special Use Airspace; TDY = Temporary Duty; USFWS = U.S. Fish and Wildlife Service; VFW = Veterans of Foreign War; WSA = Wilderness Study Area

3.15.1 Summary of Impacts for Potential Alternative Combinations

As discussed in Chapter 2, a Congressional decision regarding the land withdrawal may include various combinations, or portions, of the alternatives presented in this LEIS. The following discussion attempts to summarize the impacts that may occur as a result of various combinations of alternatives.

Methodology

Essentially, aside from selection of the No Action Alternative, any withdrawal decision must include either Alternative 1 (status quo) or Alternative 2 (extend existing withdrawal with ready access) or portions thereof. Alternative 3 or any of the Alternative 3 subalternatives cannot be selected exclusive of either Alternative 1 or Alternative 2; in other words, any Alternative 3 selection must accompany either Alternative 1 or Alternative 2, or a portion thereof.

Alternative 4, which is related to the timeframe of the withdrawal decision, must also accompany any withdrawal decision (i.e., Alternatives 1, 2, or 3). However, Alternative 4 would not necessarily result in any direct or indirect impacts outside of those already described for Alternatives 1, 2, or 3 because there is no "action" associated with the timeframe decision. However, the time period for the withdrawal would dictate the length of time over which identified alternative-specific impacts may occur.

Given that Congress could decide to implement any combination of proposed alternatives, or even modify proposed alternatives and implement portions of different alternatives or alternatives not presented in this document, it would be problematic to attempt to identify every possible combination of potential outcomes. As a result, and given the above factors, the impacts associated with potential alternative combinations focuses on the alternative-specific impact analysis previously presented in Chapter 3 and summarized in Table 3-50 and identifies where combinations of alternatives would result in impacts substantively different from those described for individual alternatives.

As an example, for air quality analysis: while each individual "action" alternative would not result in significant adverse air quality impacts, a combination of any "action" alternatives would result in air quality emissions greater than those identified for the individual alternatives. However, the combined impact would not result in any significant adverse impacts, regardless of combination. Therefore, any combination of alternatives would not result in air quality impacts substantively different than those identified for individual alternatives.

Alternatively, for land use, while Alternative 2 by itself would have no adverse impact to recreation because land use impacts would be limited to the existing NTTR land boundary (which currently has limited access), the combination of Alternative 2 plus Alternative 3C would result in significant impacts to recreation because Alternative 3C involves limiting access to large portions of the DNWR that are currently accessible to the public. However, a combination of Alternative 2 and Alternative 3B would essentially have no adverse impact to recreation because the Alternative 3B area is not used for public recreation/access.

The following discussion provides summaries for each resource area and the potential impacts associated with varying combinations of alternatives based on the above methodology.

Airspace

Depending on alternatives selected, air operations could increase; however, no changes to the boundary of existing airspace would occur under any alternatives. Despite a potential for increased air operations under alternatives allowing for ready access, the existing airspace would be more efficiently utilized, which would reduce airspace scheduling conflicts. There are no substantive differences in airspace impacts between alternative combinations and adverse impacts to airspace are not anticipated regardless of alternative combination.

Noise

The only substantive differences between alternatives with regards to noise are potential increases in operational intensity under Alternative 2 and potential increased exposure to noise in the Alternative 3C area. For alternative combinations involving Alternative 1, there would be no expected increase in noise because military operations would remain as status quo. For alternative combinations involving Alternative 2, air operations, munitions use, vehicle use, and emitter operations may increase on the NTTR, with blank munitions use, emitter operations, and ground disturbance associated with troop movements, vehicle use and construction occurring in previously unutilized areas of the South Range. These activities would also occur under Alternative 3C in the Alamo areas. However, under any alternative combination, incremental increases in noise levels would be minimal (less than 1 dB) and the number of sonic booms per day would be expected to increase by one sonic boom over the baseline levels. As a result, no significant noise impacts are anticipated under any alternative combination.

Air Quality

Depending on alternatives selected, air operations, munitions use, vehicle use and emitter operations may increase within the NTTR; fencing could occur at all proposed expansion areas; and blank munitions use, emitter operations, ground disturbance associated with troop movements, vehicle use, and construction may occur within the Alternative 3C proposed expansion area. As a result, emissions may increase associated with activities both on the NTTR and relative to alternative locations, with greater emissions associated with respective alternative combinations (e.g., a combination of Alternatives 3A + 3B would result in less emissions than 3A + 3C because 3A + 3B requires less fencing and 3C is larger and also involves other ground-disturbing activities that would not occur with 3B); however, increases in criteria pollutant and GHG levels would be minimal and those from construction activities would be temporary. Therefore, there are no substantive differences in air quality impacts between alternative combinations and no significant impacts to regional air quality are anticipated regardless of alternative combination.

Land Use, Recreation, and Visual Resources

The substantive differences between alternatives are as follows:

Alternative 1: No change to baseline condition—the NTTR would continue to have limited access on a case-by-case basis.

Alternative 2: Portions of the South Range previously restricted to military activity would become accessible for operational use. Subsequent introduction of military training and infrastructure development in an otherwise untrammeled landscape could cause significant impacts to the visual characteristics in that area. Any development and infrastructure improvements could introduce permanent or persistent light-emitting sources that contribute to light pollution in the region, and, therefore, adversely impact natural night skies. Impacts to natural night skies would be worse over areas where persistent and permanent light sources are concentrated

Alternative 3A: Public access to this area, currently unrestricted, would become limited on a case-by-case basis as is the current practice for the NTTR. This would affect one active mining claim, the unallocated grazing area, and Razorback grazing allotment, the NDOW hunting unit 253, and, depending on fencing locations, the Bullfrog HMA; it would also eliminate existing recreational uses (i.e., biking and OHV use) within the area. No impacts to visual resources are expected under this alternative.

Alternative 3A-1: This area is a smaller portion of the Alternative 3A area, which would also affect one active mining claim and result in reduced affected acreage of the unallocated grazing area and Razorback grazing allotment, NDOW hunting unit 253, and the Bullfrog HMA than under Alternative 3A. There would be no impact to existing recreational uses (i.e., biking and OHV use) within the area. No impacts to visual resources are expected under this alternative.

Alternative 3B: This area is currently inaccessible to the public, which would not change under Alternative 3B; however, the area may be made available on a limited, case-by-case basis as is current practice on the NTTR. No impacts to visual resources are expected under this alternative.

Alternative 3C: This area is currently part of the DNWR and open for public recreation; public access to portions of this area would be limited in a similar fashion to current practices on the NTTR. Similar to impacts in the South Range under Alternative 2, introduction of military training and infrastructure in an otherwise untrammeled landscape would change the area from “undeveloped” to one with human development and interference. Visual resources management designations and objectives in this area would need to be modified in order to support the new activities. In addition, any development and infrastructure improvements could introduce permanent or persistent light-emitting sources that contribute to light pollution in the region, and, therefore, adversely impact natural night skies. Impacts to natural night skies would be worse over areas where persistent and permanent light sources are concentrated.

From a public access/recreation perspective, alternative combinations involving Alternative 3C would have the greatest potential for significant impacts; Alternative 3A would have an additive adverse effect on public access/recreation but less so than

Alternative 3C, and Alternatives 3A-1 and 3B would have the least additive impact. Alternative 2 would not have any incremental effect on public access/recreation because access is already limited on the NTTR.

For visual impacts, a combination of Alternatives 2 and 3C would have the greatest potential for impact due to the additive character of light pollution and its propagation over large distances. Alternatives 3A/3A-1 and 3B would have minimal incremental impact on visual resources when considered in combination with other alternatives.

Wilderness

The substantive differences between alternatives with regards to wilderness area impacts are associated with the amount of land area affected by a potential change in land management:

Alternative 1: No change to wilderness or areas proposed for wilderness.

Alternative 2: Land area managed as wilderness would potentially be reduced by approximately 590,000 acres, which represents approximately 42 percent of the land area associated with the areas proposed for wilderness on the DNWR. However, this area would be completely within the NTTR boundary.

Alternative 3A/3A-1: No change to wilderness.

Alternative 3B: Approximately 33,000 acres, or 2 percent, of the land area managed as de facto wilderness within the DNWR would be affected.

Alternative 3C: This would affect approximately 227,000 acres of land outside the current NTTR boundary, or 16 percent, of the land area within DNWR currently managed as de facto wilderness.

The scope of impact to wilderness is largely dependent on potential alternative combinations, with specific impacts dictated by the location of the area in question as per the above list of alternatives.

Alternative combinations involving Alternative 1 would not result in any impacts to areas proposed for wilderness, even were there to be expansion combined with Alternative 1, because the land management of these areas would not change. For example, if a combination of Alternative 1 and Alternative 3C was chosen, although 227,000 acres proposed for wilderness would now become part of the NTTR, the land would continue to be managed as de facto wilderness and, thus, there would be no effect to wilderness characteristics. However, access limitations would be expanded into portions of the Alamo areas (which is covered under Land Use, Section 3.4), thus affecting the ability of persons to experience wilderness.

In cases where ready access is granted for areas currently managed as de facto wilderness (i.e., alternative combinations involving Alternative 2), minor impacts mainly associated with effects to untrammeled, natural, and undeveloped qualities are anticipated resulting from increased use of the areas. Impacts to solitude or primitive and unconfined recreation of the South Range would not be expected because this area

is not accessible for recreation; however, impacts to solitude or primitive and unconfined recreation would occur for the Alamo areas.

The largest potential for impacts occurs with a combination involving Alternatives 2, 3B, and 3C, which could result in approximately 61 percent of areas proposed for wilderness in the DNWR affected if ready access was granted to the South Range and expansion areas. Solitude or primitive and unconfined recreation of surrounding areas with wilderness characteristics may be adversely impacted from increased aircraft operations, munitions use, and emitter operations. Noise levels would not substantially increase over baseline conditions.

Combinations involving Alternative 3B, regardless of other alternatives selected, would not result in a substantive incremental impact to areas proposed for wilderness because that land area represents only 2 percent of the total.

Regardless of alternative combination, based on the remaining amount of land area in the state of Nevada that contain wilderness qualities, the removal of requirements to manage the alternative areas as wilderness would not significantly reduce wilderness qualities, or opportunities to experience wilderness, in Nevada.

Socioeconomics

Substantive differences between alternatives are essentially associated with the particular impact to the counties associated with potential withdrawal areas.

Alternative 1: No further impact on the region than the baseline economic impact because payrolls and expenditures would be expected to continue at typical levels, though they may change as new technologies, aircraft, and military strategies are introduced over time.

Alternative 2: Estimated economic increase associated with lodging and per diem for TDY personnel associated with a 30 percent increase in test and training activities under Alternative 2 would be $67 million per year.

Alternative 3A: Based on acreage, potential impact on the PILT for Nye County would be approximately $6,400 per year; there would be an 83 percent reduction in available grazing area to the rancher currently leasing the Razorback AUM allotment and would be a significant impact to that individual. Thus, the Air Force plans to work directly with rancher to address this impact.

Segments of OHV race routes such as the Best in The Desert's Vegas-to-Reno route are close to the NTTR boundary and may be impacted by the additional land withdrawal for Alternative 3A. The 2016 route would not have been impacted by any of the proposed Alternative 3 actions. With the exception of 2016, Best in the Desert's Vegas to Reno off-road race has used the route that would be impacted by proposed expansion area for Alternative 3A since 2009. In any event, the race routes may vary between years, or the Air Force might be able to adjust mission-related activities to accommodate these races.

Energy Corridor 18-224 would be impacted by Alternative 3A in the northern land area. This may be mitigated through coordination with NTTR for access or by construction of the proposed boundary fence along the eastern boundary of energy Corridor 18-224 within the proposed safety buffer area.

Alternative 3A-1: Based on acreage, there would be an estimated reduction of $5,500 per year in PILT allocation to Nye County; impacts to grazing would be similar to those described for Alternative 3A. Energy Corridor 18-224 would be impacted by Alternative 3A-1 in the northern land area, which would be addressed by the same mitigations proposed for Alternative 3A.

Alternative 3B: Based on acreage, there would be a potential estimated reduction in PILT allocation for Nye County by approximately $3,600 per year. Energy Corridor 223-224 lies within the southern portion of the proposed NTTR expansion area within Alternative 3B (Range 64C/D-65D). The BLM Southern Nevada District is currently processing a land use plan revision. Federally designated portions of this corridor are entirely on BLM-administered land, with a 3,500-foot width for the majority of the corridor and a reduced 2,000-foot width between the NTTR and Red Rock Canyon National Conservation Area. The corridor is designated as a multi-modal corridor that can accommodate both electrical transmission and pipeline projects. Existing rights-of-way include a federal-aid highway (U.S. Route 95), power transmission lines, and fiber optic and communication lines.

Alternative 3C: The estimated recreational-use economic impact would potentially be a loss of $1,990,790.

Alternative combinations involving expansion would have an additive adverse impact, mainly associated with economic losses either from PILT allocations for Nye County or recreation-based expenditures throughout the region; the degree of impact would be dependent on the alternative combination selected. Alternative 2 would have an additive effect in terms of potential beneficial economic impact, primarily in Clark County, from increased expenditures on behalf of the military; such beneficial impacts may to some degree offset potential negative impacts from other selected alternatives.

Environmental Justice

There are no substantive differences between alternatives or alternative combinations with regards to environmental justice. The six census tracts and the associated environmental justice and youth/elderly populations residing under the Caliente and Coyote SUAs that are currently exposed to 65 to 69 dB DNL associated with subsonic aircraft noise would continue to be exposed to this range of noise under all alternative combinations. Noise levels of 62 CDNL outside of the NTTR boundary would not extend into populated areas and no adverse significant noise or safety impacts associated with ground disturbance, munition use, and emitter operations have been identified that would impact the public. Therefore, no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children would be anticipated from any alternative combination.

Biological Resources

Depending on alternatives selected, air operations, munitions use, vehicle use and emitter operations may increase within the NTTR; fencing could occur at all proposed expansion areas; and blank munitions use, emitter operations, ground disturbance associated with troop movements, vehicle use, and construction may occur within the South Range and Alternative 3C proposed expansion area. Alternative 3A, 3A-1, and 3B areas would mainly be utilized as buffer areas, and fencing along the boundaries has the potential to impact biological resources by removing native vegetation or special status plant species, fragmenting wildlife habitat, creating barriers for wildlife movement, causing injury to large mammals that run into or get caught in the fence, damming or altering streams, or creating corridors for weed dispersion. However, impacts could be avoided or minimized through implementation of proposed mitigations and management actions described in Section 2.9 (Mitigation). Alternative 3A would result in approximately 25 miles of fencing, 25 miles for Alternative 3A-1, and 30 miles for Alternative 3B. Alternative 3C would also involve approximately 60 miles of fencing, potentially resulting in similar impacts as described above. Consequently, any alternative combination involving these alternatives could result in between 25 and 115 miles of fencing.

Alternative combinations associated with Alternative 2 and Alternative 3C could result in increased potential for direct impacts to biological resources from an associated increase in use of existing target areas; construction and maintenance of new facilities, targets, or roads; placement of threat emitters; and increased ground training (including access by vehicles and personnel). Increased potential for indirect impacts could occur from soil contamination and subsequent cleanup of target impact areas; accidents such as fuel spills or fire; or non-native species invasion in areas previously inaccessible for military training. However, impacts would likely be site-specific, represent a small portion of the overall action area, and be reduced through proper planning, monitoring, and maintenance.

Impacts associated with the continued withdrawal of the NTTR and potential expansion could also result in beneficial impacts to biological resources as these resources would be managed for conservation purposes and impacts from public access would be limited.

As a result, impacts associated with alternative combinations involving only Alternatives 1, 3A, 3A-1, and 3B would have minimal impact over current/baseline conditions, while alternative combinations involving Alternative 2 and 3C would have a greater potential for adverse impact over a larger area due to the potential increase in operational intensity and introduction of military operations into new areas. In any case, potential impacts identified can be avoided or minimized to less than significant with implementation of suggested mitigations and management actions identified in Section 2.9 (Mitigation).

Cultural Resources

Under any alternative combination no direct physical impacts to resources are anticipated as a result of aircraft operations. However, indirect visual or auditory impacts can potentially occur from aircraft or other vehicular operations, with a potential increase in operational intensity associated with alternative combinations that include Alternative 2. However, with the implementation of avoidance areas around specific traditional cultural properties and sacred sites and scheduling of mission activities around tribal events, no adverse effects to cultural resources would be anticipated from aircraft operations under any alternative combination.

Cultural resources have the potential to be physically impacted by live munitions use (associated with Alternatives 1 and 2) or other ground-disturbing activities (under all alternatives) resulting from the military mission. Potential direct physical impacts to cultural resources under Alternatives 3A, 3A-1, and 3B would mainly be associated with installation of fencing since these areas would be used as buffer.

Alternative combinations involving Alternative 2 and Alternative 3C would result in increased potential for impacts to culturally sensitive resources as the Air Force expands military activities in the South Range and Alamo areas. However, the context of impacts to cultural resources from ground disturbance, emitter operations and munitions use would essentially be the same as that for Alternative 1, only over a larger area with the potential to impact more resources.

A benefit associated with alternative combinations involving Alternative 3 and its subalternatives is a reduction in potential impacts to cultural resources associated with limited public access and increased resource protection and management. Limited public access would decrease the likelihood of direct impact to cultural resources within the expansion areas from foot traffic, vehicular traffic, and vandalism or looting.

Regardless of alternative combination, any culturally sensitive areas would be avoided to the extent practicable, and given proposed mitigations, Section 106 of the NHPA process, the requirements mandated by the Nellis AFB ICRMP, and existing management requirements, no adverse effects to cultural resources within the context of the NHPA would be anticipated under any alternative combination.

Earth Resources

Under all alternative combinations earth resources have the potential to be physically impacted by munitions use or other ground-disturbing activities resulting from the military mission. For Alternative 1, the context and intensity of impacts would be the same as the baseline condition because missions would occur in areas previously approved for specific activities; aircraft operations, munitions use, and ground-disturbing activities would have no significant impact on soils, paleontological or geologic resources. However, the context and intensity of impacts to earth resources for other alternatives is alternative-specific, with substantive differences being the types of activities proposed in each potential expansion area. For alternative combinations involving Alternatives 3A, 3A-1, and 3B, any additional impacts to earth resources would be limited to ground disturbance associated with fencing; however, there would be no

substantive difference in the context or intensity of impacts across these alternatives aside from the miles of fencing installed per alternative.

Additional impacts associated with alternative combinations involving Alternative 2 may result from increased intensity of military operations, as well as the introduction of ground-disturbing activities in areas previously undisturbed; however, the context of these impacts would be the same as activities currently occurring on the NTTR. In a similar fashion, additional impacts associated with alternative combinations involving Alternative 3C would involve ground disturbance in areas previously undisturbed.

With regards to mineral exploitation, an extension and or expansion of the withdrawal of NTTR lands could restrict economic opportunity associated with extraction of some mineral resources. Potentially valuable deposits of mineral resources are present throughout the NTTR. Safety footprints required to support the various military missions would necessarily restrict public and industrial access to the NTTR. In terms of mineral exploration, the continuation extension of NTTR would prevent the discovery and use exploitation of economically viable resources. At present there is one active mining claim within the Alternative 3A and 3A-1 expansion areas. If the Air Force withdraws either parcel, a subsequent potential restriction of access to these active claims could potentially represent an impact to earth resources. The significance of these impacts is difficult to quantify until the final disposition of these claims is resolved between the claimants and the Air Force. The potential for impacts would also be altered depending on the term of withdrawal to be implemented under Alternative 4.

Overall, the substantive difference between potential alternative combinations is essentially the amount of area that may be potentially disturbed, with combinations involving Alternatives 2 and 3C resulting in disturbance over a larger area than other alternative combinations. However, the types of disturbance would be fundamentally the same. Combinations involving Alternative 3A would result in additional potential impacts to an active mining claim.

Regardless of alternative combination, activities would avoid erosion-prone areas and would be subject to further NEPA and NPDES requirements depending on the action and scope of activity. As a result, implementation of proposed mitigations and BMPs resulting from further site-specific environmental evaluations and regulatory requirements would minimize impacts to soils, paleontological or geologic resources to less than significant. Any projects in the future outside the scope of those analyzed in this LEIS may also be subjected to additional consideration under NEPA and other applicable regulations.

Water Resources

Aside from the specific resources (e.g., springs, wetlands, etc.) described for each area in Table 3-50 and Section 3.11 (Water Resources) the substantive difference between potential alternative combinations is essentially the amount of area that may be potentially disturbed due to ground disturbance and training activities, with combinations involving Alternatives 2 and 3C resulting in disturbance over a larger area than other alternative combinations, thus resulting in potential impacts to a greater number of

resources. However, the types of disturbance would be fundamentally the same and have similar impacts; e.g., fencing installation would have the same type of impact to wetlands regardless of which alternative combination is selected; however, the amount of wetlands potentially impacted may be different per alternative combination, depending on resources present and planning and avoidance measures employed. Overall, ground disturbance in or near surface water features, wetlands, and other water resources would be avoided to the extent practicable regardless of alternative.

Combinations involving Alternative 2 would also have the additive effect of an increase in operations over baseline conditions (thus resulting in an increased potential for erosion and water resource impacts). Combinations with Alternative 2 would also result in an incremental increase in water consumption associated with the increase in operations; however, this increase could likely be fulfilled through current or existing water rights.

Overall, impacts to water resources that may result in substantive issues for human health or wildlife populations are not anticipated under any alternative combination; however, the potential for adverse impacts increases incrementally as additional alternatives are selected, with the greatest potential for adverse impacts associated with combinations involving Alternatives 2 and 3C.

Hazardous Materials and Solid Waste

Based on the analysis for each alternative, the only substantive differences between alternative impacts are (1) the potential for increased hazardous waste generation and spills from an increase in operational intensity associated with Alternative 2, and (2) the potential for use of hazardous materials and spills in areas previously unexposed to this potential (i.e., the proposed expansion areas and portions of the South Range). However, regardless of alternative combination all hazardous materials or wastes would be managed according to established procedures, and no significant impacts would be anticipated under any alternative combination.

Health and Safety

The substantive differences in health and safety impacts between alternatives are the potential for increased air operations under Alternative 2 and Alternative 3 over the baseline condition (Alternative 1), and increased ground training activities and emitter use in the South Range (Alternative 2) and Alternative 3C area. As a result, alternative combinations involving Alternatives 2 and 3 have the potential for increased aircraft mishaps, with alternative combinations involving Alternatives 2 and 3C having the added potential for training-related fires and exposure to electromagnetic radiation when compared to other alternative combinations. However, regardless of alternative combination, all actions would be performed by technically qualified personnel in accordance with applicable safety requirements and based on analysis in Section 3.13 (Health and Safety) the potential for hazardous electromagnetic radiation exposure is less than significant; consequently, no significant impacts would be expected under any alternative combination.

Transportation

The only substantive differences between alternatives are that under Alternative 2 there could be improvements to existing roads and trails along with possible road/trail relocations within the South Range, and under Alternative 3C there could be road improvements/maintenance activities within the withdrawn portion and portions of Alamo Road would be closed to the public. Aside from Alternative 3C, no impacts to locally accessible roads or transportation routes would occur. Consequently, additive impacts to local roadways would only occur through a combination of alternatives involving Alternative 3C.

3.15.2 Native American Perspective on the Summary of Impacts Table

The CGTO understands the baseline results identified in Summary of Impacts Affected Environment Alternative 1 do not accurately represent tribal perspectives or account for the culturally perceived impacts presumed to be limited or non-existent. The CGTO is aware of multiple impacts to the cultural landscape that relates to existing military activities that occurs within the NTTR and proposed expansion areas that cannot be minimized.

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4. CUMULATIVE EFFECTS AND OTHER ENVIRONMENTAL CONSIDERATIONS

4.1 CUMULATIVE EFFECTS

4.1.1 Introduction

According to CEQ regulations, the cumulative effects analysis of an EIS should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1508.7).

Cumulative effects may occur when there is a relationship between a proposed action or alternative and other actions expected to occur in a similar location or during a similar time period. This relationship may or may not be obvious. The effects may then be incremental and may result in cumulative impacts. Actions overlapping with or in close proximity to the Proposed Action or alternatives can reasonably be expected to have more potential for cumulative effects on "shared resources" than actions that may be geographically separated. Similarly, actions that coincide in the same timeframe tend to offer a higher potential for cumulative effects.

In this LEIS, the Air Force has made an effort to identify actions on or near the proposed withdrawal areas that are under consideration and in the planning stage at this time. These actions are included in the cumulative effects analysis to the extent that details regarding such actions exist and the actions have a potential to interact with the proposed alternatives outlined in this LEIS. Although the level of detail available for those future actions varies, this approach provides Congress with the most current information to evaluate the consequences of the alternatives. The LEIS addresses cumulative impacts to assess the incremental contribution of the alternatives to impacts on affected resources from all factors.

The analysis first discusses past actions, events, and circumstances that are relevant to the environments associated with the NTTR land withdrawal alternatives. Following is a discussion of other actions that, when combined with military test and training actions and conceptual construction activities, may result in incremental impacts.

4.1.2 Relevant Past and Present Actions

The relevant past and present actions associated with the impacts of the Proposed Action include continued use of the NTTR for military test and training activities, plus nearby development and infrastructure improvements such as roads, pipelines, and power transmission lines. Past and present actions in and around the action areas associated with these activities may have cumulative effects on the local environment.

Nellis Nevada Test and Training Range Wildland Fire Management Plan Final Report. A Wildland Fire Management Plan was prepared for unimproved lands that present a wildfire hazard on the NTTR. Wildland fires pose a significant threat to training missions, weapons testing, structures, infrastructure, and natural and cultural resources on USAFWC lands on the NTTR. In addition, wildfires that start on the NTTR could spread to neighboring private and public lands, threatening homes in the wildland urban interface/intermix and causing damage to natural and cultural resources. Conversely, wildfires occurring outside the NTTR could burn onto the NTTR and threaten safety, the military mission, and natural and cultural resources. Flares used during aerial training activities within the MOAs have the potential for unintentionally igniting a wildland fire on lands within and outside of the NTTR.

The Wildland Fire Management Plan guides the full range of fire management-related activities for the NTTR. As a component of the NTTR INRMP, the Wildland Fire Management Plan provides the framework for fire management, wildland fire suppression, burned area emergency rehabilitation, emergency stabilization, and fuel treatment activities to support the military mission and safely accomplish the resource protection and ecosystem management objectives of the INRMP.

Management of the NTTR is the responsibility of the 99th Air Base Wing (99 ABW) and NTTR personnel working through the USAFWC, which do not have trained or qualified personnel to protect the NTTR from damage or loss by wildland fires. The USAFWC has established an agreement with the DOE that allows each agency to share personnel and assets in fighting wildfires. While this agreement is a positive step forward, it must be understood that both agencies have severe limitations on the type and level of support that each can offer at any given time. Nellis AFB and the BLM have signed a Memorandum of Agreement to address each agency's roles and responsibilities for brush and range fires on the NTTR. However, BLM is the primary force for fighting wildland fires on the NTTR. Currently, the BLM (Nevada) and the Air Force's 99 ABW have a draft MOU under review that will replace the 2010 Memorandum of Agreement. Further, AFCEC and BLM (National Fire and Aviation Directorate) have established a 2017 interagency agreement for the Conservation of Natural Resources on Air Force Controlled Lands. This agreement establishes a cooperative conservation relationship between all parties to support the management of natural resources on Air Force–controlled lands.

Fire Management for the Cedar Peak Area on the Nevada Test and Training Range Final Environmental Assessment. Nellis AFB prepared an Environmental Assessment (EA) that authorized the NTTR Wildland Fire Management Plan and the Cedar Peak fuels reduction project. An important military communications asset is located at the summit of Cedar Peak. To protect this asset from wildland fire, a 300-foot radius (6-acre area) around the asset would be clear-cut and an additional 900-foot radius (96-acre area) would be thinned of trees. Trees would be felled by hand, piled, and burned on-site under winter conditions to limit potential impacts to on-site soils, the canopies of nearby trees, and the military asset of concern.

In addition to outlining fire suppression, fuels management, and rehabilitation techniques, the Wildland Fire Management Plan also discusses routine safety practices, training, and maintenance measures that are currently implemented at the NTTR and consistent with operation and maintenance requirements covered under existing NEPA documentation. Wildland fire suppression activities could impact military operations and cultural and natural resources. However, by implementing measures and additional administrative components of the Wildland Fire Management Plan, suppression impacts are either avoidable or mitigatable. Adhering to these measures also would reduce the potential likelihood of a devastating wildland fire, decrease the adverse effects caused by a potential wildland fire, and serve as BMPs to reduce potential significant adverse effects, as defined by NEPA.

The Cedar Peak Project has been completed, and the project's goals and objectives have been met. The project was successful in reducing fuels and wildfire risk to the asset at Cedar Peak.

F-35 Force Development Evaluation and Weapons School Beddown, Nellis Air Force Base, Nevada, Final Environmental Impact Statement. In 2011, the Air Force signed a Record of Decision for the F-35 Force Development Evaluation and Weapons School Beddown at Nellis, AFB (U.S. Air Force, 2011) (the "F-35 beddown EIS"). The proposed action involved basing 36 F-35 aircraft at Nellis AFB with 12 aircraft for the Force Development Evaluation program and an additional 24 for Weapons School training.

Arrival of aircraft was based on a phased approach contingent on manufacturing progress and other elements of F-35 deployment; the first aircraft arrived in 2012 and the last is scheduled for 2020. It was anticipated that the additional aircraft would conduct an additional 17,280 annual airfield operations at Nellis AFB by 2020 and an additional 51,840 annual sortie-operations in NTTR. In addition, F-35 pilots would practice ordnance delivery on approved targets and release of flares in approved airspace.

In addition to the planned operations, there will be construction, demolition, or modification of a variety of base facilities to support the F-35 programs, particularly along the flightline. Table 4-1 provides a list of the proposed construction and demolition activities.

Table 4-1. Proposed Construction and Demolition Actions for the F-35 Beddown

Project	Area (square feet)	Base Area	Start Date Fiscal Year (FY)	Demolish Building #
A-10 Thunder Aircraft Maintenance Unit (AMU)	11,000	B	FY11	
6-Bay F-35 Hangar/AMU	80,988	B	FY11	265, 268, 269
Aircraft Washrack Addition, 1-bay to Building 271	9,551	B	FY11	
B10425 Munitions Facility Addition at Building 10425	3,000	MSA	FY11	
25-mm Munitions Storage Facility Addition at M81	3,000	MSA	FY11	
Munitions Trailer Facility	10,000	MSA	FY11	
2 Munitions Storage Area (MSA) Loading Docks	1,000	MSA	FY11	
Precision-Guided Missile Bay Addition at Building	3,000	MSA	FY11	

Table 4-1. Proposed Construction and Demolition Actions for the F-35 Beddown

Project	Area (square feet)	Base Area	Start Date Fiscal Year (FY)	Demolish Building #
10439				
Parking/landscape Areas	15,656	B	FY11	
Flight Test Instrumentation Facility	4,650	B	FY11	
422 Test Evaluation Squadron Operations Facility	20,300	B	FY11	
Flight Simulator Facility	20,000	B	FY11	
Fiscal Year 2011 (FY11) Subtotal	**182,145**			
Aerospace Ground Equipment (AGE) Complex	45,000	A	FY12	
Engine Shop Addition	9,000	C	FY12	
53rd Wing Test Squadron Operations Building	20,000	C	FY12	
FY12 Subtotal	**74,000**			
Parking/landscape Areas	190,301	B	FY13	
Weapons School Addition at Building 282	10,000	B	FY13	
Alternate Mission Equipment Storage Facility	25,285	A	FY13	
Fuel Cell Hangar Addition	16,300	B	FY13	
Munitions Maintenance Facility Addition	6,000	MSA	FY13	
FY13 Subtotal	**247,886**			
Weapons Release Building	15,000	B	FY14	441
Parts Store	40,000	B	FY14	413, 415
East Ramp/Airfield Pavement	495,140	D	FY14	
Live Ordnance Loading Area (LOLA) Expansion	167,322	D	FY14	
Bomb Build-Up Pad	30,000	MSA	FY14	
Low Observables (L/O) Composite Addition	11,018	B	FY14	
4-Bay F-35 Hangar/Strike AMU	31,000	B	FY14	258
L/O Corrosion/Wash 3-Bay Hangar	15,800	B	FY14	250
Parking/landscape Areas	96,486	B	FY14	
Fuel Cell Hangar	50,250	B	FY14	
FY14 Subtotal	**952,016**			
Total	**1,572,829**			

Goldfield Historic District. The Goldfield Historic District was designated a Historic District and listed in 1982 on the NRHP. It is located in the center of Goldfield, Nevada, in Esmeralda County. The description of the designation includes an area bounded by 5th Street and Miner, Spring, Crystal, and Elliott Avenues. The District contains roughly 200 acres of the unincorporated area and approximately 120 buildings, most dating from the time of Goldfield's initial mining boom from 1904 to 1909. During this timeframe, Goldfield became a regional epicenter during Nevada's 20th century mining boom.

SolarReserve Crescent Dunes Solar Energy Facility. SolarReserve's Crescent Dunes Solar Energy Facility located in Tonopah, Nevada, is a utility-scale facility that offers advanced molten salt power tower energy storage capabilities. The project delivers enough electricity from solar energy to power 75,000 homes in Nevada during peak demand periods, around the clock regardless of weather conditions. The project,

which entered into commercial operation in late 2015 and delivers 110 megawatts (MW) of electricity plus 1,100 megawatt-hours of energy storage.

The Crescent Dunes plant is a success story for U.S.-developed technology. The plant produces more than 500,000 megawatt-hours of electricity per year, twice the generation of an equivalent-sized photovoltaics or direct steam solar thermal facility. It also utilizes dry cooling technology in a hybrid design to minimize water use well below conventional power projects. The storage technology developed by SolarReserve also eliminates the need for any backup fossil fuels, such as natural gas, which are needed with other solar technologies to keep the system operating during times of reduced solar resource.

During the construction of the plant, the Crescent Dunes project created over 4,300 direct, indirect, and induced jobs, with more than 1,000 construction workers on-site during peak construction. Sixty percent of the project subcontractors were Nevada-based, and 40 full-time, permanent jobs for operations and maintenance were created. The project also generated in excess of $750 million in capital investment in Nevada. Tax revenues are forecasted to be more than $73 million in local and state tax revenues over first 20 years of operation. During the 30-year operating life, the project will expend more than $10 million per year in salaries and operating costs, much of this spent in the region.

4.1.3 Reasonably Foreseeable Future Actions

In addition to future Air Force actions, some reasonably foreseeable actions are outside of the control of the Air Force, such as regional development projects that may contribute incrementally to impacts associated with Air Force alternatives addressed in the LEIS. Projects that the Air Force considers of limited scope (e.g., building of a courthouse annex, improvements to roadways for pedestrians) are not considered cumulatively significant and, therefore, were not included in the cumulative impacts analysis.

Nellis AFB Capital Improvements Program Environmental Assessment. Nellis AFB proposes to initiate updates to the Capital Improvements Program (CIP) that would include construction, demolition, renovation, and maintenance activities at the base. By taking a comprehensive approach to planning and implementing facilities and infrastructure improvements over a multi-year period, Nellis AFB would ensure that limited funds, energy conservation, and operational goals are maximized. Proposed improvements would comply with the DoD's direction to design and build Leadership in Energy & Environmental Design (LEED®) certified facilities and decrease energy consumption on military installations.

The projects described in the CIP are derived from the Base Comprehensive Asset Management Plan (BCAMP). The BCAMP lists all of the proposed projects that have been identified as a true need by the individual proponents of each action. These projects are reviewed by the Civil Engineering Facility Review Board and approved by the 99 ABW Commander based upon factors including mission requirements, quality of

life, degradation of existing facilities, etc. While the CIP includes hundreds of projects, funding for all of the projects to be completed in the next five years is not feasible because of the limited amount of funds available. These funding limitations are due to worldwide deployments and contingency operations, competing funding requests from every other military installation, new missions such as the F-35A beddown, and general budget reductions for civil engineering projects. As a result, only a small percentage of the projects can be funded within one fiscal year. In addition to the proposed action, the Air Force analyzed the no-action alternative.

Since the overall funding amount available to execute CIP projects is unknown, two construction scenarios were developed to place reasonable limits on the analysis. Scenario 1 involves light construction and describes demolition of an unspecified 2,000-square-foot existing building and construction of representative 30,000-square-foot facility, including parking up to 3 acres. The vast majority of the CIP projects combined together would be an aggregate size less than that described for Scenario 1. Scenario 2 triples the size of the demolition and construction up to 10 acres; only the largest or combination of several smaller new construction projects would reach this limit. Other large projects could be implemented if aspects of Scenario 2 would not be implemented, such as roadway projects where there would be no demolition or facility construction, but would be looked at on a case-by- case basis.

Creech AFB Capital Improvements Program Environmental Assessment. Creech AFB has proposed to formally update their CIP, which continually evolves, but the last formal proposal that resulted in NEPA documentation was during the 2008 update of the Creech AFB General Plan. The mission changes at Creech AFB are substantive enough to require an update of the CIP projects list. Restoration/Modernization and Sustainment projects would provide the base with up-to-date facilities by repairing, remodeling, or replacing older facilities to modern standards. Also, these outdated facilities demand considerable energy, and replacing them with new energy-efficient, updated facilities would yield considerable savings for the base and would conform to DoD guidelines for LEED® facilities.

The projects described in the CIP are derived from Creech AFB's BCAMP, which lists all of the proposed projects that have been identified as a true need by the individual proponents of each action. Like the Nellis AFB CIP projects, these projects are reviewed by the Civil Engineering Facility Review Board and approved by the 99 ABW Commander based upon factors including mission requirements, quality of life, degradation of existing facilities, etc. Due to the funding uncertainties that drove the analysis in the previously described Nellis AFB CIP EA, the Creech AFB CIP EA also evaluated two Scenarios: Scenario 1 includes light construction plus demolition of an unspecified 2,000-square-foot existing building and construction of representative 30,000-square-foot facility, including parking up to 3 acres, and Scenario 2 triples the size of the demolition and construction up to 10 acres.

The Air Force also analyzed the no-action alternative. Baseline conditions as reflected by the no-action alternative provide a comparison to the environmental impacts of the proposed action.

During the development of the LEIS, additional construction plans were proposed for Creech though not approved at the HQ Air Force level. Although details are not known at this time, the Air Force believes it is appropriate to include these construction activities as part of the reasonably foreseeable future actions. The following facilities are being planned but are not funded at this point in time:

- Fitness Training Center
- Community Support Complex
- Commercial Vehicle Gate
- Deployment Center and Ramp
- Network Control Center
- Base Command and Control Facility
- North Side Electrical Loop
- Antenna Complex
- Hangar for Weapons Loading Training
- Munitions Storage Igloos
- Structural Repair Facility
- AGE Storage Facility
- Operations Equipment Storage Facility
- Heavy Vehicle Maintenance Facility
- Repair POL Complex
- Operations Facility
- Operations Equipment Storage Facility

Mountain Bike Trails, City of Beatty, Nye County. Mountain biking activities continue to be developed north and west of Beatty, Nevada, which lies to the southwest of the NTTR. Figure 4-1 displays some of the existing (shown as green lines) and proposed trails (red lines). A non-profit corporation, STORM-OV (Saving Toads thru Off-Road Racing, Ranching and Mining in Oasis Valley) was formed to create 300 to 500 miles of off-road, multi-use trails for mountain biking, hiking running and horseback. Its plans are for the trails to eventually link Beatty to Death Valley, Rhyolite, and other regional trails. The trails would run through federal lands and private lands whose owners are willing to grant permission for its use for the trails. According to the Regional Director of the International Mountain Biking Association, the trails could bring $25 million to $42 million to the Beatty area (Pahrump Valley Times, 2015).

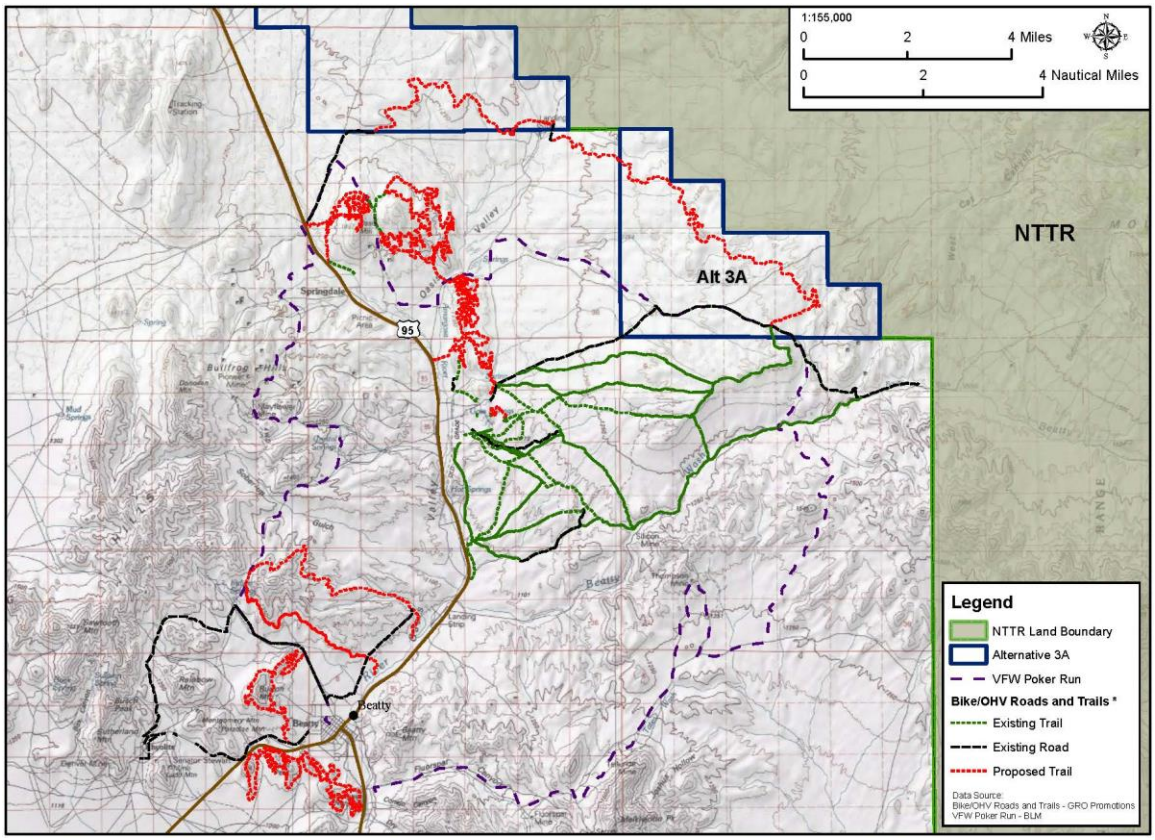

Figure 4-1. Existing and Proposed Mountain Bike Trails in the Beatty, Nevada, Area, 2016
Source: (GRO Trails and Race Consulting, 2016)

Off-Highway Vehicle Trails, Nye County. Recreational activities within the proposed withdrawal area associated with Alternative 3A include but are not limited to hunting, hiking, camping, bird-watching, target shooting, and OHV activities. As of April 2017, there are no restrictions on target shooting, with the exception of the standard guidelines (no glass targets, 1,000 feet from roads and houses, etc.). Public lands not closed to OHV usage are commonly limited to existing roads, trails, and dry washes, with the exception of dry lakes, which are open to all OHV activities. Recreation areas are further limited to designated roads and trails (U.S. Air Force, 2017b). The Oasis Valley and Oasis Mountain areas northeast of Beatty and directly adjacent to the NTTR are popular areas for hiking, mountain biking, and OHV activities. A few of the primary users include: Trails-OV (www.trails-ov.org), which helps to develop, promote and maintain a series of trail systems for mountain biking, trail running, equestrian use and rock climbing including the Spicer Ranch Trail System and Transvaal Flats Trail System; Beatty VFW (www.beattyvfw.com), which holds Jeep/4-wheel drive vehicle events like the “Run Through the Desert” Fun Day and the Annual Bullfrog Historical Mining District Poker Run; and Best in the Desert Racing Association (www.bitd.com) “Vegas to Reno” off-road race.

Proposed bike trails are in the early stages of planning with the BLM office in Tonopah.

Coyote Springs Nevada LLC, Lincoln County. Coyote Springs Nevada LLC (CSN) acquired the former Aerojet Nevada lands on the Clark County line along U.S.

Highway 93. CSN owns an estimated 42,000 acres in the area. A development agreement and planned development code was approved by Lincoln County in June 2005 for these lands. A density of 5 units per acre was approved by the county. Development has commenced on the Clark County side of this project. CSN is proposing to develop a "new community" to include various forms of housing, golf courses, commercial centers and industrial sites. This "new community" would include 42,000 acres and has completed their Multi-Habitat Species Plan in both Clark and Lincoln Counties. CSN is competing construction on a wastewater treatment plant as well as a water treatment plant. This proposal will be implemented through a planned unit development of 159,600 units. Offsite flood control detention basins will be completed in 2017 and homes are anticipated for sale in early 2018.

Lincoln County Industrial Park. In the Alamo, Nevada, area, Lincoln County received public lands from BLM for 217 acres to develop an industrial park along U.S. Highway 93 south of Alamo. A production well has been drilled on the site and pump-tested. Ample water of high quality is available at the site.

Solar Reserves Sandstone Project. The Sandstone project will be a solar power plant complex with up to 10 solar thermal towers, with a 24-hours-per-day, seven-days-per-week baseload solar technology. Each tower will be 150 to 200 MW, with storage and fully dispatchable, each producing about 700,000 megawatt-hours per year. Multiplying the 10 towers' baseload will provide up to 2,000 MW of total power capacity and 7,000,000 megawatt-hours of annual output. Each tower will have approximately 10 hours of full-load energy storage, totaling 20,000 megawatt-hours of energy storage capability for the entire project. Sandstone will be built in Nye County, Nevada.

Pahrump Valley Desert Tortoise Habitat Conservation Plan. Nye County is proposing a Pahrump Valley Desert Tortoise Habitat Conservation Plan (HCP) to address the urban development of land within the limits of the Town of Pahrump and adjacent lands designated for disposal and sale by the BLM (Nye County Planning Department, 2009). The scope, or Permit Area, of this plan is 92,489 acres and includes the private land in Pahrump and 6,022 acres of public land administered by BLM and identified for disposal. The HCP estimates that up to 1,000 acres of desert tortoise habitat may be lost as a result of urban development within the Permit Area over the next 10 years. The HCP has been prepared to support an application for a Section 10(a)(1)(B) Incidental Take Permit (Permit) under the federal ESA for the incidental take of the desert tortoise, a species listed as threatened under the ESA on 1,000 acres of private land or BLM disposal lands, upon transfer of ownership to a non-federal entity, in the Pahrump Regional Planning District (i.e., the Planning Area). The request for the incidental take of desert tortoises is based on tortoise surveys conducted by the BLM, Nye County, private land owners and others that indicate tortoises occur in relatively low densities in the Planning Area. The HCP is intended to support the issuance, by the USFWS of a Section 10(a)(1)(B) incidental take permit under the ESA, which would allow the "take" of the threatened desert tortoise resulting from otherwise lawful activities on non-federal property within the Planning Area. Subsequent to the issuance of a permit, the Pahrump Valley Desert Tortoise HCP will be implemented to minimize, mitigate, and monitor the impacts of incidental take of desert tortoise.

Clark, Lincoln, and White Pine Counties Groundwater Development Project. The Southern Nevada Water Authority submitted a right-of-way application to the BLM for construction and operation of a groundwater development project that would allow them to develop and transport water from Clark, Lincoln, and White Pine Counties to southern Nevada. The proposed project consists of approximately 306 miles of buried pipelines, five pumping stations, six regulating tanks, three pressure reducing stations, one buried storage reservoir, one water treatment facility, and approximately 323 miles of power lines with seven electrical substations. Construction is anticipated to take place between 2011 and 2022, depending on approvals and phasing.

Lincoln County Land Act Groundwater and Utility Right-of-Way Project. The Lincoln County Water District submitted a right-of-way application to the BLM for construction and operation of a groundwater development project. The right-of-way would authorize the Lincoln County Water District to construct infrastructure required to pump and convey groundwater resources in the Tule Desert and Clover Valley to help meet future municipal water needs in newly urbanizing areas. The proposed project consists of a 47-mile main transmission pipeline and 54 miles of collection/lateral pipelines, up to 30 production wells, water storage tanks, booster stations, access roads, 138-kilovolt (kV), 22.8-kV, and 4.16-kV transmission lines, a power substation, a natural gas pipeline, underground telephone lines and a telemetry system utilizing a fiber optic line. Construction would begin upon acquisition of necessary permits, approvals, and grants.

Kane Springs Valley Groundwater Development Project. The Lincoln County Water District submitted a right-of-way application to the BLM for construction and operation of a groundwater development project that would authorize the District to construct infrastructure required to pump and convey groundwater resources in the Kane Springs Valley. The proposed project consists of groundwater production and monitoring wells, water collection pipelines, one main water transmission pipeline, one terminal storage tank, one forebay storage tank, electrical distribution lines, electrical substations, and a telemetry system using fiber optic lines. Project construction would occur in three phases with one to three years between phases. Construction of Phase 1 would begin upon acquisition of necessary permits, approvals, and grants.

Section 368 Energy Corridor 18-224. On August 8, 2005, the President signed the *Energy Policy Act of 2005* (P.L. 109-58) into law. Section 368 directed the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior to designate corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities on federal lands in the 11 contiguous western states. Congress also directed the agencies to perform any environmental reviews that may be required to complete the designation of the corridors and incorporate the corridors into land use plans.

On January 14, 2009, the DOI approved a Record of Decision to designate approximately 5,000 miles of corridors which included amendments to 92 land use plans in 11 western states. The USFS issued a Record of Decision on January 14, 2009, which amended 38 national forest land management plans and designated approximately 990 miles of corridors in 10 states. The Decisions included Interagency Operating Procedures, or BMPs, for the Section 368 energy corridors. The Interagency Operating Procedures can be found on BLM's website. The BLM and USFS decisions relied upon the analysis in the *Final Programmatic Environmental Impact Statement, Designation of Energy Corridors on Federal Land in the 11 Western States* (DOE/EIS-0386) (PEIS), issued by the DOE, BLM, USFS, and DoD in 2008.

There are two Section 368 energy corridors adjacent to and/or overlapped by the proposed expansion under Alternatives 3A and 3B. Alternative 3A includes energy Corridor 18-224 north of the town of Beatty. Energy Corridor 18-224 extends northwest-southeast from east of Carson City to northwest of the Town of Pahrump in southern Nye County, Nevada (Figure 4-2). Alternative 3B includes energy Corridor 223-224 southeast of Indian Springs and Creech AFB.

Federally designated portions of this energy corridor are entirely on BLM-administered land, with a 10,560-foot-wide section from Milepost (MP) 0 to MP 89.0 for 83.6 miles and a 3,500-foot-wide section for 161.8 miles from MP 89.0 to MP 256.2. It is designated as a multi-modal corridor that can accommodate both electrical transmission and pipeline projects. The corridor spans a 256.2-mile distance, with 244.2 designated centerline miles. The designated area is 171,986 acres (269 square miles). This corridor is within Mineral, Esmerelda, and Nye Counties in Nevada and within the jurisdiction of BLM's Battle Mountain, Carson City, and Southern Nevada District Offices.

The Section 368 energy Corridor 223-224 is shown in Figure 4-3.

Standup and Beddown of a Tactical Air Support Squadron, Nellis Air Force Base, Nevada. The Air Force has proposed stand up the Tactical Air Support Squadron (TASS) at Nellis AFB (U.S. Air Force, 2017p). The new TASS would be an integral element of the CAS Integration Group (CIG), and would be integrated into the existing 57th Operations Group at Nellis AFB. The action would transfer/assign up to 16 Fourth Generation F-16C aircraft (14 Primary Aircraft Inventory and two Backup Aircraft Inventory) to the TASS.

Personnel at Nellis AFB would increase by a total of 123 Air Force and government support positions and 170 contract maintenance positions. The 123 positions include billets for the TASS, minor additions to the CIG Staff, munitions personnel, and base operating support personnel. All contract maintenance personnel would arrive by the end of fiscal year 2018; of the 123 government personnel, 57 would be expected to arrive in fiscal year 2018 and the remainder the following year. Several military construction (MILCON) and operations and maintenance (O&M) projects would be required to support the beddown.

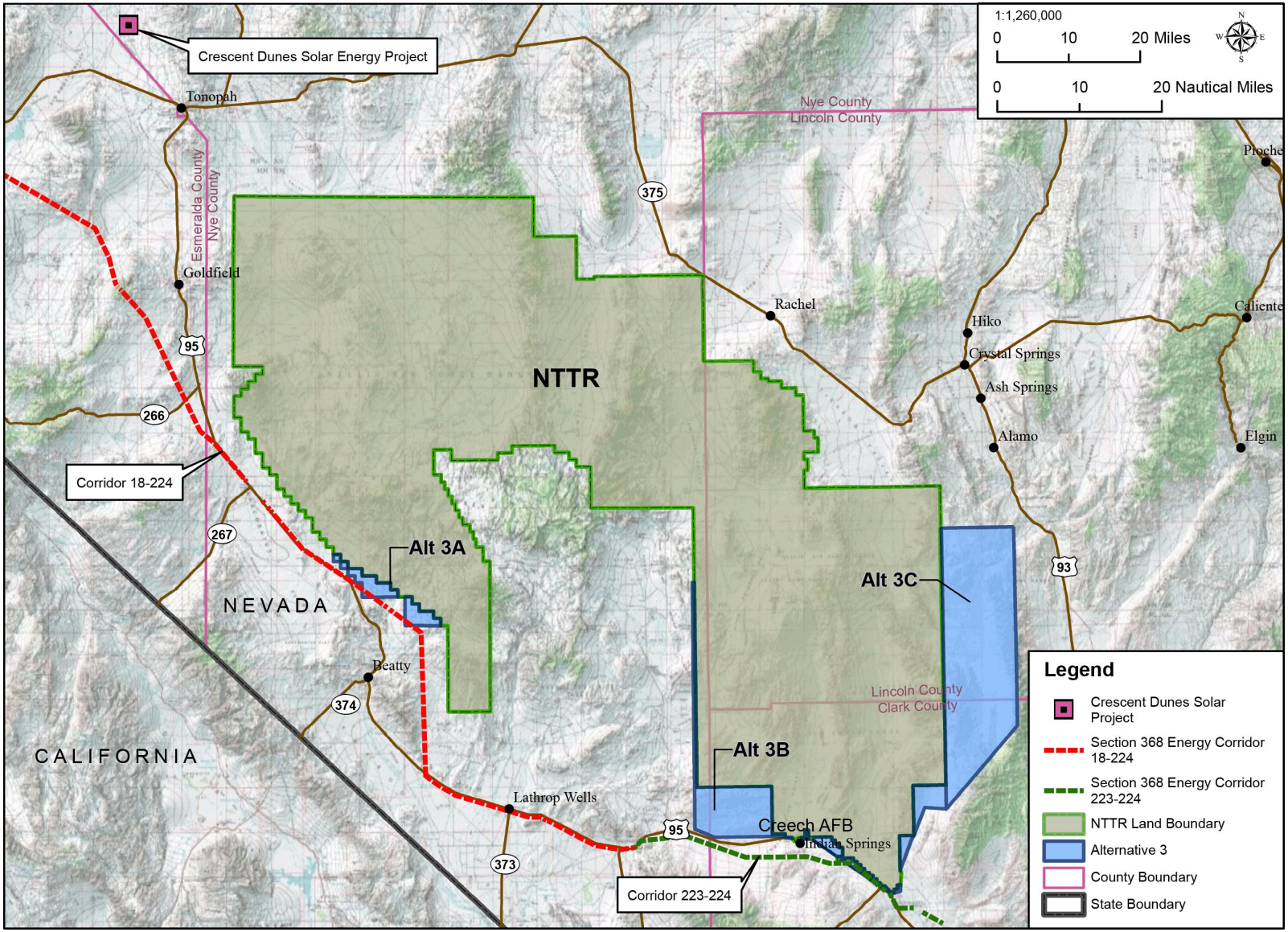

Figure 4-2. Section 368 Energy Corridor 18-224

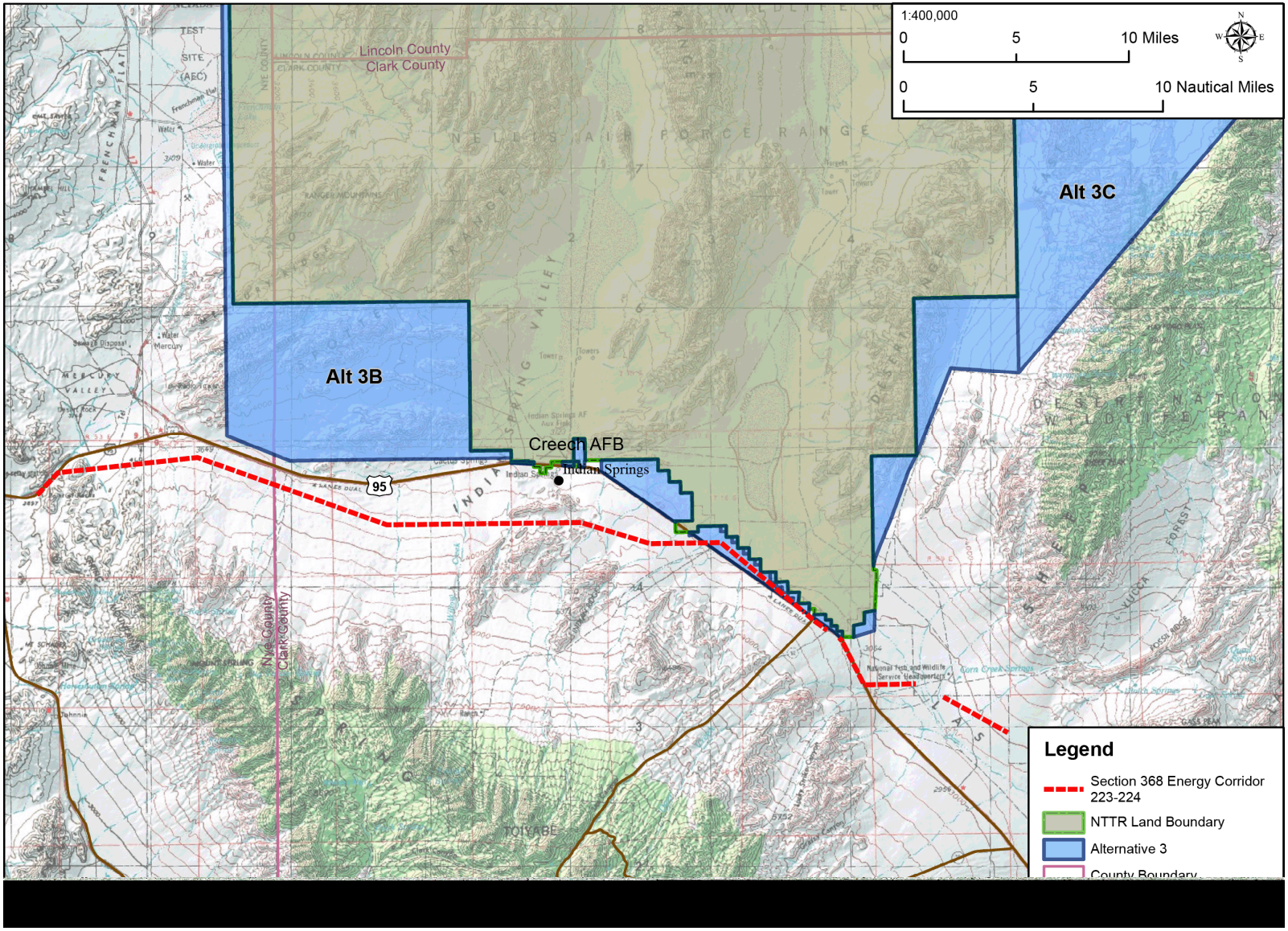

Figure 4-3. Section 368 Energy Corridor 223-224

The east side of the existing ramp space would be expanded by approximately 11.5 acres to accommodate aircraft displaced by the 16 F-16s, which will be parked on the west ramp. The live ordnance loading area (LOLA) would also be expanded by approximately 7 acres. A new 9,225-square-foot support facility at the LOLA would be constructed. These actions would also require that the existing O'Bannon Road be relocated to accommodate the apron and LOLA expansions. The TASS/CIG HQ would be a new 27,300-square-foot building and would be constructed adjacent to Freedom Park on the west side of the airfield. A new maintenance hangar and Aircraft Maintenance Unit (AMU) facility would require demolition of Building 295 and new construction on-site. The new Maintenance Hangar/AMU would be 55,000 square feet. Nellis AFB recognizes that there may be a need to establish additional capacity for future, as of yet unidentified missions. Nellis AFB is conducting preliminary planning to evaluate how this capacity could be established. Plans may include establishment of additional hangars, maintenance facilities, and other infrastructure along the east side of the existing ramp. Projects are not funded or reasonably foreseeable at this time. Once proposals are better defined, the Air Force would evaluate any future mission and facilities impacts to address these needs, including range and airspace use.

These projects would be expected to require 12 to 18 months to complete and would be phased over a four-year period beginning with the O&M projects in late calendar year 2017. Approximately 20 to 50 construction personnel would be on-site during the construction period, particularly during the peak construction action when concrete is being delivered.

The TASS, when fully operational, would be expected to fly approximately 2,700 annual sorties as part of the CAS training mission. Of these, about 300 (or approximately 11 percent) are expected to be flown at night between 10:00 PM and 7:00 AM. The aircraft would depart Nellis AFB and transit to the NTTR using restricted airspace (R-2508) and the NTTR MOAs.

Aircraft carrying live munitions always depart to the north, away from downtown Las Vegas. Use of the NTTR is accomplished by an internal scheduling and prioritization of requests within Nellis AFB and Creech AFB user groups; numerous requests for range time result in intense competition for NTTR land and airspace. NTTR test and training schedule blocks are managed to 15-minute intervals for each airspace and range area to ensure efficiency. TASS operations would represent only a negligible increase, but would exacerbate the existing conditions, requiring even further coordination.

Fallon Range Training Complex Modernization. The Navy is proposing the following as part of the Fallon Range Training Complex Modernization: (1) Congressional renewal of the 1999 Public Land Withdrawal of 201,933 acres, which is scheduled to expire in November 2021, (2) withdrawal and reservation by Congress for military use of approximately 618,727 acres of additional federal land for military use, (3) acquisition of approximately 65,153 acres of private or state-owned (non-federal) land, (4) expansion of associated SUA and reconfiguration of existing airspace, and (5) modification of range infrastructure to support modernization. These elements would allow the Navy to

redistribute training activities across the expanded ranges to allow training to occur at the same time on multiple ranges.

4.1.4 Cumulative Effects Analysis

Cumulative effects are assessed for each of the resources presented in Chapter 3. For this analysis, the past, present, and future actions would be the sum of all the activities associated with the Proposed Action, the No Action Alternative, and the other actions described in this chapter.

For the Native American perspective on information in this section, please see Section 4.1.5 and Appendix K, paragraph 4.1.4.

4.1.4.1 Airspace Use and Management

With the exception of the addition of the F-35 to Nellis AFB, none of the past, present, or reasonably foreseeable projects identified in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions) would affect airspace utilization. For any of the proposed alternatives, there are no proposed physical changes (external boundaries, dimensions, altitudes, etc.) to any airspace currently controlled by the NATCF. As such, any changes will be limited to how the airspace is used, particularly with introduction of the F-35. Although additional airspace is not required, certain airspace may be utilized more extensively, while use of other airspace units may decrease. Therefore, the utilization of the current airspace would likely be modified. The result could potentially change the noise levels, patterns, and dispersal over how it is currently used. (See Section 4.1.4.2, Noise, for more details on potential cumulative noise impacts.) Changes in utilization of the airspace could potentially change the air quality within the affected airspace. (See Section 4.1.4.3, Air Quality, for more details on potential cumulative air quality impacts.)

4.1.4.2 Noise

Cumulative noise impacts consist of the combined potential effects resulting from the Proposed Action and applicable past, present, and reasonably foreseeable future projects described in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions). Potential cumulative effects of noise on the surrounding communities, wildlife, and cultural resources would be associated with construction and other noise-generating activities, operation of new facilities, and increased aircraft, munitions, and vehicle use.

Several projects would involve construction of Air Force facilities, housing, industrial facilities, and recreational areas. In addition, noise could be generated during fire management activities, installation of a solar energy project, and placement of pipeline and other infrastructure related to groundwater and utility projects (including energy Corridors 18-224 and 223-224).

The majority of the relevant past and present actions considered as part of the cumulative impacts in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions) involve construction of a new facility or

demolition or renovation of an existing facility. Construction noise is temporary, lasting only for the duration of the construction project, and is typically limited to normal working hours (7:00 AM to 5:00 PM). However, construction noise would be noticeable to persons living and working nearby and may cause additional annoyance. Noise impacts associated with these projects are expected to be limited to the immediate areas surrounding the individual projects and would be insignificant both separately and cumulatively.

For Alternative 1, operations and, therefore, noise levels would remain at existing baseline levels, which have existed for many years or even decades. For Alternatives 2 and 3, subsonic and supersonic aircraft noise levels, as well as munitions use, troop movement, and emitter functions, would increase very slightly (typically less than 1 dB), and these levels are not likely to be considered by the public to be adverse. Cumulative impacts would occur wherever noise impacts from proposed increased NTTR activities overlap with noise impacts resulting from other reasonably foreseeable actions planned to occur in the NTTR region.

Other past, present, and reasonably foreseeable projects may also have associated long-term noise, such as operational noise from an industrial facility, aircraft, munitions, or increased transportation. For capital improvement projects and other military projects at Nellis AFB, Creech AFB, and NTTR, the Air Installations Compatible Use Zones (AICUZ) program would influence project planning and implementation by providing data and land use recommendations to ensure public safety, health and welfare, while still supporting the Air Force's mission of national defense. These data are also intended for use by local citizens and governmental officials involved in land use planning and community development and would help guide appropriate implementation of other regional projects in order to ensure land use compatibility and minimize cumulative effects on sensitive receptors and the surrounding communities overall. Because of the incremental nature of the noise impacts associated with the Proposed Action and through application of appropriate planning measures, implementation of the Proposed Action and other past, present, and future actions is unlikely to result in significant noise impacts.

4.1.4.3 Air Quality

Cumulative effects to air quality consist of the combined potential effects resulting from the Proposed Action and applicable past, present, and reasonably foreseeable future projects described in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions). These projects would result in direct emissions of criteria pollutants and GHGs. Potential cumulative effects to air quality would be associated with combustion of fossil fuels during construction, transportation, operation of new facilities, and increased groundwater use.

Several projects including those in the Nellis AFB and Creech AFB CIPs would involve construction of Air Force facilities, housing, industrial facilities, and recreational areas. In addition, air emissions would result from fire management activities, installation of a solar energy project, and placement of pipeline and other infrastructure. For some of

these projects, air emissions would cease once the initial construction phase is complete, such as the groundwater and energy corridor projects. Others, such as housing development projects, would result in minimal increased long-term emissions, such as those associated with residential heating and transportation. Projects such as the solar energy projects would have a large beneficial impact on regional air quality through reduction in the need for fossil fuel combustion and other electricity-generating processes associated with criteria pollutant and GHG emissions. Likewise, many of the Air Force capital improvement program projects at Nellis AFB and Creech AFB would replace outdated, inefficient facilities with modern LEED®-certified facilities, which would also likely have a net beneficial impact in the long term. Further, any projects that would include larger emissions-generating sources would be subject to permitting requirements under NSR/PSD and/or Title V Air Construction or Air Operation permits. With implementation of permit requirements and appropriate management practices, the cumulative amount of emissions resulting from the Proposed Action and other past, present, and future actions is unlikely to significantly affect regional air quality.

Table 4-2 provides estimated annual air emissions for projects described in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions) for which such quantitative estimates were available. For other projects described in those sections, analysis in the appropriate NEPA documentation was qualitative in nature or otherwise unavailable.

Table 4-2. Cumulative Air Emissions

Source	Pollutant (tons/year)						
	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_x	VOC	CO_2e
NTTR Land Withdrawal (Alts 1, 2, and 3)	1,493.63	4,013.61	1,068.16	824.26	196.94	247.55	767,193
Nellis CIG TASS EA (2019)	19.99	-25.04	-3.26	-3.65	0.01	-3.68	225
Creech CIP EA (Scenario 2)	8.5	20.8	66.53	7.53	0.35	1.35	1,844
Nellis CIP EA (Scenario 2)	8.5	20.8	66.53	7.53	0.35	1.35	1,844
F-35 Force Development EIS (2019)	114.83	164.09	45.34	43.99	8.41	8.86	107,929
Coyote Springs Initiative Vehicle Traffic (year 10)	2,084.00	275.00	453.00	90.00	3.00	201.00	-
Crescent Dunes Solar Energy Project EIS (Construction)	38.30	44.50	39.00	39.00	1.45	7.10	9,496
Crescent Dunes Solar Energy Project EIS (Operation)	3.26	2.97	7.57	7.57	0.01	0.22	942

Table 4-2. Cumulative Air Emissions

Source	Pollutant (tons/year)						
	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_x	VOC	CO_2e
TOTAL (Proposed Action plus past, present, and foreseeable project emissions)	**3,771.01**	**4,516.73**	**1,742.87**	**1,016.23**	**210.52**	**463.75**	**889,473**
ROI Baseline	**398,567**	**53,433**	**69,705**	**17,576**	**7,417**	**501,115**	**12,179,548**
Percent of ROI	**0.95%**	**8.45%**	**2.50%**	**5.78%**	**2.84%**	**0.09%**	**7.30%**

In totaling all of these projects along with implementation of the NTTR land withdrawal extension or expansion to include Alternatives 1, 2, and 3 such that all potential areas are withdrawn and a 30 percent increase in operational intensity is implemented, annual air emissions are still not shown to exceed 10 percent of the annual ROI emissions. It should be noted that these emissions are not cumulative in this manner in reality. Emissions are affected by many climatological forces such that pollutants are dispersed and broken down by natural processes. However, any quantitative regional air quality dispersion and concentration study to include all federal, state, municipal, and private activities that contribute to regional air quality would be a multi-year, multi-million dollar effort and is well beyond the intent of the NEPA regulation and the scope of this document.

For Alternative 1, the Proposed Action would remain at the current operational levels and would, therefore, not contribute to regional cumulative impacts more than current conditions. For Alternatives 2 and 3, the Proposed Action would incrementally contribute air pollution emissions during construction activities and would allow for increased air pollutant emissions thereafter associated with increased aircraft and munitions operations, troop movements, maintenance, and emitter use. This contribution would relate to regional air quality goals and attainment standards. The contribution from the Proposed Action would be negligible on a regional scale, as construction and demolition impacts are very minor and would be short term, ending when the projects are completed. Aircraft, munitions, troop movement, and emitter emissions would be ongoing and would be a permanent change in annual air emissions. However, the air emissions are expected to have a slight net increase from these ongoing sources of emissions. Air emissions associated with the project represent a small percentage of the Clark, Lincoln, and Nye County annual emissions. Project emissions would not contribute to other county emissions in any appreciable manner.

As discussed above, air emissions from the majority of past, present, and reasonably foreseeable projects would be temporary, intermittent, and minor, and some would have a net beneficial effect on the overall regional air quality. As a result, the Air Force does not expect long-term adverse cumulative impacts to regional air quality associated with air emissions from the Proposed Action and the relevant past, present, and reasonably foreseeable regional development and other projects. Therefore, ambient air quality standards would not be exceeded by the cumulative impact of project-related emissions and emissions from other past, present, or reasonably foreseeable projects.

4.1.4.4 Land Use

For the Native American perspective on information in this section, please see Section 4.1.5 and Appendix K, paragraph 4.1.4.4.1.

Cumulative impacts to land use (primarily recreational resources) consist of the combined potential effects resulting from the Proposed Action and applicable past, present, and reasonably foreseeable future projects described in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions). Of these projects, only the mountain bike and OHV trails development in Nye County, and CSN development would impact recreational use and resources in the area surrounding the NTTR. Other foreseeable future actions would be consistent with current activities in the area and would not precipitate changes in land use patterns, ownership, or management practices.

The Proposed Action Alternatives 3A, 3B, and 3C (approximately 300,000 acres) would result in additional access restrictions to currently accessible lands and the cumulative loss of recreational opportunities. Recreational activities were reduced when the CSN lands were transferred from public lands to private lands in the 1980s, and additional development could prevent access of OHV vehicles from CSN private lands to adjacent BLM lands to the east. However, existing (golf course) and planned recreational facilities, such as an amusement park, parks, sports fields, and planned trails could open up a limited amount of new recreational space to the public.

The existing and planned mountain biking and OHV trail system being developed in Nye County in the Oasis Valley area also provide additional recreational opportunities on private and BLM-managed lands. However, portions of the existing (about 4.5 miles) and planned (14.7 miles) bike/OHV trail system would be impacted by the Alternative 3A withdrawal. Under Alternative 3A-1 the potential impact to the existing and planned trails would not occur. Also, over the next five years, Trails-OV plans to develop up to 300 miles of trails and usable routes in the Oasis Valley area (www.trails-ov.org).

It is possible that the loss of existing recreational opportunities from the Alternative 3A, 3B, and 3C withdrawals could result in the increased use of adjacent and nearby recreational areas, including other wilderness areas. DNWR visitor records are kept via a non-mandatory guest registration. As a result, there is not a clear understanding of the current usage of the area for recreational activities. Many of the recreational areas within the DNWR would remain open and overall visitation would not be expected to substantially increase to the point where adverse impacts would occur. Additionally, it is assumed that displaced recreational users would be evenly distributed across the other recreational areas in the NTTR region. However, the exact extent of the potential impact on nearby recreational areas is indeterminable at this time and would be highly speculative without a thorough understanding of the current usage and the potential shift of recreational activity.

Within a 100-mile radius of the NTTR, there are numerous opportunities for public recreational use, including county and city parks, private OHV parks, and other state and federal lands open to motorized and nonmotorized uses. Also, based on information presented in Appendix F, Wilderness and Wilderness Study Areas, and not including the existing areas proposed for wilderness within the DNWR, there are over

1.4 million acres of land that contain wilderness qualities within and surrounding the NTTR ROI, consisting of both Wilderness Areas and WSAs. Although the Alternative 3A, 3B, and 3C withdrawals would limit recreational access in certain areas and shift recreational activity to other areas, it would not significantly impact recreational opportunities or usage when considered in conjunction with other applicable past, present, and reasonably foreseeable future actions.

Visual Resources

There are several present actions and reasonably foreseeable future projects within the vicinity of the NTTR that would involve the construction of new facilities, adding anthropogenic elements to the landscape and possibly contributing to light pollution. Projects that occur within areas where man-made elements already dominate the landscape, such as the construction and demolition activities that are a part of the F-35 beddown at Nellis AFB, conform to the visual expectations of viewers and to the existing landscape character and, therefore, are of low sensitivity and impact. Other projects, such as the capital improvements at Nellis AFB and Creech AFB, have the potential to have a positive impact on light pollution through the conformance to LEED® design specifications on exterior lighting that minimize light trespass and glare. The projects that do not affect the physical environment will not affect visual resources; these projects are limited to the Pahrump Valley Desert Tortoise HCP and the Goldfield Historic District.

Projects such as the mountain bike trails (City of Beatty, Nye County) and OHV trails (Nye County) have the potential to introduce some new elements to the landscape, such as small signage or fencing. However, as long as trails run along existing roads, new ground disturbance could be minimal, and, therefore, there would be little change to the existing visual environment. There are no large-scale construction elements associated with these projects that would introduce sources of light pollution or obtrusive elements to the landscape. Visually, the trails would be consistent with current management plans of the area and viewer expectations.

The projects that could have the greatest cumulative effects are those that create development in areas with few existing human features. Areas of concentrated development, such as the Lincoln County Industrial Park, and the CSN (Lincoln County), will involve relatively dense construction and development. In contrast, the new elements associated with the Clark, Lincoln, and White Pine Counties Groundwater Development Project or the Lincoln County Land Act Groundwater and Utility Right-of-Way Project would be dispersed throughout the landscape. Where new facilities are more densely concentrated, the viewer would perceive the landscape as more urbanized, whereas dispersed facilities are less visually intrusive but affect a larger area. Both types of projects have the potential to change the regional landscape from one that is relatively untrammeled and remote to an increasingly urbanized and human-dominated area. Due to the additive character of light pollution and its propagation over large distances, the radiance footprints from various developments could accumulate and merge, contributing light pollution and sky glow into a region currently noted for natural dark skies.

The No Action Alternative, Alternative 1, and Alternative 4, would not contribute to cumulative impacts to visual resources due to the limited introduction of new development and light sources, as well as their consistency with current visual resource management objectives. Alternatives 2 and 3 have the potential to incrementally change the visual characteristics over the largest region when considered with projects identified in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions), through new development and light sources introduced into previously untrammeled areas. Development on NTTR in any of the alternatives or in projects in the surrounding area may be visible from the remaining publicly accessible proposed wilderness and recreation areas, creating a transboundary issue where the scenic quality of those areas is degraded (Kelson & Lilieholm, 1999).

4.1.4.5 Wilderness and Wilderness Study Areas

Analysis of cumulative effects to wilderness considers the combined potential impacts from the Proposed Action and applicable past, present, and reasonably foreseeable future projects to the four wilderness qualities defined in Section 3.5.1.1 (Description of Resource). The only past, present, and future actions that may impact wilderness include fire management activities associated with the Nellis AFB Wildland Fire Management Plan and aircraft operations associated with the F-35 beddown and the standup and beddown of the TASS at Nellis AFB. All other projects described in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions) would not occur within Wilderness Areas, areas proposed for wilderness in the South Range, or WSAs associated with the NTTR ROI and, therefore, they are not discussed further in this section.

Implementation of fire management activities from the Nellis AFB Wildland Fire Management Plan would be consistent with ongoing management strategies of the NTTR. These activities would be conducted in concert with other ecological management actions associated with the Nellis AFB INRMP that support natural resource conservation and promote the preservation of the untrammeled and natural qualities of wilderness. Therefore, combining these activities with the Proposed Action would not result in significant cumulative impacts to wilderness qualities within the NTTR ROI.

The F-35 beddown at Nellis AFB increased aircraft operations over Wilderness Areas and WSAs underlying NTTR airspace units. The noise analyses presented in Section 3.2.2.3 for Alternative 2 and Section 3.2.2.4 for Alternative 3 considered the approximate increased aircraft operations planned for the NTTR in future years. Results from these analyses indicated that noise level increases are not expected to be discernible over baseline conditions. In addition, the increased number of annual sorties associated with TASS operations would represent only a negligible increase over baseline conditions. Therefore, incremental impacts from these activities would not be significant. As discussed in Sections 3.5.1.3 (Wilderness and Wilderness Study Areas) and Section 3.5.2.3 (Alternative 2), baseline aircraft operations generate noise levels that may result in annoyance of potential visitors to Wilderness Areas, areas proposed for wilderness, and WSAs within the NTTR ROI. Therefore, noise levels generated by

future F-35 aircraft and TASS operations associated with these beddowns would similarly affect the solitude qualities of wilderness, because signs of human activities within and outside these areas would be detectable on a regular basis. Combining these activities with the Proposed Action may contribute to cumulative impacts to the solitude or primitive and unconfined recreation quality of wilderness, but not to a significant level. There would be no cumulative or incremental effects from aircraft operations to untrammeled, natural, and undeveloped qualities of wilderness.

Adverse impacts to the undeveloped quality of wilderness within the NTTR land boundary are anticipated under Alternatives 2 and 3, and adverse impacts to the solitude and/or primitive and unconfined recreation quality are expected under Alternatives 1, 2, and 3. However, in the absence of any identified past, present, or foreseeable future action that would have a significant impact on wilderness qualities to Wilderness Areas and WSAs in the region, combining these activities with any of the action alternatives associated with the Proposed Action would not result in an associated cumulative or incremental impacts. Furthermore, none of the projects described in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions) would result in a change of land management in the region. Therefore, changing the land use management under Alternatives 2 and/or 3 would not result in an associated cumulative or incremental impact.

4.1.4.6 Socioeconomics

Cumulative effects to socioeconomic resources consist of the combined potential effects resulting from the Proposed Action and applicable past, present, and reasonably foreseeable future projects described in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions). All of these projects would have a cumulative economic impact. Potential cumulative effects would involve an in- or out-migration of people to the area, which would create a cumulative impact on population, housing, economic activity, recreational use, educational facilities and staffing, and public and base services.

Any reduction in PILT payments associated with the Proposed Action would result in decreased funds for fire and police protection and other services that PILT payments support. Decreased funds for fire/police and emergency services, coupled with activities conducted on the NTTR associated with the Proposed Action, could present cumulative impacts to socioeconomic resources from wildfire hazards on and surrounding the NTTR. Past and present activities, such as implementation of measures in the Nellis AFB Wildland Fire Management Plan and the Fire Management for the Cedar Peak Area EA on the NTTR, could minimize cumulative effects to socioeconomic resources from potential wildfire hazards.

Other relevant past and present actions, such as the TASS beddown and the F-35 beddown at Nellis AFB would provide long-term economic value to the local area, while operation of the SolarReserve Crescent Dunes Solar Energy Facility would provide additional beneficial cumulative impacts as well.

Construction activities typically provide a beneficial economic impact on the area but are short-term, only lasting for the duration of the project. However, many short-term projects occurring throughout the year provide a cumulative beneficial economic impact over the long term, depending on the scope of the project. Employment opportunities in the region would contribute to positive economic growth in the area.

The combined operations of the F-35 and TASS beddown would increase personnel by 691 and add 53 million in additional earnings (U.S. Air Force, 2011; 2017p). The Crescent Dunes Solar Energy Facility has an operational employment of up to 50 full time employees and an economic impact of more than 22.7 million per year from operations either directly or indirectly (Tonopah Solar Energy, 2010).

Reasonably foreseeable future actions, such as the mountain biking and the OHV trails, would provide beneficial cumulative impacts to socioeconomic resources from tourism and recreational use in the areas adjacent to the NTTR. Any potential restrictions or limitations to recreational areas, such as an OHV race route, or a decrease in the areas available for recreational use would have an adverse cumulative effect on socioeconomic resources. Strategies to minimize adverse cumulative effects to socioeconomics could include implementation of comprehensive plans, capital improvement plans, transportation plans, and other plans and coordination efforts that guide future development activities such as the Nellis AFB CIP and the Creech AFB CIP.

Based on preliminary information provided by the Navy, there would be very little change in PILT for Nye County for any of the current alternatives being evaluated as part of the Fallon Range Training Complex Modernization.

Implementation of the Proposed Action would enable the NTTR to continue as an important economic contributor to the region from employment and income associated with training activities. Other reasonably foreseeable future actions that would involve construction and development in the area would have a positive cumulative impact on the area from continued increases in population, housing, and employment and economic activity such as military and general aviation, energy industries, and agriculture in the area. Additional military training in the area would contribute to the local economy through continued employment and earnings. However, additional and continuing military operations could create further conflicts between military users and the general public and land use compatibility. Coordination between the military and local and regional planning departments would minimize potential conflicts. Therefore, implementation of the Proposed Action combined with the past, present, and reasonably foreseeable future projects would not result in significant impacts within the ROI.

4.1.4.7 Environmental Justice

Cumulative effects to environmental justice populations consist of the combined potential effects resulting from the Proposed Action and applicable past, present, and reasonably foreseeable future projects. Past and present actions that analyzed potential environmental justice impacts include the F-35 beddown EIS (2011) and the Tonopah Solar Energy, LLC Crescent Dunes Solar Energy Project EIS (Tonopah Solar Energy,

2010) (the "Crescent Dunes EIS"). The F-35 beddown EIS determined that there would be an increase in the number of people in the vicinity of Nellis AFB that would be affected by noise levels within 65 dB DNL or greater. The number of minority would increase from 30,257 to 42,272 and the number of those residents identified as low-income would increase from 5,406 to 6,673. However, both the F35 beddown EIS and the Solar Reserve EIS determined that there were no disproportionate impacts as a result of the proposed actions with implementation of such mitigations as noise attenuation features, which are required for all new residential construction in areas affected by noise levels of 65 dB DNL or greater, noise abatement procedures, and consultation between government agencies and Nevada SHPO. Existing residential homes that do not have noise attenuation features would be affected by ongoing and increased noise wherever noise impacts from proposed increased NTTR activities overlap with noise impacts resulting from other reasonably foreseeable actions planned to occur in the NTTR region. Under the Proposed Action, subsonic and supersonic aircraft noise, munition noise, and ground disturbance noise would not add measurably to the overall noise environment and would not only impact a particular segment of the population and, therefore, no disproportionately high and adverse cumulative impacts to environmental justice communities would be anticipated from the proposed action combined with past and present projects.

Reasonably foreseeable actions such as those described in the Nellis CIP EA and the Creech CIP EA would not impact environmental justice communities since the proposed actions would occur in restricted access areas within the boundary of the associated base. Any reasonable foreseeable action that would generate a range of economic and fiscal benefits such as an increase in economic activity, jobs, income, and public services would benefit all members and residents of the community. These benefits also favorably affect minority and low-income populations. Beneficial economic changes can also be coupled with adverse impacts particularly to areas with a growing population, lack of housing, and underfunded public resources, such as the case with the unincorporated town of Alamo in Lincoln County.

Potential community improvements such as those identified in the Lincoln County Master Plan (Lincoln County, 2015), which would result in an increase in affordable housing and an increase in funding for recreational parks, trails, and tourism provide benefits throughout the community for all residents, including environmental justice communities. A greater number of facilities and improved facilities at key recreational areas at such areas as those identified in Section 2.3.3.4 (Alternative 3C) could benefit everyone residing in the region, including environmental justice communities. Improved recreational experiences and opportunities associated with new mountain biking trails and OHV trails described in Section 4.1.3 (Reasonably Foreseeable Future Actions) also off-set any adverse impacts from implementation of Alternative 3 in which public access would be restricted. Closures of recreational areas could result in overcrowding in other key recreational areas or a loss of income associated with any reduction in the number of recreational users from restricted access. Data on the extent of any loss of income associated with recreational closures is not available at this time but may affect residents in the region, including environmental justice communities.

No significant impacts to noise, safety, land use, cultural, air quality, airspace, and water resources would be anticipated as a result of the Proposed Action. Furthermore, any potential impacts from the Proposed Action associated with these and other resource areas considered would equally affect everyone residing in the region and would not be anticipated to disproportionately affect any one group or locality. Since no disproportionately high and adverse impacts to environmental justice communities or disproportionately high and adverse environmental health and safety impacts to children would be anticipated under the Proposed Action, there would be no cumulative impacts to environmental justice anticipated.

4.1.4.8 Biological Resources

Cumulative impacts consider the effects of past, present, and future actions, described in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions), on biological resources on a regional level, specifically those resources that may be considered rare or limited. In addition to projects associated with continued use the NTTR, potential current and future projects in the region include construction of Air Force facilities (including projects on Nellis AFB and Creech AFB), residential development, industrial facilities, installation of a solar energy project, placement of pipeline and other infrastructure related to groundwater and utility projects, and development of recreational areas. In addition, ground disturbance would occur during fire management activities. The total area of ground disturbance associated with projects described in Section 4.1.2 and Section 4.1.3 and for which such information is available is nearly 26,000 acres (most of which is attributed to the planned Coyote Springs LLC development), although quantitative data are not available for some of the projects.

Potential cumulative effects to biological resources would be associated with ground disturbance and long-term loss of desert scrub and other unique desert vegetation in Nevada, as well as long-term loss of individuals and habitat of federally or state-listed endangered, threatened, rare, and otherwise sensitive plant and wildlife species, including the federally listed desert tortoise. Habitat fragmentation or possible effects on regional wildlife movements (wildlife corridors), and loss or degradation of habitat caused by erosion, sedimentation, turbidity, dust, fuel spills or introduction of other pollutants, can also result in direct or indirect loss of vegetation and wildlife habitat, including individuals or habitat for sensitive species. However, as outlined in the Biological Assessment, the Air Force is working with USFWS Ecological Services to develop compensatory mitigation strategies that include “mitigation banking” to offset any loss of habitat. Additionally, the Air Force operates under an incidental take permit issued by USFWS, which is anticipated to continue. Based on consultation with USFWS, the agency believes that none of the alternatives will, even considering cumulative impacts, jeopardize the continued existence of the desert tortoise. Water development projects have the potential to alter surface or groundwater, which can adversely affect aquatic and wetland habitats or limit water availability for wildlife.

Indirect cumulative impacts can occur from the increased potential for invasive species (including landscape plants and domestic pets) and wildland fires associated with

commercial, residential, and recreational development, as well as military activities. Wildland fires that could be ignited by military activities pose a significant threat to native vegetation, wildlife, aquatic and wetland habitats, and special status plant species and their habitats both in and outside the existing or proposed NTTR boundary. A Wildland Fire Management Plan provides a framework for fire management, wildland fire suppression, burned area emergency rehabilitation, emergency stabilization, and fuel treatment activities to support the military mission including resource protection and ecosystem management objectives.

Increased recreational development can also impact biological resources, although to a lesser extent. The potential loss of recreational areas associated with the Alternative 3C expansion area could result in a shift of recreational activities to other locations in the region, and potential direct and indirect impacts to biological resources resulting from recreational activities could occur; however, the extent or scope of potential impacts is indeterminable and would be highly speculative without a thorough understanding of the usage of the Alamo areas (which is unknown at this time) and the potential shift of recreation activity. Any potential impacts that could occur would not be expected to increase to a magnitude or for a duration of time that would cause the loss or degradation of biological resources, and there would be no overall significant effects to biological resources.

Military actions or projects would follow the regulatory requirements (e.g., NEPA, CWA, ESA) and natural resources management requirements, guidelines, and biological constraints currently being implemented on the NTTR. Implementation of the same planning prior to mission and project activities are required to avoid and minimize impacts to biological resources, including an assessment of cumulative impacts (U.S. Air Force, 2010). Potential cumulative effects of federal actions on federally listed endangered species are addressed project by project through the ESA Section 7 consultation process with the USFWS. Through this process, federal agencies and the USFWS jointly assess project-specific effects and develop and implement appropriate measures that reflect current conditions and status of the species. Improvement projects on military lands outside the NTTR, including the F-35 beddown and TASS beddown projects at Nellis AFB and CIPs on Nellis AFB and Creech AFB, may also contribute to the loss or degradation of biological resources, although those effects are likely to be small and localized compared with other past, present, and proposed future actions in the region.

For any of the action alternatives, direct impacts to biological resources are likely to occur as a result of continued military use of the NTTR, including loss of native desert scrub vegetation, wildlife and habitat, aquatic and wetland habitats, and special status species and their habitats. There is also the potential for loss associated with wildfires and spread of invasive species, which is difficult to measure. The length of the withdrawal period is relevant. The longer the withdrawal period (e.g., for Alternative 2 and 3), the more impacts there will be on the land and biological resources). However, based on the size of the NTTR and the surrounding area compared with the amount of acreage that would be used for military training, direct impacts to biological resources would be minimal. Sensitive habitat areas, including aquatic and wetland habitats,

would be avoided to the extent practicable, and impacts on special status plant and wildlife species would be minimized and mitigated if required. Indirect impacts associated with invasive species are minimized by using BMPs (such as inspection and cleaning of construction vehicles and equipment prior to entering or leaving the range) to prevent their establishment, monitor for new establishment, and manage existing populations. The level of the cumulative impacts to biological resources depends on whether the effects of disturbance are significant on a regional level and the sensitivity of the resource. However, for any of the action alternatives, military activities would contribute little to regional cumulative adverse direct or indirect impacts on biological resources on a regional level.

Extension of the existing NTTR withdrawal, as well as the addition of any of the proposed expansion areas, may have beneficial cumulative impacts insofar as it would maintain or increase protection of regional vegetation, wildlife, aquatic habitats and wetlands, and special status species and their habitats from the impacts associated with urbanization and nonmilitary land uses, such as development, recreation, grazing, and mining. The proposed withdrawal effort would also serve to continue, and under expansion increase, natural resource management on Air Force lands, which also results in increased opportunities for resource protection.

Under the No Action Alternative, a percentage of the lands currently restricted may be open to a variety of public and private uses, such as commercial or residential development, recreation, grazing, and mineral extraction. However, no lands within DNWR would be opened to commercial or residential development, mining, or grazing. Only compatible uses would be considered. These uses could result in greater loss or disturbance to biological resources than occurs under current Air Force use.

4.1.4.9 Cultural Resources

For the Native American perspective on information in this section, please see Section 4.1.5 and Appendix K, paragraph 4.1.4.9.1.

Damage to the nature, integrity, and spatial context of cultural resources can have a cumulative impact if the initial act is compounded by other similar losses or impacts. The alteration or demolition of historic structures or the disturbance or removal of cultural artifacts may incrementally and cumulatively impact the cultural and historic setting of an area or region.

In general, recreational activities have historically occurred within proposed expansion areas, and military activities have occurred in the existing withdrawal areas under consideration. Activities on the NTTR that involve potentially ground-disturbing activities are guided by the Nellis AFB ICRMP and existing Air Force instructions. Given the required coordination with the Nellis AFB Cultural Resources Office, as well as any measures recommended by the SHPO as part of future Section 106 actions, future mission activities are not expected to cumulatively impact cultural resources. None of the alternatives would involve specifically located construction, demolition, or training activities. Any proposed activities or projects involving ground disturbance could be subject to further consideration under the NHPA as well as NEPA prior to

implementation. Ordnance delivery and other operational activities would occur on existing ranges and target impact areas approved for such activities on the NTTR. As described in this LEIS, flight operations, construction, and munitions use, as well as other activities discussed, are unlikely to result in adverse effects to NRHP-eligible cultural resources.

An increase in overflights or sonic boom frequency could potentially adversely affect traditional use locations or sacred sites by creating sonic disturbance to the setting. However, consultation with Native American groups would continue through the Native American Program to identify areas of concern and determine the extent of effects to these resources. No adverse impacts to cultural or traditional resources associated with NTTR operations are anticipated when considered cumulatively with other actions in the same area.

There are 2,889 cultural resource locations (prehistoric, historic and ethnographic) currently identified within the boundaries of the NTTR. There are an additional 2,111 resources located within the NTTR airspace. The total number of resources identified by other past, present and future projects described below is 159. Current cultural resource sites on the NTTR represents the majority of cultural resource sites identified in the region.

All of the projects described in the past, present and future projects within the region either had no historic properties present within the APE, or resulted in no adverse effects to cultural resources or resulted in a resolution of adverse effects thereby completing the Section 106 process. In the projects where historic properties were to be impacted (e.g., Crescent Dunes Solar Energy Project, Coyote Springs Investment Planned Development Project, and the Fire Management for Cedar Peak on NTTR), then data recovery was required, treatment plans were created, or existing agreements led to a resolution of adverse effects.

There are 142 archaeological sites that were identified in the APE of the Crescent Dunes Solar Energy Project (Tonopah Solar Energy, 2010). Of these 13 were identified as historic properties. The Proposed Action impacted four of these properties and required a BLM Historic Property Treatment Plan for each to resolve adverse effects. The Coyote Springs Investment Planned Development Project EIS (Entrix, 2008) (the "Coyote Springs Development EIS") identified four historic roads and 27 prehistoric sites. These sites were recommended for additional Section 106 consultations in cooperation with the BLM and SHPO through an existing MOU. The Fire Management for Cedar Peak on NTTR EA (U.S. Air Force, 2015b) identified two archaeological sites and three isolates. One of the sites is considered eligible for the NRHP and requires a protective buffer as mitigation against forest management activities. The Nellis AFB CIP EA (U.S. Air Force, 2013a) identified one archaeological site considered ineligible to the NRHP and determined that no cultural resources would be impacted by this action. The "Tough Mudder", L.L.C., EA (BLM, 2012d) identified one archaeological site and subsequently modified the APE to avoid this resource. The "Vegas to Reno" Race Event EA 2009 (BLM, 2016j) is utilizing previously identified routes and does not affect any cultural resources.

The F-35 beddown EIS reviewed sites located under the NTTR airspace and determined potential impacts that may be caused by the beddown. In total, 5,000 cultural resources and 50 traditional use properties were identified under the airspace. It was determined that the cultural sites and traditional cultural properties would be unaffected by the proposed action (U.S. Air Force, 2011).

The Desert Tortoise HCP (Nye County Planning Department, 2009), the Oasis Valley Recreation Trails Master Plan (GRO Trails and Race Consulting, 2016), the Lincoln County Master Plan (Lincoln County, 2015), the Creech AFB Capital Improvements Program EA (U.S. Air Force, 2013b) and the TASS EIS (U.S. Air Force, 2017p) did not identify any cultural features or sites considered eligible to the NRHP.

None of the regional development projects discussed have been identified as significantly contributing to cumulative impacts to cultural resources. Most of these projects are subject to Section 106 of the NHPA. If impacts to these resources are anticipated due to proposed activities, plans for the protection or mitigation of these resources must be developed by the proponent in consultation with the SHPO and other consulting parties as appropriate. Future federally funded or permitted undertakings would be required to follow the NHPA Section 106 process, and as a result, any potential adverse effects to cultural resources would be resolved through completion of that process. If proper mitigation or protective measures are undertaken in consultation with the SHPO and other consulting parties for structures, resources, or sites, no significant cumulative impacts to cultural resources are expected when considered in conjunction with other actions.

4.1.4.10 Earth Resources

Analysis of cumulative impacts to earth resources focused on activities with a discernible potential for the withdrawal or expansions to affect the nature of earth resources at the regional scale. Changes to soils associated with the withdrawal would not substantially alter earth resources in the area. Conceptually, the proposed actions would occur over time and are generally consistent with existing uses of the NTTR and would not be expected to substantially affect earth resources in the NTTR region.

Potential construction-related soil disturbances at multiple adjacent locations can have cumulative impacts. If the actions are concurrent, windborne eroded soil and transport of eroded soil through stormwater runoff can have cumulative impacts on air and water quality. Cumulative impacts from erosion would be negligible on the NTTR and in the general study area due to several factors. In general, these activities would be spread over a large geographic area and would occur over a long period of time, dissipating the overall impacts. Also, although erosion does commonly result from storm events, precipitation in the region is relatively low, reducing risks for water-caused erosion. In addition, the Air Force and state regulations require BMPs to minimize erosion and stormwater runoff.

An extension of the current NTTR would continue to impact earth resources as described under the baseline condition. Expansion under Alternative 3 would involve ground-disturbing activities, but details regarding those activities are only known in a

conceptual framework and amount to less than 100 acres of disturbance. When this number is compared to other past, present, and future projects described below, it represents orders of magnitude less than other regional ground-disturbing activity. Any subsequent development or use would require additional consideration under NEPA and in conjunction with the NDEP.

Proposed future dismounted troop movements could potentially damage earth resources, but that is unlikely given the size and scope of such activities. The continued restriction of access to the NTTR and USFWS-managed DNWR areas in the Alternative 3C proposed withdrawal area, which are currently not open to mining activities, could delay extraction of potentially recoverable resources if safety conditions and economic factors were to make such recovery feasible. A total of 21,060.6 acres of ground disturbance was identified in past, present, and future regional projects. This number is far lower than the probable total disturbance occurring in the area but shows a good overview of effects to earth resources in the area from a variety of projects. The following projects involved some degree of soil disturbance: the Coyote Springs Development EIS, the F-35 beddown EIS, the Oasis Valley Recreation Trails Master Plan, the TASS beddown at Nellis AFB, the Fire Management Plan for Cedar Peak on NTTR EA (U.S. Air Force, 2015b), and the "Tough Mudder" L.L.C., EA (BLM, 2012d). The remaining projects in this section either did not contain adequate information to provide an analysis or did not impact earth resources.

The Coyote Springs Development EIS identified 20,960 acres of disturbance from planned development and a utility corridor (Entrix, 2008). The F-35 beddown EIS would involve 36 acres of ground disturbance that would occur primarily in previously developed areas. The Oasis Valley Recreation Trails Master Plan proposes 32.19 miles of new trails with a rough average width of 9 feet per trail given trail and right-of-way measurements (GRO Trails and Race Consulting, 2016). This is approximately 35 acres of disturbance to previously undeveloped property. The TASS EIS identified 18.5 acres of disturbance owing to construction within previously developed areas (U.S. Air Force, 2017p). The Fire Management Plan for Cedar Peak on NTTR EA (U.S. Air Force, 2015b) identified 6 acres of disturbance within a high slope, high erosion risk area. The BLM estimates that 2.3 acres of the "Tough Mudder" L.L.C., EA (BLM, 2012d) course could potentially be impacted by erosion due to heavy rainfall events, while 2.8 acres of the course are of the proper soil type and slope to resist erosion risk.

The "Vegas to Reno" Race Event EA (BLM, 2016j), the Crescent Dunes Solar Energy Project (Tonopah Solar Energy, 2010) environmental analysis, the Lincoln County Industrial Park study, the Creech AFB CIP EA, and the Nellis AFB CIP (U.S. Air Force, 2013a) did not provide specific details for determining acreage of total disturbance allowing for an adequate analysis of impacts to soils. Lincoln County Industrial Park Master Plan (Lincoln County, 2015) potentially represents thousands of acres of new development but no specific numbers are available at this point given the high order view that the Master Plan provides.

No earth resources would be impacted by the Desert Tortoise HCP (Nye County Planning Department, 2009).

Any potential cumulative impacts to earth resources would be reduced through adequate project planning, fulfillment of NPDES requirements, and implementation of other site-specific BMPs in relation to other past, present, and future actions.

4.1.4.11 Water Resources

Cumulative effects to water resources consist of the combined potential effects resulting from the Proposed Action and applicable past, present, and reasonably foreseeable future projects described in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions). These projects would be unlikely to result in direct impacts to surface waters. Potential cumulative effects to water resources would be associated with construction and other ground-disturbing activities, operation of new facilities, and increased groundwater use.

With the exception of the Goldfield Historic District project and fire management activities, all other projects would involve some level of ground disturbance, including construction of Air Force facilities, housing, industrial facilities, and recreational areas; installation of a solar energy project; and placement of pipeline and other infrastructure related to groundwater and utility projects (including energy Corridor 18-224). Ground disturbance could also potentially occur during fire management activities on the NTTR. Ground disturbance can result in erosion of soil and any associated contaminants due to rainfall runoff and, to a lesser extent, wind. Erosion can lead to sedimentation or introduction of contaminants into surface waters. In sufficient quantity, sediments and contaminants can negatively affect water quality. The total area of ground disturbance associated with projects for which such information is available is nearly 26,000 acres (F-35 beddown at Nellis AFB, TASS beddown at Nellis AFB, off-highway trails and other recreational projects, CSN, and Lincoln County Industrial Park). Of these projects, most of the ground disturbance is attributed to the planned Coyote Springs LLC development (about 21,000 acres). Quantitative data is not available for the remaining projects. It is anticipated that the majority of ground-disturbing activities described in Section 4.1.2 (Relevant Past and Present Actions) and Section 4.1.3 (Reasonably Foreseeable Future Actions) would be subject to NPDES permitting requirements and conducted in accordance with management practices designed to minimize the potential for erosion. A wide range of practices may be implemented, such as employing silt fencing and sediment traps and placing straw bales or sand bags, among other erosion management practices. (For example, when the Cedar Peak Project to reduce fuels and wildfire risk at Cedar Peak was underway, trees were felled by hand to avoid soil impacts.) With implementation of permit requirements and appropriate management practices, the cumulative amount of erosion resulting from the Proposed Action and other past, present, and future actions is unlikely to significantly affect surface waters.

Some of the projects would result in long-term placement of structures such as houses, industrial facilities, and Air Force facilities (F-35 beddown at Nellis AFB, TASS beddown at Nellis AFB, Nellis and Creech AFB CIPs, CSN, Lincoln County Industrial Park, and multiple groundwater and utility projects). The structures and related elements such as parking areas, sidewalks, and roads would increase the amount of impervious surface in the ROI, which would increase the amount of stormwater runoff. In addition,

increased vehicle use would likely result in additional petroleum products (gasoline, oil, etc.) present on some of the impervious surfaces. Increased runoff could result in erosion, downstream flooding, and conveyance of pollutants into surface waters. Although quantitative data are not available for the area of impervious surface or the types and quantities of pollutants potentially conveyed to surface waters, it is expected that stormwater management features would be part of the permitting process and long-term design for each project. With implementation of stormwater management practices, the cumulative effects of stormwater runoff on surface waters resulting from the Proposed Action and other past, present, and future actions is not expected to be significant.

Several of the identified past, present, and reasonably foreseeable future actions would result in increased water use in the ROI. Projects that involve increased population (either military or civilian) would result in additional water demand. New industrial facilities would also require additional water. Although data are not available for all projects, a total of about 22,000 AFY of groundwater withdrawal would occur as a result of implementing projects that have quantitative data available (SolarReserve Crescent Dunes Solar Energy Facility, Coyote Springs LLC development, and Kane Springs Valley Groundwater Development project). In addition, an increase in water use of about 400,000 gallons per day is estimated for the F-35 weapons school beddown at Nellis AFB. The additional water use is anticipated in association with program activities (e.g., aircraft washing) and an increase in on-base personnel. Three of the projects would involve groundwater extraction and transport. Air Force well water appropriations on the NTTR are underutilized, and therefore, there would likely be no requirement for additional surface or groundwater appropriations associated with Air Force activities. Of the 27 hydrographic basins associated with the NTTR, 10 are currently either fully allocated or overallocated. Although groundwater resources are likely sufficient to support other nonmilitary projects in the area, new groundwater rights and appropriation requests would require review and approval by the Nevada State Engineer's Office. State review would also include evaluation of potential effects to migration of groundwater contaminated by historical nuclear device testing.

4.1.4.12 Hazardous Materials and Solid Wastes

Maintenance operations associated with two reasonably foreseeable future actions (i.e., the TASS beddown and the F-35 beddown) identified in Section 4.1.3 (Reasonably Foreseeable Future Actions) would likely result in an increase in the quantity of hazardous materials used and hazardous wastes generated at Nellis AFB. These materials and wastes would continue to be managed according to established procedures and disposal practices. Additionally, these materials and waste would not adversely impact the existing management system or the regional disposal capacity. Consequently, implementation of the Proposed Action combined with past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts associated with increases in the quantity of hazardous materials used, the quantity of wastes generated, or off-site impacts related to regional disposal capacity.

It would also be anticipated that the estimated increase in training from the standup of an F-16 TASS and the F-35 beddown, when combined with Alternatives 1, 2, or 3, would result in an associated, proportional increase in the quantity of chemicals released from munitions training. The Air Force currently complies with TRI reporting requirements and would continue to track ordnance use associated with these future actions. Based on the type of munitions that would likely be used, no new chemical thresholds would be exceeded and no additional reporting would be required. Additionally, the Air Force would continue to implement established range cleanup procedures. Consequently, implementation of the Proposed Action combined with past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts associated with increases in the quantity of hazardous materials released during training.

4.1.4.13 Health and Safety

An increase in flight operations associated with two reasonably foreseeable future actions (i.e., the TASS and the F-35 beddown) identified in Section 4.1.3 (Reasonably Foreseeable Future Actions) would result in an associated increase in the cumulative potential for mishaps or bird strike, especially during periods of migration. Many bird species use mountain ranges as migration corridors and the Sheep Range attracts various bird species because of the elevation, habitat diversity, and presence of water. As with Alternatives 1, 2, and 3, implementation of procedures discussed in Section 3.13.2.2 (Alternative 1) would ensure that the potential adverse impacts from mishaps and bird strikes would remain low.

The increase in training activities also has the potential to increase munitions-related fires. For Alternative 3C, ground disturbance has the potential to result in an expansion of invasive annual grass that could result in increased wildfire risk. Resulting wildfire smoke can also impact aviation and ground personnel safety, as well as nearby communities and sensitive populations. An increase in flight operations may also require additional airspace de-confliction where a wildfire response would include civilian firefighting aircraft.

Adherence to established safety protocols for any wildland fire management activity would continue, including the use of appropriate personal protective equipment and communications links between all parties. Therefore, implementation of the Proposed Action combined with past, present, and reasonably foreseeable future projects would not result in significant impacts to the safety environment within the ROI.

4.1.4.14 Transportation

Increased growth in the Las Vegas area is expected to continue to have an impact on regional traffic flow. The proposed withdrawal effort would primarily impact only existing roads within the DNWR Alamo areas and would not disrupt local traffic flow. Therefore, there is minimal potential for cumulative impacts to local transportation associated with the proposed withdrawal efforts, because the proposed withdrawal extension/expansion would not have an impact on any major public roadways.

One of the alternative routes being considered for the I-11 and Intermountain West Study Corridor would utilize the U.S. Route 95 federal-aid highway right-of-way west of Las Vegas that borders the South and North Ranges of the NTTR. The project is an effort by Arizona, Nevada, and other Intermountain West states and the federal government to develop a transportation corridor between the Rocky Mountains and the Cascade Range/Sierra Nevada Mountains linking Mexico and Canada. One of the potential study area segments is the Northern Nevada Future Connectivity Corridor. U.S. Route 95 also is adjacent to the proposed withdrawal areas for Alternatives 3A and 3B. Section 368 energy Corridor 223-224 lies within the southern portion of the proposed expansion area associated with Alternative 3B (Range 64C/D-65D). Withdrawal of any of these areas could potentially limit the possible alignments of the proposed I-11 and Intermountain West Study Corridor because of the restricted access associated with the withdrawal area. Although this might result in the need for additional planning and design to avoid conflicts, it should not result in significant adverse transportation impacts.

4.1.5 Native American Perspective on Cumulative Effects

The CGTO believes the Cumulative Effects Analysis does not adequately address nor represent the tribal perspectives with respect to effects of impacts on the traditional homelands or impacts to the cultural landscape encompassing the NTTR. No cultural consideration is applied to: Airspace Use and Management Section 4.4.1; Noise Section 4.1.4.2; Air Quality Section 4.1.4.3; Land Use Section 4.1.4.4 (including Visual Resources); Wilderness and Wilderness Study Area Section 4.1.4.5; Socioeconomics Section 4.1.4.6; Environmental Justice Section 4.1.4.7; Biological Resources Section 4.1.4.8; Cultural Resources Section 4.1.4.9; Earth Resources Section 4.1.4.10; Water Resources Section 4.1.4.11; Hazardous Materials and Solid Wastes Section 4.1.4.12; Health and Safety Section 4.1.4.13; and Transportation Section 4.1.4.14. The CGTO believes that systematic ethnographic studies should be conducted on the aforementioned section to more accurately assess the cultural cumulative effects to these resources.

Native American Perspective: Land Use – Cumulative Effects Analysis

The CGTO is aware of tribal initiatives within the proposed Region of Influence near the NTTR and proposed land expansion areas that are omitted from consideration. The LEIS fails to mention the Moapa Tribal Enterprises Travel Plaza and Retail Store in addition to the Moapa Southern Paiute Solar Project that lies near Interstate 15 and the proposed Alamos Land Expansion Area within the traditional homelands of the Moapa Band of Paiutes. Further, there is no mention of the Las Vegas Paiute Tribe-Snow Mountain Reservation, which currently operates three 18-hole championship golf courses, a gas station and a retail smoke shop and is planning an 800-acre solar project located on the southwest corner of the tribal lands nearby US 95 and within close proximity to Creech Air Force Base. The Las Vegas Paiute Tribe-Snow Mountain Reservation is adjacent to the Desert National Wildlife Refuge encompassing the proposed Alternative 3C Alamo land expansion areas.

Native American Perspective: Cultural Resources – Cumulative Effects Analysis

The LEIS indicates there are 2,889 cultural resource locations (prehistoric, historic and ethnographic) currently on the NTTR. The CGTO believes this universal definition of cultural resources applies only to the following: *prehistoric and historic sites, structures, artifacts and any other physical or traditional evidence of human activity considered relevant to a particular culture or community for scientific, traditional, religious or other reasons to the evaluation*. This interpretation does not account for intangible traditional and religious areas or culturally sensitive resources that are integral to Native American epistemology but not understood by archaeologists. Equally, geologic formations may be embedded in traditional or religious activities that are often overlooked and consequently not considered in any analysis.

Lastly, no systematic ethnographic studies have been conducted that are designed to identify, document and understand culturally sensitive resources or locations within the proposed land expansion of Alternatives 3 A near Beatty, NV or 3C in the Alamos. In an attempt to gain a better understanding, the University of Arizona initiated scoping meetings in September 2017 as part of expanded ethnographic studies to document tribal perspectives that can contribute to baseline data for analyzing perceived impacts within the proposed land expansion areas. While the study is underway and will not be completed to fully understand the cultural impacts, the Native American Writers are unable to provide a systematic review and analysis of the findings of the study.

4.2 OTHER ENVIRONMENTAL CONSIDERATIONS

4.2.1 Relationship Between Short-Term Uses and Long-Term Productivity

Military training activities that could include future munitions use or construction of threat emitters or roads would result in a short-term use of resources. Long-term productivity impacts are determined by comparing the project's impacts against long-term regional and local planning objectives. Impacts are associated with land use changes, population increases, and the related traffic and socioeconomic factors. The short- and long-term effects of the Proposed Action and alternatives are summarized below.

4.2.2 Short-Term Uses

All alternatives would have minor short-term effects related to conceptual construction and military activities through the use of construction-related materials, munitions, fuels, etc. The significant economic benefits created during construction and military activities in the form of jobs, and the direct and indirect demand for goods and services, would offset the short-term use of the environment.

4.2.3 Long-Term Productivity

Long-term adverse impacts on productivity as a result of unmitigated short-term impacts and uses would include the following:

- Increased noise levels associated with the additional aircraft operations in the Alamo airspace
- Reduced public access to USFWS lands

Long-term beneficial impacts on productivity would include the following:

- Overall support of the region's continued economic development through:
  - Creation of more jobs locally
  - Increased tax base
  - Increased revenues for local businesses
  - Increased revenues for local utilities
  - Continued military mission

4.2.4 Short-Term Uses Versus Long-Term Productivity

Many of the potential adverse impacts on long-term productivity are the result of short-term factors, which are often mitigated through planning aspects when implementing a proposed action and/or alternatives; public access is one example. The Proposed Action and alternatives analyzed in this document would have immediate short-term impacts on public access with long-term implications.

Public access to a large area of the DNWR would be curtailed. The reduction in public access will result in both short- and long-term impacts for those that would like year-round access to all areas of the DNWR. In addition, the reduced public access will have short-term impacts since the public will not have access for some seasonal activities such as bird watching.

4.2.5 Irreversible and Irretrievable Commitment of Resources

NEPA requires environmental analysis to identify any irreversible and irretrievable commitments of resources involved in the implementation of the Proposed Action or alternatives. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. *Irreversible* effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable timeframe. *Irretrievable* resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural site).

Implementing the Proposed Action through any of the alternatives would require a commitment of natural, physical, human, and fiscal resources. In all of these categories, irreversible and irretrievable commitments of resources would occur. Land required for military operations would be irreversibly committed during the withdrawal period; in some cases, land uses would change. Although it is possible for land to revert to its former state where land withdrawal was not renewed, the likelihood of such an occurrence for the NTTR would be low.

Public access to lands that have biological resources would be irreversibly and irretrievably lost with the proposed project, and some areas of wildlife habitat would be lost as well. This loss could create habitat fragmentation impacts, which would be a concern for certain wildlife such as the bighorn sheep. However, based on the size of the surrounding area compared with the amount of acreage that would be used for military training, the loss would be minimal; sensitive habitat areas would be avoided to the extent practicable and impacts on sensitive species would be mitigated as described in Section 2.9 (Mitigation).

The proposed commitment of natural, physical, human, and fiscal resources is based on the requirements mandated by Congress. It is anticipated that businesses, employees, and residents of the local area would benefit from improved economics resulting from implementation of the Proposed Action.

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University of Nevada, Reno Library
Mathewson-IGT Knowledge Center
1664 N. Virginia Street
Mailstop 322
Reno, NV 89557

Indian Springs Library
715 Gretta Lane
Indian Springs, NV 89018

Reno Downtown Library
301 S. Center Street
Reno, NV 89501

Caliente Branch Library
100 Depot Avenue
P.O. Box 306
Caliente, NV 89008

Carson City Hall
201 N. Carson Street
Carson City, NV 89701

Las Vegas-Clark County Library District
833 Las Vegas Blvd. North
Las Vegas, NV 89101

Beatty Library District
400 N. 4th Street
Beatty, NV 89003

Pahrump Community Library
701 East Street
Pahrump, NV 89048

Lincoln County Library
63 Main Street
Pioche, NV 89043

Amargosa Valley Library
829 E. Farm Road
HC 69 Box 401T
Amargosa Valley, NV 89020

Tonopah Library
167 South Central Street
Tonopah, NV 89049

Alamo Branch Library
100 South First West
PO Box 239
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1340 Financial Blvd.
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APPENDIX A

PUBLIC INVOLVEMENT

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PUBLIC INVOLVEMENT

A.1 NOTICE OF INTENT

The Notice of Intent to prepare an LEIS was published in the *Federal Register* on August 25, 2016.

58496 Federal Register / Vol. 81, No. 165 / Thursday, August 25, 2016 / Notices

Central Pacific Fisheries Convention Implementation Act (16 U.S.C. 6901 *et seq.*), the Permanent Advisory Committee, or PAC, has been formed to advise the U.S. Commissioners to the WCPFC. Members of the PAC have been appointed by the Secretary of Commerce in consultation with the U.S. Commissioners to the WCPFC. The PAC supports the work of the U.S. National Section to the WCPFC in an advisory capacity. The U.S. National Section is made up of the U.S. Commissioners and the Department of State. NMFS Pacific Islands Regional Office provides administrative and technical support to the PAC in cooperation with the Department of State. More information on the WCPFC, established under the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean, can be found on the WCPFC Web site: *http://wcpfc.int/.*

Meeting Topics

The purpose of the September 14, 2016, conference call is to discuss outcomes of the 2016 regular session of the WCPFC Scientific Committee (SC12) and to begin soliciting comments on the recently distributed Chair's paper on Harvest Strategy Management Objectives and a Consultative Draft of a Bridging CMM on Tropical Tunas to succeed CMM 2015–01.

Special Accommodations

The conference call is accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Emily Crigler at 808–725–5036 at least ten working days prior to the meeting.

Authority: 16 U.S.C. 6902 *et seq.*

Dated: August 22, 2016.

Emily H. Menashes,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 2016–20405 Filed 8–24–16; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF DEFENSE

Air Force

Notice of Intent To Prepare a Legislative Environmental Impact Statement for the Nevada Test and Training Range Military Land Withdrawal at Nellis Air Force Base, Nevada

AGENCY: United States Air Force (lead agency) and Bureau of Land Management, United States Department of Energy, United States Fish and Wildlife Service, and Nevada Department of Wildlife (cooperating agencies)

ACTION: Notice of Intent

SUMMARY: The United States Air Force (Air Force) is issuing this notice to notify the public of its intent to prepare a Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) military land withdrawal at Nellis Air Force Base, Nevada. The LEIS is being prepared in accordance with National Environmental Policy Act (NEPA) of 1969; 40 Code of Federal Regulations (CFR), Parts 1500–1508, the Council on Environmental Quality (CEQ) regulations for implementing NEPA; and the Air Force Environmental Impact Analysis Process (EIAP) [32 CFR part 989].

This notice also serves to invite early public and agency participation in determining the scope of environmental issues and alternatives to be analyzed in the LEIS and to identify and eliminate from detailed study the issues which are not significant. To effectively define the full range of issues and concerns to be evaluated in the LEIS, the Air Force is soliciting scoping comments from interested local, state and federal agencies, interested American Indian tribes, and interested members of the public. This NOI also serves to provide early notice of compliance with Executive Order (EO) 11990, "Protection of Wetlands" and EO 11988, "Floodplain Management." State and federal regulatory agencies with special expertise in wetlands and floodplains have been contacted to request comment.

Scoping comments may be submitted to the Air Force at the planned public scoping meetings and/or in writing.

DATES: The Air Force plans to hold five public scoping meetings from 5 p.m. to 9 p.m., on the dates and at the locations listed below.

- Wednesday, October 12, 2016: Beatty Community Center, 100 A Avenue South, Beatty, NV 89003
- Thursday, October 13, 2016: Tonopah Convention Center, 301 Brougher Avenue, Tonopah, NV 89049
- Tuesday, October 18, 2016: Caliente Elementary School, 289 Lincoln Street, Caliente, NV 89008
- Wednesday, October 19, 2016: Pahranagat Valley High School, 151 S. Main Street, Alamo, NV 89001
- Thursday, October 20, 2016: Aliante Hotel, 7300 Aliante Parkway, North Las Vegas, NV 89084

The agenda for each scoping meeting is as follows:

- 5:00 p.m. to 6:30 p.m.—Open House and comment submission
- 6:30 p.m. to 7:00 p.m.—Air Force Presentation
- 7:00 p.m. to 9:00 p.m.—Open House and comment submission resumes

Local notices announcing scheduled dates, locations, and addresses for each meeting will be published in the Bullseye, Pahrump Valley Times, Lincoln County Record, Tonopah Times-Bonanza, and Las Vegas Review-Journal newspapers a minimum of fifteen (15) days prior to each meeting.

Comments will be accepted at any time during the Environmental Impact Analysis Process (EIAP). However, to ensure the Air Force has sufficient time to consider public input in the preparation of the Draft LEIS, scoping comments must be submitted no later than December 10, 2016.

ADDRESSES: Information on the NTTR Military Land Withdrawal and LEIS process can be accessed at the project Web site at *www.nttrleis.com.* The project Web site can be used to submit scoping comments to the Air Force, or comments and inquiries may also be submitted by mail or email to the 99th Air Base Wing Public Affairs, 4430 Grissom Ave., Ste. 107, Nellis AFB, NV 89191 or by email at *99ABW.PAOutreach@us.af.mil.*

SUPPLEMENTARY INFORMATION: The current NTTR land withdrawal expires in November, 2021. In accordance with the Military Lands Withdrawal Act of 1999, the Air Force has notified Congress of a continuing military need for the NTTR withdrawal. Military land withdrawal applications have been prepared and submitted to Bureau of Land Management (BLM). The segregation of lands proposed for military withdrawal are addressed in a separate BLM **Federal Register** notice.

The Air Force LEIS supports Congressional decision-making for the proposed military land withdrawal and will be programmatic in nature, adding value by setting out a broad view of environmental impacts and alternatives for Congress to consider. Following Congressional action on the NTTR land withdrawal proposals, site specific proposals based on particular DoD or Air Force defined needs for the range would be evaluated with the appropriate level of tiered or supplemental NEPA.

In particular, the LEIS will analyze alternatives for military land withdrawal of the NTTR to improve the range capacity and capability to support military test and training requirements now and into the future. The LEIS will assess the potential environmental consequences of the proposal to extend the existing NTTR military land

withdrawal beyond the current withdrawal expiration date. As part of the withdrawal extension, the Air Force proposes to continue military operations on the NTTR's existing 2,949,603 acres of land. In addition to extending the existing land withdrawal, the Air Force is also proposing to withdraw up to an additional 301,507 acres to improve the range's capacity to support military testing and training.

The alternatives being evaluated in the LEIS include: (1) Extending the existing land withdrawal and management of the NTTR (Status Quo); (2) extending the existing land withdrawal and providing the Air Force with increased access for military activities in the South Range of the NTTR; (3) Alternative 1 or 2 and expanding the existing withdrawal by including up to 301,507 additional acres, via three sub-alternatives; (4) establishing the time period of the withdrawal as either 20 years, 50 years, or as an indefinite military withdrawal; and (5) the No Action alternative which includes returning NTTR lands to the public domain, through the Department of the Interior. The alternatives structure allows for combining elements of alternatives in an additive fashion. For example, Alternative 2, could be selected along with sub-alternatives of Alternatives 3 (an option for expansion) and 4 (option for duration) as part of the Air Force's recommendation to Congress for the future military withdrawal. Within the framework of these alternatives, the LEIS will support Congressional action by identifying and evaluating potential impacts to land use, airspace, safety, noise, hazardous materials and solid waste, earth resources, water resources, air quality, transportation, wilderness and wilderness study areas, cultural resources, biological resources, socioeconomics, and environmental justice.

Henry Williams,

Acting Air Force Federal Register Officer.

[FR Doc. 2016–20401 Filed 8–24–16; 8:45 am]

BILLING CODE 5001–10–P

DEPARTMENT OF EDUCATION

[Docket No. ED–2016–ICCD–0068]

Agency Information Collection Activities; Submission to the Office of Management and Budget for Review and Approval; Comment Request; Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Pub. L. 109–270) State Plan Guide

AGENCY: Office of Career, Technical, and Adult Education (OCTAE), Department of Education (ED).

ACTION: Notice.

SUMMARY: In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. chapter 3501 *et seq.*), ED is proposing an extension of an existing information collection.

DATES: Interested persons are invited to submit comments on or before September 26, 2016.

ADDRESSES: To access and review all the documents related to the information collection listed in this notice, please use *http://www.regulations.gov* by searching the Docket ID number ED–2016–ICCD–0068. Comments submitted in response to this notice should be submitted electronically through the Federal eRulemaking Portal at *http://www.regulations.gov* by selecting the Docket ID number or via postal mail, commercial delivery, or hand delivery. *Please note that comments submitted by fax or email and those submitted after the comment period will not be accepted.* Written requests for information or comments submitted by postal mail or delivery should be addressed to the Director of the Information Collection Clearance Division, U.S. Department of Education, 400 Maryland Avenue SW., LBJ, Room 2E–349, Washington, DC 20202–4537.

FOR FURTHER INFORMATION CONTACT: For specific questions related to collection activities, please contact Braden Goetz, 202–245–7405.

SUPPLEMENTARY INFORMATION: The Department of Education (ED), in accordance with the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3506(c)(2)(A)), provides the general public and Federal agencies with an opportunity to comment on proposed, revised, and continuing collections of information. This helps the Department assess the impact of its information collection requirements and minimize the public's reporting burden. It also helps the public understand the Department's information collection requirements and provide the requested data in the desired format. ED is soliciting comments on the proposed information collection request (ICR) that is described below. The Department of Education is especially interested in public comment addressing the following issues: (1) Is this collection necessary to the proper functions of the Department; (2) will this information be processed and used in a timely manner; (3) is the estimate of burden accurate; (4) how might the Department enhance the quality, utility, and clarity of the information to be collected; and (5) how might the Department minimize the burden of this collection on the respondents, including through the use of information technology. Please note that written comments received in response to this notice will be considered public records.

Title of Collection: Carl D. Perkins Career and Technical Education Improvement Act of 2006 (P.L. 109–270) State Plan Guide.

OMB Control Number: 1830–0029.

Type of Review: An extension of an existing information collection.

Respondents/Affected Public: State, Local, and Tribal Governments.

Total Estimated Number of Annual Responses: 56.

Total Estimated Number of Annual Burden Hours: 2,240.

Abstract: This information collection solicits from all eligible States and outlying areas the State plans required under Title I of the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) (P.L. 109–270), as well as, for those States and outlying areas that fail to meet 90 percent of their performance levels for an indicator for three consecutive years, periodic reports on their progress in implementing the improvement plans required by section 123(a)(1) of Perkins IV.

Dated: August 22, 2016.

Tomakie Washington,

Acting Director, Information Collection Clearance Division, Office of the Chief Privacy Officer, Office of Management.

[FR Doc. 2016–20370 Filed 8–24–16; 8:45 am]

BILLING CODE 4000–01–P

DEPARTMENT OF ENERGY

Western Area Power Administration

Desert Southwest Region Transmission, Transmission Losses, Unreserved Use Penalties, and Ancillary Services—Rate Order No. WAPA–175

AGENCY: Western Area Power Administration, DOE.

ACTION: Notice of Final Formula Rates for Transmission and Ancillary Services.

The Air Force distributed an eight-page brochure providing information on the Proposed NTTR Land Withdrawal Extension and Proposed Expansion and the scope of the LEIS. In addition to the public, the Air Force notified in writing local, state, and federal agencies of the intent to prepare an EIS. Table A-1 provides a list of these contacts.

Table A-1. Agency Coordination Letter Distribution List

Name	Title	Organization	Division	Address	Address 2	City, St Zip
Local Government/Entities						
Stana Hurlburt	Mayor	Caliente Town Board	--	PO Box 1006	--	Caliente, NV 89008
Steve Rowe	City Council Member	Caliente Town Board	--	PO Box 1006	--	Caliente, NV 89008
Cody Christensen	City Council Member	Caliente Town Board	--	PO Box 1006	--	Caliente, NV 89008
JoLyn Cardinal	City Council Member	Caliente Town Board	--	PO Box 1006	--	Caliente, NV 89008
Victor Jones	City Council Member	Caliente Town Board	--	PO Box 1006	--	Caliente, NV 89008
Bryan Elkins	Community Development	Caliente Town Board	--	PO Box 1006	--	Caliente, NV 89008
Patrice Lytle	City Clerk	Caliente Town Board	--	PO Box 1006	--	Caliente, NV 89008
Goldfield Chamber of Commerce	--	--	--	165 Crook Ave	PO Box 204	Goldfield, NV 89013
Robert Crowell	Mayor	Carson City Board of Supervisors	--	201 N. Carson Street, Suite 2	--	Carson City, NV 89701
Karen Abowd	Supervisor Ward 1	Carson City Board of Supervisors	--	201 N. Carson Street, Suite 2	--	Carson City, NV 89701
Brad Bonkowski	Supervisor Ward 2	Carson City Board of Supervisors	--	201 N. Carson Street, Suite 2	--	Carson City, NV 89701
Lori Bagwell	Supervisor Ward 3	Carson City Board of Supervisors	--	201 N. Carson Street, Suite 2	--	Carson City, NV 89701
Jim Shirk	Supervisor Ward 4	Carson City Board of Supervisors	--	201 N. Carson Street, Suite 2	--	Carson City, NV 89701
Wendy Rudder	Manager	Alamo Airfield	--	P.O. Box 509	--	Alamo, NV 89001
Nancy Boland	Commissioner Chair	Esmeralda County Commission	--	PO Box 517	--	Goldfield, NV 89013
Michelle Bates	Vice Chair	Esmeralda County Commission	--	P.O. Box 517	--	Goldfield, NV 89013
Ralph Keyes	Commissioner District 3	Esmeralda County Commission	--	Box 310	--	Dyer, NV 89010
Amanda Daeseleer	Administrative Asst	Esmeralda County Commission	--	P.O. Box 517	--	Goldfield, NV 89013
LaCinda Elgan	Clerk/Treasurer	Esmeralda County Commission	--	PO Box 547	--	Goldfield, NV 89013
Ken Elgan	Sheriff	Esmeralda County	--	PO Box 520	--	Goldfield, NV 89013
Ed Higbee	Chair, Commissioner Southern Lincoln Cty	Lincoln County Commission	--	P.O. Box 242	--	Alamo, NV 89001
Adam Katske	Commissioner Caliente Area	Lincoln County Commission	--	P.O. Box 253	--	Caliente, NV 89008
Paul Mathews	Commissioner Panaca Area	Lincoln County Commission	--	P.O. Box 253	--	Panaca, NV 89042

Table A-1. Agency Coordination Letter Distribution List

Name	Title	Organization	Division	Address	Address 2	City, St Zip
Kevin Phillips	Vice Chair, Commissioner North Lincoln Cty	Lincoln County Commission	--	P.O. Box 1	--	Caliente, NV 89008
Paul Donohue	Commissioner Pioche Area	Lincoln County Commission	--	P.O. Box 291	--	Pioche, NV 89043
Susan Agee	Land Management Office	Lincoln County	--	P.O. Box 90	--	Pioche, NV 89043
Mike Baughman	Regional Development	Lincoln County	--	P.O. Box 90	--	Pioche, NV 89043
Ken Dixon	Planning Coordinator	Lincoln County	--	P.O. Box 90	--	Pioche, NV 89043
Kerry Lee	Sheriff	Lincoln County Sheriff Office	--	P.O. Box 570	1050 E. SR 322	Pioche, NV 89043
Gary Davis	Captain	Lincoln County Sheriff Office	--	P.O. Box 570	1050 E. SR 322	Pioche, NV 89043
Dawne Combs	Planning and Zoning Department	Lincoln County	--	181 North Main Street, Suite 107	P.O. Box 329	Pioche, NV 89043
Dan Schinhofen	Chairman Commissioner District 5	Nye County Commissioners	--	2100 E. Walt Williams Dr	Ste. 100	Pahrump, NV 89048
Lorinda Wichman	Vice Chairman Commissioner District 1	Nye County Commission	--	HC 60 Box 51363	--	Round Mountain, NV 89045
Frank Carbone	Commissioner District 2	Nye County Commission	--	2100 E. Walt Williams Dr.	Ste. 100	Pahrump, NV 89048
Donna Cox	Commissioner District 3	Nye County Commission	--	2100 E. Walt Williams Dr.	Ste. 100	Pahrump, NV 89048
Butch Borasky	Commissioner District 4	Nye County Commission	--	2100 E. Walt Williams Dr.	Ste. 100	Pahrump, NV 89048
Pam Webster	Nye County Manager	County of Nye	--	101 Radar Rd	P.O. Box 153	Tonopah, NV 89049
Lorina Dillinger	Administrative Manager	County of Nye	--	101 Radar Rd	P.O. Box 153	Tonopah, NV 89049
Anthony L. De Meo	Nye County Sheriff	Nye County Sheriff	--	Sheriff's Office Headquarters	101 Radar Rd	Tonopah, NV 89049
Rick Marshal	Pahrump Sheriff	Pahrump Sheriff	--	Sheriff's Office Substation	1520 E. Basin Road	Pahrump, NV 89060
David Fanning	Manager	Nye County Beatty Airport (KBTY)	--	250 N HWY 160 #2	--	Pahrump, NV 89061
Ron Gregory	Principal Planner	Clark County Comprehensive Planning Department	--	500 S. Grand Central Pkwy	P. O. Box 551744	Las Vegas, NV 89155
Steve Sisolak	Chair	Clark County Commissioners	--	500 S. Grand Central Pkwy.	6th Floor	Las Vegas, NV 89155
Lonnie Welch	Town Board Chairman	Alamo Town Board	--	655 Box Canyon St	PO Box 167	Alamo, NV 89001
Brad Loveday	Town Board Member	Alamo Town Board	--	655 Box Canyon St	PO Box 167	Alamo, NV 89001
Angie Wright	Town Board Member	Alamo Town Board	--	655 Box Canyon St	PO Box 167	Alamo, NV 89001
Wendy Rudder	Administration	Alamo Town Board	--	655 Box Canyon St	PO Box 167	Alamo, NV 89001
Dick Gardner	Chairman	Beatty Town Board	--	Beatty Community Ctr	100 S. A Ave	Beatty, NV 89003

Table A-1. Agency Coordination Letter Distribution List

Name	Title	Organization	Division	Address	Address 2	City, St Zip
Kelly Carroll	Vice Chair	Beatty Town Board	--	Beatty Community Ctr	100 S. A Ave	Beatty, NV 89003
Erika Gerling	Treasurer	Beatty Town Board	--	Beatty Community Ctr	100 S. A Ave	Beatty, NV 89003
Randy Reed	Member	Beatty Town Board	--	Beatty Community Ctr	100 S. A Ave	Beatty, NV 89003
Crystal Taylor	Member	Beatty Town Board	--	Beatty Community Ctr	100 S. A Ave	Beatty, NV 89003
Meggan Holzer	Town Advisory Board Liaison	Indian Springs	--	Clark County Government Center	500 South Grand Central Parkway, Sixth Floor	Las Vegas, NV 89155
Horace Carlyle	Chairman, Tonopah Town Board	Tonopah Town Board	--	102 Burro Ave	PO Box 151	Tonopah, NV 89049
Duane Downing	Vice Chairman	Tonopah Town Board	--	102 Burro Ave	PO Box 151	Tonopah, NV 89049
Ron Kipp	Clerk	Tonopah Town Board	--	102 Burro Ave	PO Box 151	Tonopah, NV 89049
Javier Gonzalez	Member	Tonopah Town Board	--	102 Burro Ave	PO Box 151	Tonopah, NV 89049
Janet Hatch	Member	Tonopah Town Board	--	102 Burro Ave	PO Box 151	Tonopah, NV 89049
James Eason	Town Manager	Tonopah Town Board	--	102 Burro Ave	PO Box 151	Tonopah, NV 89049
David Fanning	Airfield Manager (KTPH)	Tonopah Airport	--	1 Airport Rd	--	Tonopah, NV 89049
Local Agencies						
Teresa Dixon	Associate Field Director	Bureau of Land Management	Battle Mountain District	50 Bastian Road	--	Battle Mtn, NV 89820
Stephanie Trujillo	Real Property	Bureau of Land Management	Battle Mountain District	50 Bastian Road	--	Battle Mtn, NV 89820
Tim Coward	Field Manager	Bureau of Land Management	Tonopah Field Office	1553 S. Main	PO Box 911	Tonopah, NV 89049
Mark Ennes	AFM Non-Renewables	Bureau of Land Management	Tonopah Field Office	1553 S. Main	PO Box 911	Tonopah, NV 89049
Wendy Seley	Real Property	Bureau of Land Management	Tonopah Field Office	1553 S. Main	PO Box 911	Tonopah, NV 89049
Mike Herder	Admin	Bureau of Land Management	Tonopah Field Office	1553 S. Main	PO Box 911	Tonopah, NV 89049
Sue Rigby	Archaeologist	Bureau of Land Management	Tonopah Field Office	1553 S. Main	PO Box 911	Tonopah, NV 89049
Allison	Helicopter Operations	Bureau of Land Management	Tonopah Field Office	1553 S. Main	PO Box 911	Tonopah, NV 89049
Peter Peterson	Deputy Fire Management Officer	Bureau of Land Management	Tonopah Field Office	1553 S. Main	PO Box 911	Tonopah, NV 89049
Wild Horse Mgr	--	Bureau of Land Management	Tonopah Field Office	1553 S. Main	PO Box 911	Tonopah, NV 89049
Rosemary Thomas	District Manager	Bureau of Land Management	Ely District Office	702 N Industrial Way	HC 33 Box 33500	Ely, NV 89301
Mike Herder	Asst District Mgt	Bureau of Land Management	Ely District Office	702 N Industrial Way	HC 33 Box 33500	Ely, NV 89301
Dan Netcher	NEPA Manager	Bureau of Land Management	Ely District Office	702 N Industrial Way	HC 33 Box 33500	Ely, NV 89301

Table A-1. Agency Coordination Letter Distribution List

Name	Title	Organization	Division	Address	Address 2	City, St Zip
Ty Petersen	Fire Management Officer	Bureau of Land Management	Ely District Office	702 N Industrial Way	HC 33 Box 33500	Ely, NV 89301
Randy Johnson	Helo/Fire Coordinator	Bureau of Land Management	Ely District Office	702 N Industrial Way	HC 33 Box 33500	Ely, NV 89301
Mark Spencer	Field Manager	Bureau of Land Management	Redrock/Sloan Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Victoria Barr	Field Manager	Bureau of Land Management	Caliente Field Office	1400 S Front Street	--	Caliente, NV 89008
Cameron Boyce	--	Bureau of Land Management	Caliente Field Office	1400 S Front Street	--	Caliente, NV 89008
Ty Chamberlain	Reality Specialist	Bureau of Land Management	Caliente Field Office	1400 S Front Street	--	Caliente, NV 89008
Randy Johnson	Helicopter Operations	Bureau of Land Management	Caliente Field Office	1400 S Front Street	--	Caliente, NV 89008
Alicia Styles	Biologist	Bureau of Land Management	Caliente Field Office	1400 S Front Street	--	Caliente, NV 89008
Field Manager	--	Bureau of Land Management	Egan Field Office	702 N Industrial Way	HC 33 Box 33500	Ely, NV 89301
Paul Podborny	Field Manager	Bureau of Land Management	Schell Field Office	702 N Industrial Way	HC 33 Box 33500	Ely, NV 89301
Doug Furtado	District Manager	Bureau of Land Management	Battle Mountain District	50 Bastian Road	--	Battle Mtn, NV 89802
Tim Smith	District Manager	Bureau of Land Management	Las Vegas District Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Vivian Browning	Executive Assistant	Bureau of Land Management	Las Vegas District Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Greg Helseth	Renewable Energy	Bureau of Land Management	Las Vegas District Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Mark Chandler	Realty Specialist	Bureau of Land Management	Las Vegas District Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Bob Ross	LVFO Manager	Bureau of Land Management	Las Vegas Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Chris Glode	Fire Management Officer	Bureau of Land Management	Las Vegas Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
John Winlow	Asst FMO	Bureau of Land Management	Las Vegas Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Sean McEldery	Supervisory Fire Mgt Specialist	Bureau of Land Management	Las Vegas Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Lewis Brownfield	GIS	Bureau of Land Management	Las Vegas Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Susan Rowe	Archaeologist	Bureau of Land Management	Las Vegas Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Jeff Steinmetz	Env Protection	Bureau of Land Management	Las Vegas Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Philip Rhinehart	Supervisory Realty Specialist	Bureau of Land Management	Las Vegas Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Kerri-Ann Thorpe	Reality Specialist	Bureau of Land Management	Las Vegas Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Deborah MacNeill	Field Manger & DoD Liaison	Bureau of Land Management	Pahrump Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Mark Tanaka-Sanders	Asst Field Manager	Bureau of Land Management	Pahrump Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Krystal Johnson	Wild Horse Mgr	Bureau of Land Management	Pahrump Field Office	4701 N Torrey Pine Dr	--	Las Vegas, NV 89130
Rob Boehlecke	Soils Proj Manager	Department of Energy	--	P.O. Box 98518	--	Las Vegas, NV 89193

Table A-1. Agency Coordination Letter Distribution List

Name	Title	Organization	Division	Address	Address 2	City, St Zip
Linda Cohn	Env Protection Specialist	Department of Energy	--	P.O. Box 98518	--	Las Vegas, NV 89193
John Gamby	NTS Fire Chief	Department of Energy	--	P.O. Box 98518	--	Las Vegas, NV 89193
Bill Willborn	UGTA Sub-Proj Director	Department of Energy	--	P.O. Box 98518	--	Las Vegas, NV 89193
Brian Atkins	--	Sandia National Lab (SNL)	--	P.O. Box 5800	Mailstop 1392	Albuquerque, NM 87185
Joe Simile		Sandia National Lab (SNL)		P.O. Box 5800	Mailstop 1392	Albuquerque, NM 87185
State Government/Entities						
Robert J. Halstead	Executive Director	State of Nevada, Office of the Governor	Agency for Nuclear Projects, Nuclear Waste Project Office	1761 College Parkway	suite 118	Carson City, NV 89706
Brian Sandoval	Governor	State of Nevada, Office of the Governor	--	State Capitol Building	101 N. Carson Street	Carson City, NV 89701
Mark Hutchison	Lieutenant Governor	State of Nevada, Office of the Governor	--	State Capitol Building	101 N. Carson Street, Suite 2	Carson City, NV 89701
Heidi Gansert	Chief of Staff	State of Nevada, Office of the Governor	--	State Capitol Building	101 N. Carson Street, Suite 2	Carson City, NV 89701
Dale Erquiaga	Senior Advisor to the Governor	State of Nevada, Office of the Governor	--	State Capitol Building	101 N. Carson Street, Suite 2	Carson City, NV 89701
Steve Hill	Office of Economic Development	State of Nevada	--	808 West Nye Lane	--	Carson City, NV 89703
Paul Thomsen	NV State Office of Energy	State of Nevada	--	755 North Roop Street, Suite 202	--	Carson City, NV 89701
Peter Konesky	State Renewable Energy Czar	State of Nevada	--	755 North Roop Street, Suite 202	--	Carson City, NV 89701
Peter Mulvihill	State Fire Marshal	State of Nevada	--	107 Jacobsen Way	--	Carson City, NV 89701
Dean Heller	Nevada State Senator	--	--	324 Hart Senate Office Building	--	Washington, DC 20510
Harry Reid	Nevada State Senator	--	--	522 Hart Senate Office Building	--	Washington, DC 20510
Dina Titus	Congressional District 1	Nevada State House of Representatives	--	401 Cannon House Office Building	--	Washington, DC 20510
Mark Amodei	Congressional District 2	Nevada State House of Representatives	--	222 Cannon House Office Building	--	Washington, DC 20510
Joe Heck	Congressional District 3	Nevada State House of Representatives	--	132 Cannon House Office Building	--	Washington, DC 20510

Table A-1. Agency Coordination Letter Distribution List

Name	Title	Organization	Division	Address	Address 2	City, St Zip
Cresent Hardy	Congressional District 4	Nevada State House of Representatives	--	430 Cannon House Office Building	--	Washington, DC 20515
State Agencies						
Christine Andres	Bureau Chief	Nevada Division of Environmental Protection	Bureau of Federal Facilities	2030 E. Flamingo Rd	Suite 230	Las Vegas, NV 89119
Dan Balduini	--	U.S. Fish and Wildlife Service	Nevada Fish & Wildlife Office	1340 Financial Blvd	Suite 234	Reno, NV 89502
Leo Drozdoff	Director	Nevada Department of Conservation and Natural Resources	--	901 S. Stewart St	Suite 1003	Carson City, NV 89701
Skip Canfield	--	State of Nevada Clearinghouse	--	901 S. Stewart St	Ste 5003	Carson City, NV 89701
Willie R. Taylor	Director	Office of Environmental Policy and Compliance	--	Main Interior Building (MS 2342)	1849 C Street NW	Washington, DC 20240
Amy Lueders	State Director	Bureau of Land Management	--	1340 Financial Blvd	--	Reno, NV 89502
Raul Morales	Deputy State Director	Bureau of Land Management	--	1340 Financial Blvd	--	Reno, NV 89502
Pat Gubbins	Chief, Non-Renewable Resources	Bureau of Land Management	--	1340 Financial Blvd	--	Reno, NV 89502
Rex McKnight	BLM Fire Manager	Bureau of Land Management	--	1340 Financial Blvd	--	Reno, NV 89502
Gary Johnson	Deputy State Director, Minerals Mgt	Bureau of Land Management	--	1340 Financial Blvd	--	Reno, NV 89502
Robert Kelso	HAZMAT	Bureau of Land Management	--	1340 Financial Blvd	--	Reno, NV 89502
David Morlan	Chief, Cadastral Surveys	Bureau of Land Management	--	1340 Financial Blvd	--	Reno, NV 89502
Alan Sheppard	Wild Horse Program	Bureau of Land Management	--	1340 Financial Blvd	--	Reno, NV 89502
Steve Kimball	--	Nevada Department of Wildlife	--	1100 Valley Road	--	Reno, NV 89512
Tom Donham	--	Nevada Department of Wildlife	--	1100 Valley Road	--	Reno, NV 89512
Pat Cummings	--	Nevada Department of Wildlife	--	1100 Valley Road	--	Reno, NV 89512
Tony Wasley	Director	Nevada Department of Wildlife	--	1100 Valley Road	--	Reno, NV 89512
Rich Haskins	Deputy Director	Nevada Department of Wildlife	--	1100 Valley Road	--	Reno, NV 89512
Patrick Cates	Deputy Director	Nevada Department of Wildlife	--	1100 Valley Road	--	Reno, NV 89512
Ted Koch	NV State Supervisor	U.S. Fish and Wildlife Service	Southern Nevada Field Office	4701 N. Torrey Pines	--	Las Vegas, NV 89130
Christy Smith	DNWR Manager	U.S. Fish and Wildlife Service	Desert National Wildlife Range Complex	4701 N. Torrey Pines	--	Las Vegas, NV 89130
Kevin DesRoberts	Deputy Manager	U.S. Fish and Wildlife Service	--	4701 N. Torrey Pines	--	Las Vegas, NV 89130

Table A-1. Agency Coordination Letter Distribution List

Name	Title	Organization	Division	Address	Address 2	City, St Zip
Amy Sprunger	Refuge Manager	U.S. Fish and Wildlife Service	Desert National Wildlife Range	4701 N. Torrey Pines	BOX 700 HCR 38	Las Vegas, NV 89130
Rob Peloquin	Law Enforcement	U.S. Fish and Wildlife Service	--	4701 N. Torrey Pines	--	Las Vegas, NV 89130
Glen Gibson	FMO	U.S. Fish and Wildlife Service	--	4701 N. Torrey Pines	--	Las Vegas, NV 89130
Ross Wise	Asst FMO	U.S. Fish and Wildlife Service	--	4701 N. Torrey Pines	--	Las Vegas, NV 89130
Don Harper	GIS	U.S. Fish and Wildlife Service	--	4701 N. Torrey Pines	--	Las Vegas, NV 89130
Rob Palmer	State Floodplain Manager	State of Nevada, Division of Water Resources	Carson City Office	901 S. Stewart St., Suite 2002	--	Carson City, NV 89701
Reed Cozens	Water Commissioner	State of Nevada, Division of Water Resources	Carson City Office	901 S. Stewart St., Suite 2002	--	Carson City, NV 89701
Amanda Brownlee	Well Supervisor	State of Nevada, Division of Water Resources	Carson City Office	901 S. Stewart St., Suite 2002	--	Carson City, NV 89701
Adam Sullivan	Chief, Hydrology Section	State of Nevada, Division of Water Resources	Carson City Office	901 S. Stewart St., Suite 2002	--	Carson City, NV 89701
John Guillory	Supervisor, Las Vegas Branch Office	State of Nevada, Division of Water Resources	Southern Nevada Branch	400 Shadow Lane, Suite 201	--	Las Vegas, NV 89106
Regional Agencies						
Jared Blumenfeld	Regional Administrator	Environmental Protection Agency, Region IX	--	75 Hawthorne Street	--	San Francisco, CA 94105
Ren Lohoefener	Region 8 Administrator	US Fish and Wildlife Service Pacific SW Region	--	2800 Cottage Way, Room W-2606	--	Sacramento, CA 95825
Toni Deery	Asst Regional Director	U.S. Fish and Wildlife Service	--	2800 Cottage Way, Room W-2606	--	Sacramento, CA 95825
Marge Kolar	Regional Chief, National Wildlife Refuge System	U.S. Fish and Wildlife Service	--	2800 Cottage Way, Room W-2606	--	Sacramento, CA 95825
Karen Armes	Acting Regional Administrator	Federal Emergency Management Agency Region IX	--	1111 Broadway, Suite 1200	--	Oakland, CA 94607
Casey De Shong	Congressional and Intergovernmental Affairs	Federal Emergency Management Agency Region IX	--	1111 Broadway, Suite 1200	--	Oakland, CA 94607
Glen A. Martin	FAA Western-Pacific Regional Administrator	Federal Aviation Administration	Airports Division	Western-Pacific Region (AWP-600)	P.O. Box 92007	Los Angeles, CA 90009
Federal Agencies						
Gina McCarthy	Administrator	Environmental Protection Agency	Federal Headquarters	1200 Pennsylvania Avenue, N.W.	--	Washington, DC 20460

Table A-1. Agency Coordination Letter Distribution List

Name	Title	Organization	Division	Address	Address 2	City, St Zip
Ray Towles	Deputy Assistant Administrator for Regions and Center Operations	Federal Aviation Administration Headquarters	U.S. Department of Transportation	800 Independence Avenue, SW	--	Washington, DC 20591
Dr. Willie R. Taylor	Director, Office of Environmental Policy and Compliance, US DOI	Main Interior Building (MS 2342)	--	1849 C Street, NW	--	Washington, DC 20240
Mr. Peter Bahm	--	OSD Office of Economic Development	--	400 Army Navy Drive, Suite 200	--	Arlington, VA 22202
Reid Nelson, Director	--	Office of Federal Agency Programs	Old Post Office Building	1100 Pennsylvania Avenue, NW, Suite 803	--	Washington, DC 20004
David Foley	Director, Aviation Logistics Organization	Federal Aviation Administration	--	800 Independence Avenue, SW	--	Washington, DC 20591
Dennis Bee	Air Traffic Representative, NV	Federal Aviation Administration	--	702-652-5530 dennis.bee@faa.gov	--	--
Tribes/Cultural						
Kish LaPierre	Tribal Liaison/ Archaeologist	Nellis Air Force Base	--	6020 Beale Ave	--	Nellis AFB, NV 89191
Citizen Groups						
Conni Canaday	President	National Wild Horse Association	--	PO Box 12207	--	Las Vegas, NV 89112
Renee Aldrich	Stewardship Program Manager	Friends of Nevada Wilderness	--	PO Box 9754	--	Reno, NV 89507
Jesy Simons	Southern Nevada Manager	Friends of Nevada Wilderness	--	PO Box 33155	--	Las Vegas, NV 89133
William Douglass	Chair, Nevada Board of Trustees	The Nature Conservancy	--	1 East First Street	Suite 1007	Reno, NV 89501
The Nature Conservancy	Southern Nevada Office	--	--	915 East Bonneville Avenue	--	Las Vegas, NV 89101
Repositories						
University of Nevada, Las Vegas Library		--	--	4505 South Maryland Pkwy	Box 457001	Las Vegas, NV 89154
University of Nevada, Reno Library		Mathewson-IGT Knowledge Center	--	1664 N. Virginia Street	Mailstop 322	Reno, NV 89557
Indian Springs Library		--	--	715 Gretta Lane	--	Indian Springs, NV 89018
Reno Downtown Library		--	--	301 S. Center Street	--	Reno, NV 89501
Caliente Branch Library		--	--	100 Depot Ave	P.O. Box 306	Caliente, NV 89008
Carson City Library		[BRANCH CLOSED SINCE DRAFT LEIS]	--	900 North Roop Street	--	Carson City, NV 89701
Carson City Hall				201 N. Carson Street		Carson City, NV 89701

Table A-1. Agency Coordination Letter Distribution List

Name	Title	Organization	Division	Address	Address 2	City, St Zip
Las Vegas-Clark County Library District		--	--	833 Las Vegas Blvd. North	--	Las Vegas, NV 89101
Beatty Library District		--	--	400 North 4th Street	--	Beatty, NV 89003
Pahrump Community Library		--	--	701 East Street	--	Pahrump, NV 89048
Lincoln County Library		--	--	63 Main Street	--	Pioche, NV 89043
Amargosa Valley Library		--	--	829 E. Farm Rd.	HC 69 Box 401T	Amargosa Valley, NV 89020
Tonopah Library		--	--	167 South Central Street	--	Tonopah, NV 89049
State Bureau of Land Management		--	--	1340 Financial Blvd	--	Reno, NV 89502
Nye County Commissioners Office		--	--	101 Radar Rd	P.O. Box 153	Tonopah, NV 89049
Alamo Branch Library				100 South First West		Alamo, NV 89001

Cells with -- indicate data is not applicable.

A.2 PUBLIC SCOPING SUMMARY

The National Enviromental Policy Act (NEPA) and the Air Force's implementing regulations require the lead agency (in this case, the Air Force) to seek public participation throughout the environmental impact analysis process. "Scoping" identifies potential issues and alternatives early in the NEPA development process. The Air Force filed a Notice of Intent to prepare an LEIS. The Notice of Intent to prepare an LEIS was published in the *Federal Register* on August 25, 2016 (see Section A.1).

Although a scoping process is not required for an LEIS, the Air Force elected to involve the community. After public notification, the Air Force held five public scoping meetings in Nevada in Beatty, Tonopah, Caliente, Alamo, and North Las Vegas. Notification of the meetings was published in local newspapers in 2016—the *Bullseye* on September 23 and October 7, the *Pahrump Valley Times* on September 28 and October 5, the *Lincoln County Record* on September 23 and October 7, the *Tonopah Times-Bonanza* on September 22 and October 6, and the *Las Vegas Review-Journal* on September 27 and October 6. The Air Force's public scoping meetings were subsequently held in Nevada in 2016: in Beatty on October 12, in Tonopah on October 13, in Caliente on October 18, in Alamo on October 19, and in North Las Vegas on October 20. The total number of attendees at each public scoping meeting hosted by the Air Force was 37, 21, 12, 25, and 155, respectively.

Verbal and written public comments were submitted via the project website, e-mail, standard mail, and at the public scoping meetings (written and verbal comments). A total of 1,331 members of the public and government agencies submitted comments to the Air Force during the scoping meetings and comment period. The majority of public

comments received during the public scoping process were directed at concerns regarding the structure of the Air Force's proposal, biological and cultural impacts, and impacts on land use and Proposed Wilderness (Table A-2). Seventy-six percent of comments received were in form letters. Section A.2.1 presents a summary of the public comments provided to the Air Force during the public scoping period.

Table A-2. Scoping Comments by Topic Area

Legislative Environmental Impact Statement (LEIS) Topic	Number of Comments Received
National Environmental Policy Act Process and LEIS Development	92
Purpose and Need	12
Description of Proposed Action and Alternatives	1,381
Air Quality	11
Airspace	7
Biological Resources	1,684
Cultural Resources	906
Earth Resources (Soils, Minerals, Geology)	4
Hazardous Materials and Solid Wastes	22
Health and Safety	4
Land Use, Recreation, and Visual Resources	1,078
Noise	21
Socioeconomics	72
Environmental Justice	0
Transportation, Infrastructure and Utilities	6
Water Resources	20
Proposed Wilderness/Wilderness Study Areas	887
Cumulative Impacts	14

A.2.1 Summary of Concerns Raised in the Public Scoping Process

During the public scoping period, verbal and written public comments were submitted to the Air Force via the website, e-mail, standard mail, and at the public scoping meetings. A total of 1,331 members of the public and government agencies submitted comments during the scoping period. The majority of public comments received were directed at the structure of the Air Force's proposal, biological and cultural resources impacts, and impacts on land use and areas that were proposed for wilderness. The most common concerns relevant to the development of the LEIS are discussed below. A full report of all comments can be found in the Administrative Record.

NEPA Process and Development of the LEIS

Many commenters wanted the Air Force to comply with NEPA regulations and develop an LEIS before making a decision. Many sought the LEIS to address land management responsibilities between all agencies, stewardship and management practices, resource monitoring and results, and reporting requirements. Also, some thought that the resource assessments completed in the 1990s should be updated as part of the LEIS, including valuating the resources. Also, some asked that decision documents detail the anticipated enhancements to military readiness compared to the cost of conservation.

Other comments suggested that the LEIS include analysis of future Air Force needs; describe the legislative review and Congressional approval process, CEQ requirements,

the *Engle Act*, the *Federal Land Policy and Management Act* (FLPMA), and the *Sikes Act*; describe the use of each range, including cleanup activities and buffer zones; and explain the history and purpose of the NTTR, DNWR, and wilderness areas. Others felt the LEIS's approach of providing a programmatic analysis is inadequate to fully and cumulatively analyze impacts or develop mitigations.

Purpose and Need

Several commenters felt that the purpose and need statement is narrowly constructed in favor of the proposed expansion areas and should reflect the missions of multiple users of the range such as BLM and the USFWS. Commenters suggested that the Air Force should also clearly justify the need for closing off public access. Other commenters raised concerns on future weapons and delivery platforms if there is nowhere else to expand. Also, commenters questioned the need for expanding safety buffers since the current range is deemed safe for present operations. Some comments claimed that if the Air Force says that an alternative "would not fully meet the purpose and need," the perception is the Air Force will automatically not select it, which implies pre-decision.

Description of Proposed Action and Alternatives

Many commenters requested that the LEIS include a clear project description with estimates and analysis of changes in levels of training. Commenters also asked that the LEIS include a detailed description of how the Air Force will implement management plans, including improvement of wildlife and habitat management on all withdrawn land.

Some commenters suggested expanding into other land adjacent to the NTTR or using open country in Nevada while others suggested moving Nellis AFB to Alaska or implementing cross-utilization and improved cooperation with other military installations. Others thought the East Desert Range Mountains would be a sufficient safety barrier.

Several commenters stated that new alternatives should be developed that represent both stakeholder and military preferences, consider current public land users, and potentially reduce the withdrawal area where possible. Other new alternatives were also proposed, including those that would: Congressionally designate wilderness for all areas that were proposed for wilderness; retain USFWS jurisdiction and designate wildlife migration corridors that may extend beyond DNWR boundaries; incorporate recreational access for stakeholders; limit NTTR use to airspace only; or maximize avoidance of impacts to public access. A mitigation was proposed that would have the Air Force, in exchange for withdrawing new lands, provide an equal release of currently restricted land to BLM, USFWS, or the public for multiple uses. Some commenters said that none of the existing alternatives include mitigations to impacts on biological, cultural, or recreational resources.

Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo

Comments related to Alternative 1 were primarily a vote for or against the alternative's implementation and did not offer substantive information for the Air Force to consider.

Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

Comments related to Alternative 2 included views on proposed changes to USFWS jurisdiction in the South Range, involving possible incompatibility with wilderness and DNWR requirements and conservation goals. Some commenters expressed that the meaning of the term "ready access" and how it would be implemented was not clear. Some were concerned by North Range conditions being replicated on the South Range.

Alternative 3 – Expand Withdrawal of Public Lands for the NTTR

Comments on Alternatives 3A and 3C urged the Air Force to allow for multiple uses that avoid key recreational areas and utility corridor conflicts or to move testing further inside the NTTR so the proposed expansion areas are not needed. Alternative 3B concerns related to the loss of motorized access to the area. Commenters also requested details about planned construction activities and how public access would be preserved.

Alternative 4 – Establish the Period of Withdrawal

Comments on Alternative 4 stated that the choice of the withdrawal period must consider whether management plans will be fluid and adaptive. Many comments supported Alternative 4A (20 years) while others supported Alternative 4C (indefinite) to ensure that the military always has a place to train and test in realistic settings.

No Action Alternative

Various comments suggested that the Air Force should apply the No Action Alternative in only the South Range and continue using the North Range and/or training simulators.

Air Quality

Comments on air quality generally stated that the LEIS should assess ambient air quality impacts under each alternative, including National Ambient Air Quality Standards (NAAQS), criteria pollutant nonattainment and maintenance areas, greenhouse gases (GHGs), climate change, and conformity requirements of the *Clean Air Act* (CAA).

Airspace

Comments received regarding airspace questioned the need for more airspace, why dedicated airspace is required, and whether commercial air traffic travels at much higher altitudes than weapons delivery systems. Other comments requested additional information on airspace changes and claimed airspace demands do not equate to acquiring additional ground space. Other commenters suggested that the Air Force reconsider flight restrictions over "Area 51/Groom Range" to combine the North and South Ranges.

Biological Resources

Concerns about biological resources were related to potential negative impacts to wildlife (including bighorn sheep), conservation and management, habitat, and climate change. Some commenters requested that the LEIS describe how military activities

would affect game animals, rare/unique species and habitats, seeps and springs, ephemeral streams and washes. Concerns also included the potential loss of the National Wildlife Refuge network, specifically the fragmentation of the refuge and loss of important ecosystems, as well as the potential for an increase in human-caused fires. Other comments suggested that Air Force conduct surveys and develop maps to verify the presence of threatened/endangered and sensitive species and their habitats and avoid impacts or minimize/mitigate impacts when unavoidable impacts would occur.

Numerous comments discussed species conservation and management issues, such as potential impacts to habitat areas improved by other agencies and the ability for the USFWS and NDOW to access withdrawn lands for surveys and species maintenance (including guzzler maintenance). Others asked about impacts to ongoing monitoring and research that requires access to monitoring wells, springs, and surface waters. Some asked if the Air Force would install fencing at springs to keep animals away.

Several comments asked the Air Force to conduct adequate biological monitoring and habitat maintenance, develop an updated INRMP, and consider wildlife management issues as a high priority. Also, some commenters were concerned about potential impacts due to changing jurisdiction in the South Range, specifically from vehicle use, bombing, and infrastructure.

General sensitive species management concerns were expressed, particularly effects to protected species, and Air Force compliance with the *Endangered Species Act* (ESA) and contribution to species conservation. Commenters suggested that the Air Force should consider how existing partnerships and strategies to conserve special status species would be affected and whether biological species would fare better under the current management framework. Species-specific management and conservation concerns from the Proposed Action included migratory birds, bald and golden eagles, and the Amargosa toad.

Some comments asked the Air Force to consider climate change effects and the associated impacts to biological and natural resources under each alternative and adaptively manage operations to minimize the effects of climate change.

Cultural Resources

Most cultural resources comments related to possible damage from greater range use. Some thought that limits on public access to historical, geological, and archeological sites could prevent site studies, surveys, and management activities. The potential intrusion upon or impact to tribal ancestral lands was also a concern. Others wanted the Air Force to consult with tribes under Section 106 of the *National Historic Preservation Act* (NHPA) and have the LEIS describe the consultation process and identify the main tribal concerns, including tribal access to cultural resources and sacred sites.

Earth Resources

Concerns about earth resources focused on potential impacts to active mining claims and restricted access, including physical and institutional barriers, to potentially highly mineralized areas suitable for current and future mineral exploration and mining.

Hazardous Materials and Solid Wastes

The following hazardous materials and solid waste issues were requested to be addressed in the LEIS: use, management, and disposal of depleted uranium munitions; effects of chaff and flares on the environment; documentation of contaminated sites and site remediation activities; use and effects of perfluorinated compounds; range clearance plan; potential for off-range contaminants; and sampling and assessment of ecological and human receptors. Other commenters were concerned with the military's current and long-term utilization and potential contamination of areas that were proposed for wilderness and valley portions of the DNWR. Commenters asked the Air Force to identify the liable and responsible entity to cleanup contamination for future visitor use and wildlife safety once the range is no longer being utilized.

Health and Safety

Comments on health and safety addressed impacts and hazards from general military operations, including electromagnetic radiation, UXO, and fuel spills.

Land Use, Recreation, and Visual Resources

Land use comments asked how the proposed expansion would reduce multiple use opportunities and grazing rights. Commenters also voiced concerns for private ranches, cattle, and water access. Some said that analysis should assess impacts from reducing access to public lands for recreation, including wildlife-related recreational opportunities, research, monitoring, restoration projects, and economic activities. Commenters concerned with recreation asked the Air Force to provide continued access to the DNWR and Alamo Road and were concerned for the loss of recreation opportunities, such as hunting, off-roading, mountain biking, hiking, and the Desert off-highway vehicle (OHV) race. Access restrictions to Corn Creek, Hidden Forest Cabin, Hayford Peak, and the west side of Sheep Range were also mentioned. Some commenters suggested the Air Force should indicate when and where recreation closures would occur and consider open or shared use as mitigation.

Others were concerned for the potential loss of county-specific permits, rights-of-way, and access to county assets. Some were concerned that the proposed expansion areas would encroach on Beatty and future development projects. Also, some commenters felt there would be adverse impacts on DNWR and National Park Service (NPS) resources.

Visual resources concerns included potential light pollution impacts to naturally dark night sky cycles, stargazing, and "wild feeling" characteristics, as well as development that could remove scenic views, release fine dust, and alter landforms and vegetation.

Noise

The most commonly expressed noise concerns dealt with the potential for increased noise pollution and sonic booms, vibrations on homes, and impacts to elderly people and quality of life. Others suggested the Air Force implement and publicize flight rules to reduce noise impacts and include feedback from local citizens. Some asked that the LEIS discuss existing Air Installation Compatible Use Zones (AICUZ) and Range AICUZ

(RAICUZ), describe in detail noise impacts to local communities and residents, include noise complaint data over the last 20 years, and ensure the analysis encompasses areas with noise complaints. Some comments pointed out that estimated noise levels in the LEIS should address sound as humans perceive it and include a nighttime penalty. Others suggested independent noise monitoring before and after the land withdrawal.

Transportation, Infrastructure, and Utilities

Infrastructure comments typically addressed the potential conflict with current and long-range planning of transportation and utility corridors, existing rights-of-way, existing roads and public use of and access to roads, back country roads, trails, and mountains.

Socioeconomics

Many socioeconomic concerns were about potential economic impact from the loss of recreation and tourism revenue generated within the proposed expansion areas, including the bike trails and OHV race. Others questioned potential losses related to the conservation excise tax on firearms, ammunition and hunting licenses, local and state revenue, tax revenue, and Payment in Lieu of Taxes (PILT). Some were concerned that impacts could occur to jobs from access restrictions to lands used for mining, ranching, oil and gas development, renewable energy, water rights, recreation, tourism, and other activities.

Commenters suggested using the 1991 Special Nevada Report as a baseline to examine a range of cumulative economic impacts from the continued withdrawal of the NTTR. Some said that the LEIS should include direct/indirect effects of continued land use restrictions, identify mitigations to offset economic impacts, include detailed past, present, and projected urban growth patterns in the noise-impacted areas, consider current and projected changes of aircraft types, and conduct a similar analysis for sonic booms. Lastly, commenters felt that the loss and defamation of the land would have negative psychological impacts on members of the public.

Water Resources

The primary water resources concerns dealt with potential loss of public access and water rights to springs, water sampling wells, water projects built and paid for by sportsman, water systems used for bighorn sheep and other wildlife, and/or prevention of future water resources developments. Other concerns addressed potential disruption to spring flows, other water supplies, and contamination of refuge waters. Some stated that the LEIS analysis should include surface water, groundwater, water quality, and wetlands and consider hydrographic area, quantities of unappropriated water resources, and continuous impacts from limiting access to water resources.

Wilderness and Wilderness Study Areas

Comments regarding wilderness and Wilderness Study Areas specifically wanted the LEIS to address how wilderness areas would be disturbed and protected. Many commenters disagreed with the potential change in land management of the areas that

were proposed for wilderness, which would result in those areas no longer being managed as wilderness.

Cumulative Impacts

Most comments on cumulative impacts cited regulations that require the Air Force to assess cumulative impacts in the LEIS. Some felt cumulative impacts analyses should be integrated into the discussion of resource impacts as opposed to a separate chapter and the methodology used to assess cumulative impacts should be described. Others asked for the following to be included in the analysis: impacts to visual resources and landscape effects from constructing multiple facilities, identification of observation points so future facilities can be sited strategically to protect important viewsheds, and impacts to private land, ad valorem tax base, mining sector, and access to water resources.

A.3 NOTICE OF AVAILABILITY

57974 Federal Register / Vol. 82, No. 235 / Friday, December 8, 2017 / Notices

demonstrate compliance annually. RINs are the credits that obligated parties use to demonstrate compliance with the standard. RINS are generated by producers and importers of renewable fuels and traded by various parties. Obligated parties must obtain sufficient RINs for each category in order to demonstrate compliance with the annual standard.

In order to track compliance with the RFS program, various parties involved with the production and blending of renewable fuels, and who generate, trade or use RINs, must register with EPA and submit various types of compliance reports related to the activity they engage in under the program. Our estimates as to burden are explained in the supporting statement that has been placed in the public docket. Domestic and foreign entities may be subject to these regulations and to the associated information collection. The RFS program was developed with certain flexibilities, including for small entities such as small refiners and small refineries, small blenders, and small volume production facilities and importers.

What are the recordkeeping and reporting requirements associated with the RFS program?

The reporting requirements of the RFS program typically fall under registration and compliance reporting. Recordkeeping requirements include product transfer documents (PTDs) and retention of records that support items reported. Recordkeeping and reporting are based upon the role the party fills under the regulations. A party may be registered in more than one role. Basing the recordkeeping and reporting upon a party's roles in the program ensures that parties must sustain only the burden necessary under the program. EPA continuously assesses its registration and reporting systems in an effort to provide the best possible service to the regulated community and in order to enhance, simplify, and streamline the experience. Because RFS relies upon a marketplace of RINs, EPA has created and maintains the EPA Moderated Transaction System (EMTS) capable of handling a high volume of RIN trading activities.

Who are the respondents for the RFS program?

The respondents to this ICR are: RIN Generators (producers and importers of renewable fuel), Obligated Parties (refiners and importers of gasoline and diesel), Exporters (of renewable fuel), RIN Owners, independent third-party Quality Assurance Plan (QAP) Providers, and certain petitioners under the international aggregate compliance approach (such petitions are infrequent). These parties and their associated information collections are described in detail in the supporting statement and tables, which have been placed in the docket.

Which ICRs are being consolidated into this new collection?

This proposed ICR will supersede and replace existing information collection currently approved under the following titles and OMB control numbers (with expiration dates shown):

- Renewable Fuels Standard Program (RFS2-Supplemental), OMB Control Number 2060–0637; expires 10/31/2017;
- Renewable Fuel Standard (RFS2) Program, OMB Control Number 2060–0640; expires 10/31/2017;
- RFS2 Voluntary RIN Quality Assurance Program, OMB Control Number 2060–0688; expires 4/30/2019; and
- Cellulosic Production Volume Projections and Efficient Producer Reporting, OMB Control Number 2060–0707, expires 12/31/2019.

This proposed new ICR includes burdens associated with Renewable Fuel Pathways II and Technical Amendments to the RFS2 Standards, for which a final rule was published on July 18, 2014. 79 FR 42128. Although ICR estimates were prepared for the proposed rule, it appears they were not submitted to OMB with the final rule through an administrative error. This proposed new ICR also includes burdens associated with the following previously approved, but not currently approved, ICRs: Regulation of Fuel and Fuel Additives: 2011 Renewable Fuel Standards—Petition for International Aggregate Compliance Approach, OMB Control Number 2060–0655; expired 5/31/2017; and Production Outlook Report for Unregistered Renewable Fuels Producers, OMB Control Number 2060–0660; expired 7/31/2017.

Form Numbers: RFS0104: RFS Activity Report, RFS0303: RFS Annual Compliance Report, RFS0601: RFS Renewable Fuel Producer Supplemental Report, RFS0701: RFS Renewable Fuel Producer Co-Products Report, RFS0801: RFS Renewable Biomass Report, RFS0901: RFS Production Outlook Report, RFS1400: Reporting Fuels under 80.1451(b)(1)(ii)(T), RFS1500: Reporting Fuels under 80.1451(b)(1)(ii)(T)—Finished Fuel Blending, RFS1600: Reporting Fuels under 80.1451(b)(1)(ii)(T)—Blender Contact, RFS2000: Batch Verification, RFS2100: Aggregate RIN Verification. RFS2200: On-Site Audit Report, RFS2300: List of Potentially Invalid RINs, RFS2400: Mass Balance, RFS2500: RFS Efficient Producer Data Report, RFS2700: RFS Cellulosic Biofuel Producer Questionnaire, EMTS: RFS RIN Generation Report, EMTS: RFS RIN Transaction Report.

Respondents/affected entities: RIN Generators, Obligated Parties, RIN Owners, Exporters, QAP Providers, and Petitioners under the international aggregate compliance approach. These parties include producers and importers of renewable fuels and refiners and importers of gasoline and diesel transportation fuels.

Respondent's obligation to respond: The RFS program represents a mixture of voluntary and mandatory reporting, depending upon activity. A single party may register with multiple program roles—*e.g.,* a party might be both an obligated party and a RIN owner.

Estimated number of respondents: 20,425

Frequency of response: On occasion/daily, quarterly, annual.

Total estimated burden: 530,336 (per year). Burden is defined at 5 CFR 1320.03(b)

Total estimated cost: $52,845,438 (per year), includes $0 annualized capital or operation & maintenance costs.

Dated: November 27, 2017.

Byron J. Bunker,

Director, Compliance Division, Office of Transportation & Air Quality, Office of Air & Radiation.

[FR Doc. 2017–26529 Filed 12–7–17; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[ER–FRL–9036–5]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information (202) 564–7146 or *http://www2.epa.gov/nepa/.*

Weekly receipt of Environmental Impact Statements (EIS).
Filed 11/27/2017 Through 12/01/2017
Pursuant to 40 CFR 1506.9.

Notice

Section 309(a) of the Clean Air Act requires that EPA make public its comments on EISs issued by other Federal agencies. EPA's comment letters on EISs are available at: *https://cdxnodengn.epa.gov/cdx-nepa-public/action/eis/search.*

EIS No. 20170236, Draft, USAF, NV, Nevada Test and Training Range

(NTTR) Land Withdrawal, Comment Period Ends: 03/08/2018, Contact: Mike Ackerman (210) 925–2741.
EIS No. 20170237, Final, TVA, KY, Shawnee Fossil Plant Coal Combustion Residual Management, Review Period Ends: 01/07/2018, Contact: Ashley Pilakowski (865) 632–2256.

Dated: December 5, 2017.

Kelly Knight,

Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. 2017–26490 Filed 12–7–17; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[9956–82–OEI]

Cross-Media Electronic Reporting: Authorized Program Revision Approval, State of West Virginia

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: This notice announces EPA's approval of the State of West Virginia's request to revise/modify certain of its EPA-authorized programs to allow electronic reporting.

DATES: EPA approves the State of West Virginia's authorized program revisions as of December 8, 2017.

FOR FURTHER INFORMATION CONTACT: Karen Seeh, U.S. Environmental Protection Agency, Office of Environmental Information, Mail Stop 2823T, 1200 Pennsylvania Avenue NW., Washington, DC 20460, (202) 566–1175, *seeh.karen@epa.gov.*

SUPPLEMENTARY INFORMATION: On October 13, 2005, the final Cross-Media Electronic Reporting Rule (CROMERR) was published in the **Federal Register** (70 FR 59848) and codified as part 3 of title 40 of the CFR. CROMERR establishes electronic reporting as an acceptable regulatory alternative to paper reporting and establishes requirements to assure that electronic documents are as legally dependable as their paper counterparts. Subpart D of CROMERR requires that state, tribal or local government agencies that receive, or wish to begin receiving, electronic reports under their EPA-authorized programs must apply to EPA for a revision or modification of those programs and obtain EPA approval. Subpart D provides standards for such approvals based on consideration of the electronic document receiving systems that the state, tribe, or local government reporting. Additionally, § 3.1000(b) through (e) of 40 CFR part 3, subpart D provides special procedures for program revisions and modifications to allow electronic reporting, to be used at the option of the state, tribe or local government in place of procedures available under existing program-specific authorization regulations. An application submitted under the subpart D procedures must show that the state, tribe or local government has sufficient legal authority to implement the electronic reporting components of the programs covered by the application and will use electronic document receiving systems that meet the applicable subpart D requirements.

On May 9, 2016, the West Virginia Department of Environmental Protection (WVDEP) submitted a revised application titled Environmental Submission System (ESS) for revisions/modifications to its EPA-approved programs under title 40 CFR to allow new electronic reporting. EPA reviewed WVDEP's request to revise/modify its EPA-authorized programs and, based on this review, EPA determined that the revised application met the standards for approval of authorized program revisions/modifications set out in 40 CFR part 3, subpart D. In accordance with 40 CFR 3.1000(d), this notice of EPA's decision to approve West Virginia's request to revise/modify its following EPA-authorized programs to allow electronic reporting under 40 CFR parts 50–52, 60–61, 63, 65, 122, 125, 144, 146, and 403–471 is being published in the **Federal Register**:

Part 52—Approval and Promulgation of Implementation Plans;

Part 60—Standards of Performance for New Stationary Sources;

Part 63—National Emission Standards for Hazardous Air Pollutants for Source Categories;

Part 123—EPA Administered Permit Programs: The National Pollutant Discharge Elimination System;

Part 145—State Underground Injection Control Programs; and

Part 403—General Pretreatment Regulations for Existing and New Sources of Pollution.

WVDEP was notified of EPA's determination to approve its application with respect to the authorized programs listed above.

Matthew Leopard,

Director, Office of Information Management.

[FR Doc. 20[illegible]

ENVIRONMENTAL PROTECTION AGENCY

[EPA–HQ–OAR–2010–0690; FRL_9971–48–OAR)]

Agency Information Collection Activities; Proposed Collection; Comment Request; EPA's Light-Duty In-Use Vehicle Testing Program (Renewal); EPA ICR No. 0222.11, OMB Control No. 2060–0086.

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: In compliance with the Paperwork Reduction Act (PRA) (44 U.S.C. 3501 *et seq.*), this document announces that EPA is planning to submit a request to renew an existing approved Information Collection Request (ICR) to the Office of Management and Budget (OMB). This ICR is scheduled to expire on May 31, 2018. Before submitting the ICR to OMB for review and approval, EPA is soliciting comments on specific aspects of the proposed information collection as described below.

DATES: Comments must be submitted on or before February 6, 2018.

ADDRESSES: Submit your comments referencing Docket ID No. EPA–HQ–OAR–2010–0690 online using *www.regulations.gov* (our preferred method), by email to *pugliese.holly@epa.gov* or by mail to: EPA Docket Center, Environmental Protection Agency, Mailcode 28221T, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

EPA's policy is that all comments received will be included in the public docket without change including any personal information provided, unless the comment includes profanity, threats, information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute.

FOR FURTHER INFORMATION CONTACT: Lynn Sohacki, Compliance Division, Office of Transportation and Air Quality, U.S. Environmental Protection Agency, 2000 Traverwood, Ann Arbor, Michigan 48105; telephone number: 734–214–4851; fax number: 734–214–4869; email address: *sohacki.lynn@epa.gov.*

SUPPLEMENTARY INFORMATION: Supporting documents which explain in detail the information that the EPA will be collecting are available in the public docket for this ICR. The docket can be viewed online at *www.regulations.gov*

A.4 DRAFT LEIS COMMENTS AND AIR FORCE RESPONSE TO COMMENTS

This section contains comments received from federal, state, and local agencies, organizations, the public, and Native American tribes during the Draft LEIS comment period. In accordance with NEPA, the Air Force considered all the oral and written public, agency, and tribal comments received.

Section A.4.1 presents an explanation of how a reader can find a comment and its response in this Appendix. Section A.4.2 presents copies of substantive comment submittals (written and oral). Section A.4.3 presents the Air Force responses to substantive comments.

In this Final LEIS, the Air Force has responded to substantive comments, for example, by revising text to improve the clarity of discussion, making factual corrections, and explaining why some comments did not warrant further action. As stated in Section 1.5.2 of the LEIS, substantive comments are those specific comments that challenge the analysis, methodologies, or information in the Draft LEIS as being factually inaccurate or analytically inadequate; identify impacts not analyzed; develop and evaluate reasonable alternatives or feasible mitigations not considered by the Air Force; or that offer specific information that may have a bearing on the decision (such as differences in interpretations of significance or scientific or technical conclusions) or cause changes to the proposed action. Non-substantive comments, which do not require an Air Force response, are generally considered those comments that are nonspecific, express a conclusion or opinion about the proposed action, agree or disagree with the proposals, vote for or against the proposal itself or some aspect of it, state a position for or against a particular alternative, or otherwise state a personal preference or opinion. Congress will take all comments into consideration in its decision-making process.

The Air Force encouraged the public to submit comments at the public hearings, in newspaper ads, in press releases, and on the LEIS project web site.

A.4.1 Public/Agency Comment Identification Guide

Section A.4.1.1 outlines how comments were received, organized, reviewed, and categorized. Section A.4.1.2 and Section A.4.1.3 guide the reader who wishes to find a comment and related response in this Appendix, based on a commenter's last name.

A.4.1.1 Comment Receipt and Review

Comment Receipt: Comments on the Draft LEIS included both written correspondence and oral testimony received during the public comment period. The Air Force assigned a Commenter Identification Number (CIN) to each comment letter.

The comment submittals (written and oral) are presented in numerical order by CIN and are organized into the following sections:

- **Unique public written comment forms, letters, and e-mails** – Unique public written comments begin with CIN 0001 (see Section A.4.2.1).
- **Common public written comments and submitted letters/e-mails** – Identical or similarly written comments (or "form letters") submitted by multiple members of the public begin with CIN 2000. (See Section A.4.2.2.) A single copy of the "form letter" is provided followed by unique submittals that contained additional substantive comments. Unique submittals that either added to, or in some cases removed, text in the "form letter" but did not contain any additional substantive comments are only included in the Administrative Record, which will be part of the Case File reviewed by Congress and not reproduced in this Appendix. Since the standard "form letter" provides all substantive comments for those instances, commenters are referred to the standard "form letter" to find the responses to substantive comments.
- **Public hearing oral comments** – Oral comments from each of the five public hearing transcripts begin with CIN 3000. (See Section A.4.2.3.) Please note that for ease of the reader, each oral comment was extracted from the transcript. (Note: Pages extracted from transcripts are presented in Section A.4.2.3 with text redacted on the page where the text is not actually part of the comment). All oral comments are shown in their entirety and copies of the full transcripts are provided in the Administrative Record.
- **Native American Tribes** – Written tribal comments begin with CIN 4000. (See Section A.4.2.4.) This section also includes oral comments from the tribal meeting transcripts. Note: Tribal oral comments provided at the public hearings are provided in the CIN 3000 series.
- **Government and agency letters** – Government and agency written comments begin with CIN 5000. (See Section A.4.2.5.)

  Organizational letters – Written comments from organizations begin with CIN 6000. (See Section A.4.2.6.)

***Comment Review**:* In accordance with 40 Code of Federal Regulations (CFR) 1503.4, the Air Force assessed and considered comments as follows.

Each comment letter and oral statement was carefully considered by the Air Force. Substantive comments were identified on each comment letter or testimony, in a process called "bracketing" the comments. As previously mentioned, substantive comments are those comments considered to be meaningful within the scope of the issues currently considered in the LEIS, the purpose and need of which is to sustain and enhance the military testing and training capacity, capability, and functionality of the NTTR through the land withdrawal process to meet current and future mission requirements, while continuing environmental stewardship of the lands entrusted to it.

The bracketed comments were reviewed and responses were prepared. A Response Code was assigned to each substantive comment within the transcript of the oral statements and comment letters. Response Codes are printed next to the bracket in the right margin of the comments, located in Section A.4.2, *Comment Letters, Forms, E-*

mails and Oral Testimony Received During the Public Comment Period (December 8, 2017 through March 8, 2018). Table A-3 indicates the resource area or comment topic that each Response Code is associated with. (The Air Force responses to comments are provided in Section A.4.3, the section following the bracketed comments).

Table A-3. Response Code Key and the Respective Resource Area or Comment Topic

Response Code	Resource Area or Comment Topic	Response Code	Resource Area or Comment Topic
AQ	**Air Quality**	**LU**	**Land Use –** *Public Access and Land Use Compatibility*
AS	**Airspace**	**NO**	Noise
BI	**Biological Resources –** *Sensitive Species, Sensitive Habitats, Flora/ Fauna, Invasive Species*	**NP**	**NEPA Process**
CM	**Cumulative Impacts**	**PA**	**Proposed Action and Alternatives**
CU	**Cultural Resources**	**SO**	**Socioeconomics/ Environmental Justice** – *Housing, Schools, Public Services, Economics*
ER	**Earth Resources** – *Soils, Minerals*	**TR**	**Transportation**
GE	**General Comment**	**WA**	**Water Resources** – *Surface & Ground Water, Wetlands, Floodplains, and Water Rights*
HS	**Health and Safety –** *Wildfire, Occupational Health/ Public Safety*	**WI**	Wilderness
HZ	**Hazardous Materials and Solid Wastes** – *Hazardous Materials and Waste, ERP Sites*		

A.4.1.2 Locating Comments

Directory of Commenters – A Directory of Commenters is presented in Table A-4, beginning on page A-26, listing the names of all commenters alphabetically by last name. Each commenter can locate his/her name in this directory (note: names are spelled as they were provided in the signatory line of letters). Please note that many commenters have the same name; therefore, names may listed more than once if they were determined to be different commenters and when it was not possible, based on information provided by the commenter, to determine whether commenters with the same name were different.

As noted on the public displays, sign-in sheets, and comment sheets, providing names during the public comment process meant that each commenter understood that his/her name and comment would be made a part of the public record for this LEIS. (Personal contact information is not published in the LEIS.)

Each comment submittal was assigned a CIN. The CIN is a number that was assigned to each comment letter or oral testimony and is stamped on the letter or next to oral

comments. All verbal and oral comments are organized numerically by CIN in Section A.4.2, *Comment Letters, Forms, E-mails and Oral Testimony Received During the Public Comment Period (December 8, 2017 through March 8, 2018)*.

In many cases, certain people submitted multiple comments and therefore have multiple CINs (determined by the commenter having two or more identical elements of personal information). Additionally, since many people submitted identical or similar comment letters, a single CIN may be applicable to multiple people.

As a reminder, variations of "form letters" that do not include additional substantive information in series 2000 are only included in the Administrative Record and are not reproduced in this Appendix. The Directory of Commenters (Table A-4) indicates all persons who submitted unique non-substantive variations of a "form letter" by the addition of "(u)" after the CIN. (Commenters with a CIN annoted with a "(u)" should review the respective "form letter" presented in this Appendix for the Response Codes associated with the substantive comments on the "form letter.")

Additionally, many commenters submitted duplicates copies of the same letter either via the same method (i.e., e-mail) or via different methods (i.e., e-mailed and mailed a hard copy). In some cases, commenters used different e-mail addresses or other personal information, but were determined to be the same commenter if two or more elements of their personal information were identical (i.e., same name, address, phone number, and/or e-mail address). (Note: Personal contact information has been redacted from copies of comments presented in Section A.4.2 for privacy.)

Any commenters determined to have submitted duplicate comments are indicated by the addition of "(#)" after the CIN, where "#" is the number of duplicate submittals. Duplicate counts are also indicated if letters included additional non-substantive text.

Locating a Comment and Response Code – The comments are presented in their entirety in Section A.4.2, organized in order of the CIN. A commenter can find their name in the Directory of Commenters (Table A-4) to identify the CIN(s) assigned to their comment(s) and then go to the section for that CIN (e.g., Section A.4.2.1, *Unique Public Written Comments (CINs 0001-0338)*) to find the comment(s) and related Response Code(s).

How to Find Comments and Responses

- *Find your name and CIN in Table A-4*
- *Find the comment with your CIN:*
  - ***0001-1000** in Section A.4.2.1*
  - ***2000** series in Section A.4.2.2*
  - ***3000** series in Section A.4.2.3*
  - ***4000** series in Section A.4.2.4*
  - ***5000** series in Section A.4.2.5*
  - ***6000** series in Section A.4.2.6*
- *Note the Response Code(s)*
- *Find the Response Code in Table A-5*

A.4.1.3 Locating Responses to Comments

Public and agency involvement is an important part of the NEPA process, and all comments are taken into consideration during the decision-making process. The Air Force would like to express appreciation for all comments. Many of the comments express the views of the

commenter and, therefore, do not require a specific response. Nonetheless, these views are taken into consideration in the decision-making process. The fact that a specific response was not developed for a comment does not in any way reduce the value of anyone's participation.

Air Force responses to comments are contained in Section A.4.3, *Air Force Response to Comments on the Draft LEIS* All responses are ordered alphabetically/numerically by the "Response Code." Each response is designed to be read along with the bracketed comment it addresses. Assistance with acronyms can be found at the front of the LEIS.

To review the Air Force's response to a given comment that has been bracketed with a Response Code, find the Response Code in Table A-5 in Section A.4.3.

Table A-4. Directory of Commenters

Notes:
CIN = Commenter Identification Number; Org = Organization
CIN(u) – indicates the commenter submitted a unique variation of the "form letter" that did not contain additional substantive comments; therefore, a copy of that letter is only provided in the Administrative Record, which will be part of the Case File reviewed by Congress. Refer to the related "form letter" to find the Response Codes associated with substantive comments in the letter.
CIN(#) – indicates the number of additional duplicate comments submitted by the commenter.

A

Last Name	First Name	Org	CIN
? kaliA?	Dita		2173
A	Amelia		2173
A	Antonette		2173
A	Madison		2031
A	Paul		2000
A	S		2173
A	V		2173
A.	Colette		2173
Aalfaro	Veronica		2173
Aalund	Nanz		2173
Aamot	Christopher		2131
Aaron	Kris		2131(1)
Aarons	Helene		2131
Aarons	Helene		2000
Abadin	Zainab		2173
Abaja	Merle		2173
Abalos	David		2173
Abashian	T		2173
Abate	Andrew		2000, 2173
Abatuno	Martha		2131
Abaunza	George		2173
Abbasparker	Ibn-Umar		2000, 2131, 2173
Abbott	Alison		2173
Abbott	Deanna		2031
Abbott	John		2173
Abbott	Lynn		2173
Abbott	Pam		2131(u)
Abbruzzese	Mary		2131
Abby	Kathy		2000
Abdelaal	Anna		2131
Abdulina	Azalia		2173
Abdulla	Pervez		2173
Abdullah	Susan		2173
Abe	Eddie Barrett		2173
a'Becket	Suzanne		2173
Abel	Denise		2173
Abel	Karen		2173
Abelin	Doug	Capital Trail Vehicle Association Action Committee	6006
Abell	Judith		2131
Abella	Olga		2000, 2173
Aber	Thomas		2173
Abernathy	Anita		2131
Abernathy	Gina		2173
Abernathy	Jennifer		2173
Abernathy	Nina		2173
Abert	Nanette		2173
Abirached	Pamela		2173
Abler	Michael		2173
Abner	Isla		2173
Abosida	Peter		2131
Aboubi	Garance		2173
Abraham	Barbara		2173
Abraham	Michelle		2173
Abraham	Patricia		2173
Abraham	Stephanie		2173
Abrahamson	Ann		2173
Abrahamson	Dennis		2173
Abrahamson	Joan		2131
Abrahamson	Lauren		2173
Abrams	Gordon		2173
Abrams	Jolane		2173
Abrams	Jon/ Jonathan		2131, 2173
Abrams	Linda		2173
Abrams	Saliha		2173
Abrantes	Elizabeth		2000
Abreau	Melissa		2000
Abrioux	Marie-Laure		2173
Abromowitz	Aaron		2173
Abshire	Kendra		2000
Absolonova	Karolina		2000
Abts	Sherry		2000
Acarino	Lauren		2173

Last Name	First Name	Org	CIN
Accusani	Paola		2173
Acebo	Ryan		2000
Acero	Marisol Cañizares		2173
Aceto	Lois		2173
Acevedo	Jessica		2173
Acevedo	Kimberlyn		2173
Acharya	Anurag		2173
Achey	Barbara		2173
Achin	Suzie		2000
Ackerman	Heather		2173
Ackerman	Jan		2173
Ackerman	Lynn		2131
Ackerman	Marisol		2173
Ackerman	Sara		2173
Acklen	Christine		2131
Ackley	Anne		2173
Ackley	Eleanor		2173
Ackley	Sally		2173
Acosta	Anna		2173
Acosta	Carlos		2173
Acosta	Vanessa		2319
Acquisti	Debbie		2173
Acs-Ray	Julie		2173
Adachi	Margaret		2000
Adair	Jan		2173
Adam	Cole		2000
Adam	Jackie		2173
Adam	Margaret		2173(u)
Adam	Mary		2173
Adamcewicz	Michael		2173
Adamian	Larisa		2173

Last Name	First Name	Org	CIN
Adamo	Joseph		2173
Adamo	Robert		2173
Adams	Barbara		2173
Adams	Barbara		2173
Adams	Barbara		2173(u)
Adams	Brandi		2173(u)
Adams	Britt		2173
Adams	Carol		2173
Adams	Cheryl		2000(1), 2131
Adams	Cheryl		2173
Adams	Colleen		2000
Adams	Daryl		2131
Adams	David		2175
Adams	David		2031(u)
Adams	Debbie		2173
Adams	Deborah		2173
Adams	Diane		2173
Adams	Donna		2173
Adams	Erica		2131
Adams	Evelyn		2000(2)
Adams	Gerald		2173
Adams	Geraldine		2173
Adams	Hildegard		2131
Adams	Holly		2173
Adams	Jean		2131
Adams	Jenny		2173
Adams	Jessica		2131
Adams	Joanne		2173
Adams	Joyce		2173
Adams	Judy		2173
Adams	Judy		2173

Last Name	First Name	Org	CIN
Adams	Julie		2173
Adams	Kaatje		2173
Adams	Kim		2131
Adams	Laura		2173
Adams	Lawren		2173
Adams	MA		2173
Adams	Marsha		2000, 2173
Adams	Mary Jane		2173
Adams	Nancy		2173(u)
Adams	Pam		2173
Adams	Paula		2173
Adams	Peggy		2173
Adams	Rick		2173
Adams	Sean		2173
Adams	Shilo		2173
Adams	Steven		2131
Adams	Timothy		2173
Adams	Winnie		2000
Adams-Ockrassa	Warren		2131(u)
Adcock	Michelle		2173
Addington	Crandell		2173
Addis	Barbara		2173
Addis	Linda		2173
Addison	David		2131, 2131(u)
Aden	Sandi		2131
Aderhold	Steve		2173
Adibi	Elise		2000, 2173
Adil	Zahir		2173
Adimey	Debra		2319

Last Name	First Name	Org	CIN
Adkins	Barbara		2000
Adkins	Barbara		2173
Adkins	Gary		2000
Adkins	Patti		2173
Adkisson	Derek		2173
Adknis	Ruby		2173
Adler	Judi		2173
Adler	June		2173
Adler	Wendy		2131
Admire	Philip		2173
Adorati	Maria		2173
Aere	Honora-Bright		2000
Afeldt	Ingwar		2173
Affleck	Carol		2173
Affolter	Angie		2173
Africa	Ben and Kathie		2000
Agee	Karen		0122
Agey	Don		2173
Ageyeva	Marina		2173
Agius	Latifa		2131
Agneessens	Rosemary		2131
Agnew	James		2173
Agnich	Bryn		2173
Agodoa	Penelope		2173
Agogliati	Judith		2173
Agosti	Paul		2173
Agostinho	Elizabeth		2010
Agresta	Katherine		2173
Aguda	Miriam		2131
Aguiar	Vanessa		2173
Aguilar	Javier		2173
Aguilar	Mafalda		2000
Aguirre	Frances		2131
Aguirre	Gloria		2173
Aguirre	Guillermina		2173
Aguirre	Paul		0337
Ahlander	Annette		2131, 2173
Ahler	Marian		2000, 2031(u)
Ahlstrand	Heidi Lynn		2000, 2173
Ahrens	Bill		2173
Ahrens	Kristina		2173
Ahrens	Nanette		2173
Ahring	Tracey		2173
Aicher	Jed		2173
Aid	Charles		2131
Aijlman	Michael		2173
Aiken	Edwin		2173
Aiken	Marion		2173
Aime	Virginia		2000
Aines-Lessard	Martha		2131, 2173
Ainsworth	Donna		2173
Aird	Bruce		2173
Aissaoui	Deborah		2173
Aitchison	Patrick		2173
Aja	Loretta		2173
Akerley	Nancy		2173(u)
Akin	Jackee Van		2000
Akrami	Jason		2173
Akscyn	Lisa		2173
Alabidi	Torah		2173
Alabiso	Marie		2131
Alacchi	Carlo		2173
Alagia	Shina		2173
Alaniva	Lori		2173
Alavezos	Deborah		2173
Alayza Mujica	Bernardo		2173
Alba	Eileen		2131
Albanese	Dawn		2000, 2173
Albarran	Rafael		2173
Albaugh	John		2000
Albawab	Samantha		2173
Alberhasky	Craig		2271
Alberici	A		2173
Albers	Harold		2131
Albers	Linda		2173
Albers	Michelle		2131
Albert	Anthony		2000, 2173
Albert	Cheryl		2000, 2131, 2173
Albert	Keil		2000, 2131, 2173
Albert	Kristin		2173
Albert	Marty		2173
Alberto	Juan		2000
Alberts	Allison		2173
Alberts	Carey		2173
Albertson	Nancy		2173
Albertson	Pat		2131
Albo	Sandra		2173
Albow	Susan		2173

Last Name	First Name	Org	CIN
Albrecht	M.		2173
Albright	Shai		2000, 2131(1)
Alcala	Amari		2173
Alcaraz	Deborah		2173
Alcock	John		2312
Alda	Rutanya		2173
Alden	Jennifer		2173
Alden	Leslie		2131, 2173
Alden	Rory		2173
Alden	Roxanne		2173
Alderman	Mick		2173
Alders	Paul		2173
Alderson	Deborah		2173
Alderson	George & Frances		2031(u)
Aldhizer	Frederic		2173
Aldiero	Sam		2173
Aldis	Ralph		2173
Al-Doory	Sammy		2173
Aldous	Gail		2173
Aldrich	James		2173
Aldrich	Renee		2000
Aldridge	Laura		2173
Aldridge	Sharon		2173
Alduvin	Carolina		2173
Alessi	Ann		2312(u)
Alet	Frances		2173
Aletta	Naumann		2173
Alexander	A		2173
Alexander	Carol		2000
Alexander	Cindy	2017	0317
Alexander	Kathleen		2173
Alexander	Margo		2173
Alexander	Mike		2131
Alexander	Vickie		2173
Alexander-Br	Karen		2173
Alexander-Davey	Judy		2131
Alexandra	Kathryn		2173
Alexandre	Charlotte		2131(1)
Alexandrea	Dawn		2173
Alexis	Nazario		2173
Alfieri	Lynne		2173
Alfieri	Paul		2173
Alfini	Lorraine		2173
Alford	Alice		2173
Alford	Cassie		2173
Alford	Jeff		2000
Alford	Jeremy		2131
Algiere	Donna		2173
Al-Hayani	Fatima		2131
Ali	Lydian		2131
Aliberti	Elaine		2131
Alibrandi	Jill		2173(1)
Alison	Cheryl		2173
Alk	Maggie		2131
Allaire	Kathy		2173
Allam	Douglas		2173
Allaman	Candace		2173
Allan	Chris		2000
Allara	Judith H. & David L.		2173(u)
Allard	Jim		2131(u), 2173(u)
Allard	Timothy		2131
Allarde	Lisa		2000, 2173
Allbaugh	Laurie		2173
Allely	Warren		2173
Alleman	Laura		2173
Allemann	Kevin		2173
Allen	Aaron		2131
Allen	Amy		2173
Allen	Benjamin		2173
Allen	Bruce		2173
Allen	Carol		2173
Allen	Carter		2173
Allen	Cathy		2313
Allen	Christina		2031(u)
Allen	Dana		2000
Allen	Dayna		2173
Allen	Deanne		2173
Allen	Diane		2173
Allen	Donna		2131, 2173
Allen	Genny		2173
Allen	Jane		2131
Allen	Jeffrey		2173
Allen	Jerre		2000
Allen	John		2173
Allen	Kim		2173
Allen	L/Linda		2000, 2173
Allen	Lisa		2173
Allen	Lynn		2131(u)
Allen	Maria		2173
Allen	Melinda		2173

Last Name	First Name	Org	CIN
Allen	Melissa		2131
Allen	Nathan		2031(u)
Allen	Robert		2173
Allen	Robin		2173
Allen	Sandy		2319
Allen	Susan		2173
Allen	Teresa		2173
Allen	Wes		2173
Allen	William		2173
Allen	William		2173
Allen III	Doug		2173
Allen, PhD DVM	Julia N		2312
Allgood	Jean		2000, 2173
Allison	Connie		2000, 2173
Allison	Deborah		2173
Allison	Kelly		2000
Allison	Michelle		2173
Allman	Esther		2173
Allman	Jill		2000
Allman	Susan		2000
Allocco-Bickar	Mary		2173
Alloway	Richard		2173
Allsebrook	Margaret		2131
Allsop	Shannon		2131
Allsopp	Jo		2173
Allsup	Melanie		2173
Alm	Ylva		2173
Almack	Charles		2173
Almack	Norman		2173
Almaita	Sammy		2173

Last Name	First Name	Org	CIN
Almann	Edith		2131
Almaraz	Michelle		2173
Almares	Delia		2173
Almaro	Isadora		2173
Almazon	Hugo and Michelle		2000
Almeida	Ann Richie		2131
Almeida	Cathy		2173
Almeida	N		2173
Almeida-Altamirano	Gabriela		2173
Almeria	Sally		2131
Almirol	Lorene		2131
Almond	Liz		2173
Almstrom	Sabine		2131
Alois	Kelly		2173
Alongi	Claudia		2131
Alongi	Rachel		2131
Alorro	Audrey		2173
Al-Osaimi	Fatimah		2131
Alourdas	Di Anna		2173
Alpern	Dianne		2131
Alpert	Buzz		2221
Alrxander	Michael		2173
Alsafi	Catherine		2131
Alsip	Ada		2173
Alstad	Linda		2173
Alston	Edith		2173
Alstott	Tanya		2173
Alstrom	Laurie		2131
Altar	Kristin		2173
Alter	Kathy		2173
Alter	Silja		2000

Last Name	First Name	Org	CIN
Alterman	Pamela		2173
Alterson	Rhonda and Arthur		2131
Althen	Gary		2131
Althiser	Kenneth		2131
Altif	Thomas		2173
Altman	Allen		2131, 2312
Altman	KT		2173
Altman	Penny		2173
Altman	Peter		2173
Altobello	Nancy		2173
Altom	Robert		2173
Alton	Lee		2173
Alton	Walter		2173
Altree	Jim		2173
Altrock	Richard		2131
Altshuler	John		2173
Alund	Pamela		2173
Alvarado	Kathi-Jane		2173
Alvarado	Thomas		2131
Alvare	Michelle		2173
Alvarez	Ana		2173
Alvarez	Maria		2173
Alvarez	Maricela		2173
Alvarez	Marisol		2173
Alvarez-Oppus	Sonia		2173
Alverson	David		2000
Alves	Ana		2000
Alvesteffer	Pam		2000
Alvey	Daniel/Dan T		2031(u), 3041
Alvey	Johnny		2031(u)

Last Name	First Name	Org	CIN
Alvim	Regina		2173
Alwardt	Linda		2000(1), 2131, 2173
Amacher	LeRoy		2173
Amador	Don	BlueRibbon Coalition	6029
Amador	Julie		2173
Amaker	Tracey		2173
Aman	Asfa		2000, 2173
Amari-Faulkner	Francene		2173
Amaro	Yesenia		2173
Amato	Dolores		2173
Amato-Milligan	Danielle		2173(u)
Amberg	Lou-Anne		2173
Ambler	Susan Kelly		2139(1), 2173(u)
Ambri	Ben/ Benjamin		2131, 2173
Ambrose	Jeffrey		2173
Ambrosía	Carolina		2000
Ambrosio	Antoinette		2000, 2173
Ambuske	Denise		2173
Amdahl	Erv		2131
Amell	Sue		2173
Amen	Sherry		2173
Amendola	Caroline		2173
Ament	Don		2173
Ament	Susan		2173
Ament	Victor		2131
Amerman	Robert		2173
Ames	Carol		2000(u)

Last Name	First Name	Org	CIN
Amick	Lauren		2000
Amicone	Alessandro		2000
Amiconi	Cinzia		2131, 2173
Amie	Miriam		2173
Amini	Christine		2131
Amling	Karen		2173
Ammarell	Gene		2131(u)
Ammon	Elisabeth	Great Basin Bird Observatory	6028
Amon	Meredith		2173
Amptman	Patricia		2000
Amrod	David		2131
Amsler	Claudia		2173
Amsler	Julia		2173
Amundsen	Tanner		2031(u)
Amundson	Frank		2312
An	Rose		2000(1), 2173
Anacker	Celeste		2000
Ananthakrishnan	Heidi		2000
Anastasi	Lori		2173
Anastasio	Laura		2173
Anaya	Shari		2173
Anaya	Yanisa		2173
Ancel	Nadine		2131
Ancel-Wisner	Annette		2173
Anchors	Carla		2173
Ancona	Susan		2173
Andaloro	Bernadette		2000, 2131
Andera	Ken		2173

Last Name	First Name	Org	CIN
Anderholm	Jon		2173
Anders	Dagmar		2000(1)
Andersen	Clayton		2031
Andersen	Eric		2173
Andersen	Evette		2000
Andersen	Glenn		2000, 2131(u)
Andersen	Jen		2131, 2173
Andersen	Karen		2173
Andersen	Kirsten		2173
Andersen	Paula		2173
Andersen	Stephen		2000(u)
Andersen	Tracy		2131
Anderson	Aaron		2131, 2173
Anderson	Alma		2173
Anderson	Amina		2031(u)
Anderson	Amina	Beatty General Improve-ment District	5013
Anderson	Amina	Beatty Museum and Historical Society	6004
Anderson	Amy		2173
Anderson	Amy		2173(1)
Anderson	Anne		2131
Anderson	Arlene		2173
Anderson	Ashley		2173
Anderson	B		2173
Anderson	Barton		2031(u)
Anderson	Ben Oscar		2000

Last Name	First Name	Org	CIN
Anderson	Brian		2031(u)
Anderson	Cara		2173
Anderson	Carl		2173
Anderson	Carol		2131
Anderson	Carolyn		2000
Anderson	Carrie		0157
Anderson	Catherine		2000, 2173(u)
Anderson	Cathy		2173
Anderson	Charles		2173
Anderson	Christeen		2000
Anderson	Christina		2000
Anderson	Christine		2131
Anderson	Christopher		2131
Anderson	Cynthia		2173
Anderson	Dan		2173
Anderson	Daniel		2173
Anderson	Dawne		2131
Anderson	Donna		2173
Anderson	Dorothy		2173
Anderson	Edna		2173
Anderson	Frank		2173
Anderson	George		2173
Anderson	Gray		2000
Anderson	Helen		2031
Anderson	Helen		2173
Anderson	J		2131
Anderson	Janet		2173
Anderson	Janice		2173
Anderson	Janie		2173
Anderson	Janis		2000
Anderson	Jennifer		2131

Last Name	First Name	Org	CIN
Anderson	Jessica		2173
Anderson	Joan		2173
Anderson	Joanne		2173
Anderson	Joanne		2173
Anderson	Johnna		2173
Anderson	Jon		2173
Anderson	Jonathan		2173
Anderson	Julie		2173
Anderson	Julius		2173
Anderson	Karen		2173
Anderson	Kathe		2312
Anderson	Kathleen		2000
Anderson	Katy		2131
Anderson	Kemp		2173
Anderson	Kirsten		2173
Anderson	Lance		2000
Anderson	Laura		2173
Anderson	Laurie		2173
Anderson	Leslie		2173
Anderson	Linda		2000, 2131, 2173
Anderson	Lougene		2131
Anderson	Lynn		2173
Anderson	Lynn		2173
Anderson	Marketa		2000, 2173
Anderson	Marshall		2173
Anderson	Martha		2000
Anderson	Mary		2131
Anderson	Meredith		2173
Anderson	Michelle		2173
Anderson	Mike		2000(2)

Last Name	First Name	Org	CIN
Anderson	Nancy L.		2173
Anderson	Newell		2173(u)
Anderson	Patricia		2278
Anderson	Patricia		2173
Anderson	Patricia		2173
Anderson	Peter		2173
Anderson	Richita		2000, 2173
Anderson	Robert		2131
Anderson	Robert		0110
Anderson	Robert		2173(u)
Anderson	Rosanne		2173
Anderson	Rusty	Veterans of Foreign Wars of the United States, Department of Nevada, John Strozzi Post 12108	6005
Anderson	Sarah		2173
Anderson	Shawn		2173
Anderson	Sherry		2173
Anderson	Stacee		2173
Anderson	Staci		2173
Anderson	Susan		2173
Anderson	Susan		2173
Anderson	Susan		2173
Anderson	William		2000
Anderson, Sr.	Greg	Moapa Band of Paiutes	3032, 4003, 4008
Anderson-Orr	Randy		2173
Anderssen	Saliane		2131

Last Name	First Name	Org	CIN
Andes	John		2173(u)
Andrade	Paul		2131
Andrade	Stacy		2173
Andre	Cynthia		2173
Andre	Vickie		2131
Andreani	Laetitia		2173
Andreas	Kirk		2173
Andreassen	Norman		2173
Andreasson	Caroline		2173
Andregg	S.		2000, 2173
Andreotti	Giovanni		2000
Andresrn	Sharron		2131
Andrew	Barbara		2173
Andrew	Nancy		2131
Andrews	Becky		2000
Andrews	Cathy		2173
Andrews	Charles		2173
Andrews	Charles		2168
Andrews	Denis		2173
Andrews	Donna		2173
Andrews	Duncan		2173
Andrews	J.		2173
Andrews	Jennifer		2173
Andrews	Jessica		2131(1), 2173
Andrews	Katherine		2000
Andrews	Linda		2000
Andrews	Maryellen		2173
Andrews	Pamela		2173
Andrews	Peg		2173
Andrews	Peter		2173
Andrews	Rosalind		2173(u)
Andrews	Tammy		2131
Andrews	Tammy		2173
Andrews	Wayne		2131
Andrews	Yolanda		2173
Andrews Jr.	Gordon		2173
Andrews-Stapleton	Debbie		2173
Andriakos	Bobbi		2000
Andrulonis	Diane		2000
Andrus	James		2131
Andrus	Steven		2131
Andrychowski	Steven		2173
Andujar	Julio		2173
Anduskey	Susan		2173
Anelung	Nicole		2173
Angel	Beth		2173
Angeles	Christine		2173
Angelica	Alicia		2000
Angelino	Paul		2131
Angell	Alan		2173
Angell	Marigold		2000
Angell	Mary		2173
Angell	Paul		2173
Angelo	Amber		2031(u)
Angelo	Lori		2000, 2173(1)
Angelo	Marjorie		2000, 2173
Angelone	Michael		2173
Angeltveit	Andreas Rossing		2000
Angelus	Joshua		2000
Angen	Dean		2173
Angerer	James		2131, 2173
Angevine	Cheryl		2173
Angle	Beth		2173
Anglin	Melissa		2173
Anglin	Susan		2000
Angst	Denise		2031
Aniello	Peter		2131
Anifer	Penni		2131
Ankelman	Michael		2173
Anker	Roger		2173
Ankiel	Summer		2173
Anklam	Dottie		2173
Anlyan	Alex		2173
Ann	Tina		2000, 2173
Annabel	Patrick		2173
Anne	Cecily		2131
Anne Marie	Touboul		2000
Annecone	Lisa		2000
Annecone	Lisa		2173
Anner-Bolieu	Lynn		2173
Annesley	Genine		2000
Annis	Malia		2131, 2173
Annoni	Pat		2000
Anonymous	Anonymous		0001, 0004, 0204, 0258
Anonymous	Barbara		2173
Anonymous	Bruce		0099
Anonymous	Donna		0306
Anonymous	Kelley		0047

Last Name	First Name	Org	CIN
Anonymous	Lars		2173
Anonymous	Lisa		0329
Anonymous	Tracy		0319
Ansbaugh	Shannon		2173
Ansbergs	Virginia		2173
Anshin	Judith		2173
Ansley	Tricia		2312
Anson	Gina		2173
Anspacher	Carol		2173
Anthony	Annette		2173
Anthony	Carol		2000, 2173
Anthony	Kristin		2312
Anthony	Nicholas		2173(u)
Anthony	Robin		2173
Anthony-Huebert	Anita		2131
Antich	Janet		2173
Antignani	Teresa		2173
Antin	Judith		2173
Antner	Jerry		2173
Anton	Theresa		2131
Antonacci	T.		2173
Antonellis	Jonathan		2173
Antoniadis	Stephen		2173
Antonio	Mary Anne Parks		2173
Antonopoulos	Georgia		2173
Antonov	Chris		2131
Antunez	Linda		2173
Aoki	Cassandra		2173
Aparicio	Maria		0178
Aparo	Michael		2173

Last Name	First Name	Org	CIN
Apáthy	Katalin		2000
Apel	John		2131
Apgar	Barbara		2173
Apgar	Barbara		2131
Apke	Mary		2131
Aplin	Alison		2173
Apodaca	Mel/Melchor		2131, 2173
Aponick	John L		2312
Appel	Genevieve		2173
Appel	Michele		2031(u)
Appel	Robin		2312
Appelbaum	Alan		2131
Appell	Stephen		2173
Appenzeller	Cary		2173(u)
Applebaum	Brooks		2173
Applebaum	Doris		2000, 2312, 2173
Applebaum	Robert		2173(u)
Applegate	Chris		2131
Applegate	Clara		2000
Applegate	Paula		2173
Applewhite	Linda		2173
Appling	Leslie		2000
Aquino	Arlene		2000, 2173
Arace	Marylucia		2173
Arafah	Siti		2173
Aragon	Maria		2173
Arakaki	Grace		2173
Aram	Sahaja		2131
Aram	Susaan		2000

Last Name	First Name	Org	CIN
Arana	Josefa		2173
Aranda	Laura		2173
Aranibar	Patricia		2000
Arasteh	Christina		2131, 2173
Arau	Joerg	Greenland Resolve Website	3021
Arbuckle	Jamie		2173
Arce	Jacquelyn		2173
Archer	January		2173
Archer	Jeffrey		2131
Archer	Tracey		2173
Archiba	Gerry		2173
Archibald	Lorraine		2173
Archibald	Nancy		2000
Architzel	Milton		2173
Archual	Dominic		2173
Archuleta	Patricia		2131
Ard	Sue		2173
Ardington	Amy		2173
Ardito	Gary Wolf		2173
Ardolino	Christina		2131
Ardovino	Marina		2173
Arechavaleta	Susana		2173
Arechiga	Joseph		2173
Arellanes	Kelly		2173
Arena	Greg		2173
Arena	Nile		2173
Arends	Sandi		2173
Arendt	Mary		2173
Arenella	Christine		2173
Arensen	James		2173

Last Name	First Name	Org	CIN
Arevalos	Margaret		2173
Arfvelin	Liss-Kari		2173
Argenta	C Kent		2173
Argenzio	Diane		2131
Arguello	Sylvana		2173
Arguello	Tanya		2131
Ariadna	Polihron-achis Anca		2173
Arias	Diana		0105
Aridjis	Chloe		2173
Arioli	Kristin		2173
Arioli	Manuela		2000
Arlen	Barbara		2173
Armagost	Tom		2173
Armani	Behnoosh		2173
Armao	Terri		2173(u)
Armato	Francesca		2173
Armbrust	Carol		2173
Armbruster	Diane		2173
Armel	Marc		2173
Armendarez	Elisabeth		2173
Armenteros	Claralin		2173
Armentrout	Dianna Vagianos		2131
Armentrout	Harley		2173
Armer	Brian		2173
Armer	Joan		2173
Armes	Regina		2173
Armfield	Dawn		2173
Armijo	Salme		2000
Armington	David		2131
Armolt	Melvin		2173
Armon	Caroline		2000

Last Name	First Name	Org	CIN
Armstorng	Gail		2173
Armstrong	Alison		2173
Armstrong	Betsy		2131
Armstrong	Emily		2173
Armstrong	Joni		2131, 2173
Armstrong	Karen		2173
Armstrong	Patty		2173
Armstrong	Stephen		2173
Arn	Denise		2173(u)
Arn	Eric		2173
Arnaud	Seigneur		2173
Arneson	Deborah		2173
Arnett	Jeff		2173
Arnett	Renee		2173
Arney	Dana		2131
Arney	Jennifer		2000, 2173
Arnold	Aimee		2131
Arnold	Alan		2131, 2173
Arnold	Barbara		2000(1)
Arnold	Carmen		2173
Arnold	Charles		2173
Arnold	Cynthia		2173
Arnold	Daniel		2173
Arnold	Janice		2131
Arnold	Jaymison		2131
Arnold	Jennifer		2173
Arnold	Marge		2131
Arnold	Noreen		2173
Arnold	Suzanne		2131(1), 2173

Last Name	First Name	Org	CIN
Arnold	Tina		0091
Arnone	Susan		2173
Arnoto	Nicole		2173
Aron	Madeline		2131
Aronoff	Nina		2173
Aronov	Robert		2173
Aronow	Kurt		2131
Aronow	Myra		2173
Aronowitz	Barbara		2173
Aronson	Murray		2173(u)
Aronson	Reevyn		2000, 2173
Arp	Crystal		2173
Arquilla	Vance		2173
Arreguin	Sofia		2173
Arriaga	Marco		2031(u)
Arrington	Debra Hope		2000
Arrison	Douglas		2131
Arroyo	Annie		2173
Arroyo	Eric		2173
Arroyo	Mima		2173
Arroyo	Sandra		2173
Arroyos	Glory		2173
Arsalane	Malika		2173
Arteaga	David		2173
Arteaga	Maria		2000
Arthur	Cheryl		2173
Arthur	Janet		2173
Arthur	Kay		2000
Arthur	Leah		2131, 2173
Arthur IV	Richard		2131, 2173

Last Name	First Name	Org	CIN
Artin	Thomas		2173
Artman	Cara		2000
Artman	Doug		2031(u)
Arts	Martin		2173
Artymyshyn	Renee		2131(1), 2173
Arvati	Patrizia		2173
Arwen	Elicia		2173
Ary	Scott		2000(1)
Asadolahi	Danial		2000
Asbury	Craig		2173
Asbury	Marie		2131, 2173
Aschenbrenner	Eva		2000
Ash	Cheryl		2173(u)
Ash	Kristina		2173
Ash	Michelle		2173
Ash	Sidney		2131
Ash	Susan		2131
Ashby	Jamie		2173
Ashby	Shirley		2173
Ashcliffe	Mary		2173
Ashcraft	Steve		2173
Ashforth	Margaret		2173
Ashleson	Louisel		2173
Ashley	Jackie		2131
Ashley	Mark		2173(u)
Ashley	Tamara		2000, 2173
Ashlock	Lisa		2173
Ashman	Leigh		2173
Ashmore	Janice		2173
Ashton	David		2000
Ashton	Debra		2000, 2173
Ashton	Jennifer		2173
Ashton-Magnuson	Kristine		2173
Asiain	Margarita		2173
Aslakson	Lorraine		2131
Asmus	Sigrid		2137
Asokan	Judith		2173
Asp	Karen		2000
Asprey	Thomas		2131
Assael	Amy		2173
Asseff	Sam		2000
Assmann	Gisele		2173
Astarkina	Anna		2000
Astrakhantseva	Uliana		2173
Astrakhantseva	Uliana		2173
Astro	Lester		0088
Astrof	Cate		2040
Asturino	Frank		2000, 2173
Asumen	H.		2000, 2173
Atalan	Oya		2173
Ataris	Ben		2031(u)
Atcheson	Chris		2131
Atchison	Ellen		2131
Athey	Roger		2131
Atkins	Francine		2173
Atkins	Margie		2173
Atkinson	Cheryl		2173
Atkinson	Ellen		2000, 2173
Atkinson	George		2173
Atkinson	Holly		2131
Atkinson	Lois and Richard		2173
Atkinson	Rhys		2173
Atkinson	Sondra		2131
Atkinson	Susan		2131
Atkisson	Elizabeth		2173
Atlas	Debra		2173
Attanasio	Ed		2173
Attard	Trish		2173
Attrill	Lindsay		2173
Atwood	April		2000
Atwood	Bob		2173
Atwood	Kristie		2131
Atwood	Peggy		2173
Atwood	Sarah		2173
Atwood	Sarah		2173
Aub	Kathleen		2173
Aubin	April		2173
Aubin	Luan		2173
Audesirk	Heather		2173
Audesirk	Teresa		2173
Audet	Caitlin		2000, 2173
Audette	Jarryd		2131, 2173
Auelua_	Tupefaavae		2173
Auerbach	Delayne		2131(1), 2173
Augenstein	Jordan		2131
Auger	Michael		2173
Auger	Sylvie		2000(1)
Augeri	Lynette		2173

Last Name	First Name	Org	CIN
August	Jane		2173
Augustson	J.		2173(u)
Aul	Greta		2173
Auld	Amy		2173
Auld	Linda		2131
Aultman	Reynolds		2173
Aurand	Oliver		2173
Aurigemma	Kaye		2173
Aurilio	Laura		2173
Austbo	Julia		2173
Austin	Bonny Jean		2000
Austin	Christine		2173
Austin	Cindy		2173
Austin	Emily		2173
Austin	Francesca		2173(u)
Austin	Jana		2131, 2173
Austin	Jonathan		2173
Austin	Katie		2173
Austin	Marcia		2173
Austin	Marianne		2173
Austin	Mary		2173
Austin	Renee		2173
Austin	Rich		2131
Austring	Dee		2000
Autrey-Schell	Yovonne		2249
Autwal	Maggie		2173
Auzins	Helen		2000
Avalos	Donna Higinbotham		2131
Avalos	Joy		2173
Avarello	Linda		2173
Avati	Anna		2173
Averill	Lisa		2173
Averre	Jan		2173
Aversa	Julie		2173
Avery	Ellie		2031(u)
Avery	Susan		2131
Avery	Thomas		2173
Aviles	Ana		2000
Aviles	Julio		2173
Avilla	Phyllis		2173
Avins	Deborah		2173
Avolio	Marilyn		2173
Avrampou	Eva		2173
Avritt	Carrie		2173
Axelrod	Jan		2173
Ayala	Carol		2173
Ayala	Stacey		2173
Ayaz	Jeanne		2131
Aydell	Nancy		2173
Ayer	Susan		2131
Ayers	Mary		2173
Ayers	Robert		2173
Ayersman	Janae		2031(u)
Aylard	Adrianna		2173
Aylor	Anne		2131, 2173
Aylward	Barbara		2173
Aylward	David		2000
Aylward	Diana		2173
Ayres	Alwyn		2173
Ayres	Kathleen		2173
Ayres	Peter		2006
Ayrhart	William		2173
Aytes	Sandra		2131
Ayyar	Adarsh		2131, 2173
Azarian	Nadine		2173
Azevedo	Emilia		2173
Aziz	Celline		2173
Aziz	Zahir		2000
Azzarello	Kris		2173

B

Last Name	First Name	Org	CIN
B	B		2173
B	Charles		2173
B	David		2131
B	Jacalyn		2173
B	Jess		2000
B	Meta		2000
B	Michele		2173
B	Shary		2000, 2173
B	Shelby		2031(u)
B	Tim		2173(u)
B	Vaishnavi		2173
B.	Cinzia		2000
B.	Melanie		2173(u)
B.	Stéphanie		2000
B.	V.		2000(1)
B.	Veronica		2000(2), 2131
Baaten	Julia		2173
Baba	C.		2173

Last Name	First Name	Org	CIN
Babaz	Paul	Safari Club Inter-national	6007
Babb	Ann		2000
Babb	Gary		2173
Babbitt	Andrelene		2131
Babcock	Miles		2173
Babcock-Caswell	Linda		2173
Baber	Debra		2173
Babiak	Katherine		2131(1), 2173
Babitsky	Timlynn		2131
Babore	Patricia/Patti		2131(1)
Babst	Christina		2173
Baca	Joni		2000, 2173
Baca	Marisa		2173
Baccarat	Tanya		2173
Bacci	Carlo		2000
Bacewicz	Joseph		2173
Bach	Julie		2173
Bacheller	Emily		2131
Bachman	James		2000
Bachner	Suzanne		2173
Backstrom	Adam		2173
Baclija	Martin		2000
Bacon	Barbara		2173
Bacon	Dru		2131
Bacon	Scarlett		2173
Badan	Roberta		2173
Bader	Eric		2173
Bader	Larry		2131(1)
Bader	Rich		2000
Badger	Kimberly		2173
Badger	Shawnee		2000, 2173
Badlu	Mildred		2131
Badran	Jalil		2173
Badura	Nancy		2173
Badus	Theresa		2173
Baehr	Lauren		2173
Baenchantha	Udom		2000(1)
Baer	Howard		2173
Baer	Joshua		2031(u)
Baer	Robin		2131(u), 2173(u)
Baerenstecher	David		2031
Baeza	Rosa		2173
Baez-Ward	Janus		2173
Bagby	Janet		2173
Baggenstos	John		2131
Baggett	Joe		2131
Baggus	Linda		2131
Bagheri	Susan		2000
Bagley	Dean		2312
Bagley	Laura		2173
Baglia	Chris		2173
Baglini	Sidne		2173
Baglio	Michael		2000, 2173
Bagwell	Jeff		2173
Bagwell-Stephens	Hayley		2131
Baheri	Shirley		2173
Bahoor	Alex		2173
Bahr	Joseph		2173(u)
Bahr	Richard		2173
Bahris	Angie		2000
Baier	Dawn		2173
Baier	Mary		2173
Baier	Palmeta		2173
Baig	Nicola		2173
Bailey	Alli		2173
Bailey	Anna		2031(u)
Bailey	Brenda		2173(u)
Bailey	Catherine		2173
Bailey	Christina		2173
Bailey	David		2173
Bailey	Deborah		2173
Bailey	Debra		2173
Bailey	Doris		2173
Bailey	Dorothy		2173
Bailey	Earle		2173
Bailey	Elizabeth		2173
Bailey	Elizabeth		2173
Bailey	Helen		2173
Bailey	Jackie		2173
Bailey	Janice		2173
Bailey	Jim		2173
Bailey	Joan		2173(u)
Bailey	Justine		2173
Bailey	Larry		2173
Bailey	Lee		2173
Bailey	Lisa		2173
Bailey	Marcia		2173

Last Name	First Name	Org	CIN
Bailey	Marcia		2173
Bailey	Mark		2173
Bailey	Michael		2000
Bailey	Nicole		2173
Bailey	Norene		2000, 2173
Bailey	Robert		2173
Bailey	Sandra		2131
Bailey	Shayna		2173
Bailey	Shirley		2173
Bailey	Stephen		2173
Bailey	Stephen		2173
Bailey	Susan		2173
Bailey	Teresa		2173
Bailey	Tina		2173
Bailey	William		2173
Bailey	William		2000
Bailie	Amy		2173
Bailie	Janae		2173
Bain	Diana		2000, 2173
Bain	Fabienne		2173
Bain	Karen		2131
Baines	Laura		2173
Bains	Jeffrey		2173
Bains	Jimena		2173
Bains	Ken		2173
Bainter	Jason		2173
Baird	Abby		2173
Baird	Andrew		2173
Baird	Bruce		2031(u)
Baird	Cassie		2173
Baird	Janet		2173
Baisinger-Criddle	Carol		2000(1)
Bajaj	Ashok and Kiran		2000
Bajwa	Ravinder		2173
Bajwoluk	Ewa		2173
Baker	Alicia		2173
Baker	Alison		2173
Baker	Ann		2131
Baker	Barbara		2173
Baker	Bonnie		2173
Baker	Cindy		2131
Baker	Diane		2173
Baker	Donna		2173
Baker	Ed/Edwin		2131(1)
Baker	Grant		2173
Baker	Greg		2173(u)
Baker	James		2173
Baker	Janice		2173
Baker	Joel		2031(u)
Baker	John		2173
Baker	Ken		2173
Baker	Kristina		2173
Baker	Marcia		2131
Baker	Megan		2000
Baker	Megan		2173
Baker	Nancy		2173
Baker	Nicole		2000
Baker	Nina		2131
Baker	Norman		2000
Baker	P		2173
Baker	Patricia		2131(1)
Baker	Richard		2173
Baker	Sabrina		2173
Baker	Scott		2173
Baker	Sharon		2173
Baker	Staci		2000
Baker	Suzanne		2173
Baker	Vickey		2000(1), 2131(1)
Baker	William		2131
Baker-Easley	Valerie		2173(u)
Baker-Gregory	Gail		2173
Baker-Smith	Gerritt and Elizabeth		2173
Baket	Diana		2131
Bakker	Nicolette		2173
Bakkila	Kathleen		2031(u)
Bakowycz	Jean		2173
Bal	Steven		2131
Bala	Sheree		2131
Balaban	Susan		2000, 2173(u)
Balabanian	Jerry		2000, 2173
Balaev	Olga		2173
Balan	David		2173
Balaska	Konstantina		2000(2)
Balassi	Nancy		2173
Balboa	Juan		2173
Balbuena	Beverly		2173(u)

Last Name	First Name	Org	CIN
Balchunas	Tony		2173
Bald	Barbara		2173
Baldauf	Joyce		2173
Baldauf	Shawn		2173
Balder	James		2173
Balder	Wendy		2173
Balderston	Anne		2173
Baldewicz	Lindsey		2173
Baldi	Melanie		2173
Baldovino	Laurent		2000
Balduk	T.		2173
Baldwin	Bruce		2173
Baldwin	G.		0278
Baldwin	Josephine		2173
Baldwin	Laura		2000
Baldwin	Lauren		2173
Baldwin	Marilyn		2173
Baldwin	Robert		2173
Baldwin	Sherry		2173
Baldwin	Summerfield		2173
Baldwin	Tracey		2173
Bales	Jessica		2031
Baley	Patricia		2031, 2131, 2173, 2312(u)
Baley	Virko		2000, 2131
Balfour	Linda		2173
Balgemann	Elaine		2131
Bali	Mrinal		0033
Bali	Neha		0032

Last Name	First Name	Org	CIN
Balko	Terrie		2173
Ball	Connie		2131(u), 2252
Ball	Jane		2173
Ball	Laurie		2173
Ball	Nancy		2000
Ball	Norman		2173
Ball	Pamela		2173
Ball	Shannon		2173
Ball	Sheilah		2000
Ball	William		2173
Ballantine	Lynn		2173
Ballard	John		2173
Ballard	Julia		2131
Ballard	Karen		2131
Ballard	Kay		2173
Ballard	Marilyn		2173
Ballatore	Lynne		2131
Ballentine	Wanda		2000
Balles	Katherin		2173
Ballew	Richard		2131, 2173
Balliett	Laurie		2173(u)
Ballinger	Dan		2173
Ballinger	Susan		2031
Ballinger	Zack		0031
Balliro	Frankie		2173
Ballmann	Beth		2173
Ballou	Jeffrey		2173
Balls	Carolyn		2173
Balogh	Susan		2173

Last Name	First Name	Org	CIN
Balovich	Jillian		2173
Balsamo	Joe		2173
Balser	Gail		2173(u)
Baltazar	Lidia		2000
Baltich	Susan		2173(u)
Baltrus	Suzanne		2173
Baltrusch	Kelsie		2131
Baltz	Ruhee		2000
Balzan	Blake		2000
Balzan	Darlene		2173
Balzano	Sharon		2173
Balzer	Kristen		2173
Bambauer	Jennifer		2173
Bancu	Mihail		2173
Band	David		2131
Bander	Carol		2173
Bandick	Kitt		2173
Banditt	Rhonda		2173
Bandola	Jodi		2000
Bane	Mary		2173
Bane	Rosanne		2173(u)
Banerjee	Laxmi		2173
Banes PhD	Patricia		2173
Bangers	Ingrid		2131(1), 2173
Bangert	Jennifer		2173
Banghart	Robert		2131
Banik	Alison		2131
Banik	Alison and Gary		2131
Baniqued	Jarrod		2173

Last Name	First Name	Org	CIN
Banks	Darlene		2000
Banks	Eric		2173
Banks	Janice		2000, 2173
Banks	Paula		2173
Banks	Wishelle		2131
Banner	Nora		2173
Banner	Rebecca		2173
Bannerman	Brittany		2131
Bannerman	Michael		2173
Bannon	Kevin		2173
Banovich	Presley		2131
Bantivoglio	Joy		2173
Baptista	D		2173(u)
Baptiste	Nicola		2173
Baracca	Marco		2000
Baraff	Doris		2131
Barakat	Regina		2173
Barakos	Maria		2173
Baran	Jeffrey		2173
Baranek	Milan and Eva		2173
Baratta	Caroline		2173
Barbara	Jennifer		2173
Barbato	Christian		2000
Barbeau	Lisa		2173
Barber	Angie		2031(u)
Barber	Arleen		2131
Barber	Ellen		2131
Barber	Jim		2131
Barber	Julianne		2173
Barber	Kimberly		0104, 2319
Barber	Lois		2173
Barber	Marilyn		2173
Barber	Marty		2173
Barber	Rick		2173
Barber	Terry		2173
Barbera	Diane		2173
Barbezat	Mary		2000
Barbian	Andrea		2173
Barbour	Jan		2031(u)
Barbour	Michelle		2173
Barbour	Teresa		2173
Barboza	Cindy		2173
Barcellona	Nancy		2173
Barcilon	Danielle		2000, 2173
Barckhaus	Rachel		2173
Barclay	Dale		2000
Barclift	Glenn		2173
Barcott	Nick		2173
Barczak	Kathleen		2173
Bard	Carole		2000
Bardo	Ellen		2173
Bardsley	James R & Katherine Darlene		2000(1), 2173
Barela	Lauren		2173
Barenbaum	Thomas		2173
Barfknecht	Marci		2131
Barger	John		2173
Barger	Julie		2173
Bargery	Laura		2000
Bariana	Ava		2173
Barish	Fay		2173
Barish	Lauri		2000, 2173
Barkee	Lynn		2131
Barker	Amy		2131, 2173
Barker	Cher		2173
Barker	Christine		2131
Barker	Joe		3009
Barker	Rebecca		2173
Barker	Richard		2131
Barker	Scott		2173
Barker	Steve and Ruth		2173
Barker	Weldon		2131
Barker Jr	Owen		2173
Barkley	Joel		2173(u)
Barkow	Carolyn		2000(u)
Barley	Janice		2173
Barling	Harold		2131
Barlow	Dusty		2173
Barlow	Kimberly		2173
Barna	Brandy		2031(u)
Barnard	Chante		2173
Barnard	James		2031(u)
Barnard	Robert		2173
Barnard Jr	Charles		2173
Barnes	Angela		2131
Barnes	Ann		2173
Barnes	Ashley		2131

Last Name	First Name	Org	CIN
Barnes	Brian		2173
Barnes	Brooks		2173
Barnes	Christina		2173
Barnes	Christy		2173
Barnes	Darren		2031(u)
Barnes	Diana		2173
Barnes	Donna		2173
Barnes	Dylan		2031
Barnes	Erin		2173
Barnes	Heather		2173
Barnes	Joanne		2173
Barnes	Margaret		2131
Barnes	Martha		2173
Barnes	Mary		2173
Barnes	Nancy		2173
Barnes	Pat		2173
Barnes	Patricia		2131, 2173
Barnes	Robert		2173
Barnett	A./Andrea		2000, 2173
Barnett	Candice		2173
Barnett	Curt		2131
Barnett	Darcy		2173
Barnett	David		2173(u)
Barnett	Kathy		2173
Barnett	Linda		2173
Barney	Michelle		2173
Barney-Campbell	Noenoe		2131
Barnhardt	Debra		2173(u)
Barnhart	Genevieve		2131
Barnings	Courtney		2000, 2173
Baron	Evangeline		2173
Baron	Judith		2131
Baron	Michael		2131
Baron	Neal		2173
Baron	Robert		2173
Baron	Scott		2312
Barondes	Lynda		2131
Barone	Melinda		2173
Barone	Olivia		2173
Baroni	Laura		2173
Barr	Carol		2000, 2173
Barr	Holly		2173
Barr	Janice		2173
Barraclough	Andrea		2131
Barraclough	Michael		2131
Barragan	Luis		2319
Barrand	Chris		2173
Barratt	Mary		2173
Barratt	William		2173
Barraza	Jorge		2173
Barrett	Addison		2000
Barrett	Donna		2000, 2173
Barrett	Edward		2131
Barrett	Elaine		2173
Barrett	Harriett		2173
Barrett	James		2173
Barrett	Jimmie		2173
Barrett	Laren		2173
Barrett	Lisa		2000
Barrett	Lisa		2173
Barrett	MaryAnn		2173
Barrett	Sarah		2173
Barrett	Shirley		2173
Barrett	William		2131, 2173
Barrett III	George		2173
Barrette	Elaine		2173(u)
Barrick/Bret	Bret/Barrick		2131, 2173
Barrington	Brennan		2173
Barrington	Tim		2173(u)
Barritt	Jim		2173
Barro	Vivian		2173
Barron	Anthony		2000
Barron	Anthony		2111
Barron	Jane		2173
Barron	Kae		2173(u)
Barros	Michelle		2173
Barrow	Carissa		2031(u)
Barrow	Janice		2053
Barrow	Lisa		2173
Barrowman	Penny		2173
Barrows	Roberta		2173
Barry	Andrea		2173
Barry	Dana		2173
Barry	Jane		2173
Barry	Karyn		2173
Barry	Marina		2173
Barry	Marion		2173

Last Name	First Name	Org	CIN
Barry	Patricia		2131
Barry	Sheilah		2131, 2173
Barry	Thomas John		2131
Barry	Walter		2173
Barseghian	Marine		2173
Barsel	Sara		2173
Barski	Barbara		2000
Barsky	Phillip		2131
Barsness	Darnell		2173
Barsom	Michelle		2173
Bartel	Pauline		2173
Bartell	Ann		2173
Bartell	Lee		2173(u)
Bartels	Janet		2173
Bartelt	Jill		2173
Bartelt	Julie		2173
Bartfeld	Janette		2173
Bartha	Linda		2173
Barthelson	Roger		2131
Bartholomäus	Anne		2173
Bartle	Kenneth		2131
Bartles	Mary Jo		2173
Bartlett	Carolyn		2173
Bartlett	Dave		2173
Bartlett	Debra		2173
Bartlett	Faye		2173
Bartlett	Heather		2173
Bartlett	Janice		2000, 2173
Bartlett	Megan		2173
Bartlett	Raymond		2173
Bartley	Vanessa		2173
Bartling	Amy		2173
Bartoli, PhD	Renata		2173
Barton	Amanda		2131
Barton	Andy		2173
Barton	C. C.		2173
Barton	Carol		2173
Barton	Dinah		2031(u)
Barton	Durk		2173
Barton	Gary		2312
Barton	Jennifer		2000
Barton	Linda		2173
Barton	Marjorie		2173
Barton	Vs		2173
Bartosz	Jane		2173(u)
Bartsch	Jeanne		2173
Bartschi	Barbara		2173
Bartz	Navarre		2173
Barwood	Lauren		2031(u)
Bas	Lauren		2173
Basant	Nancy		2173
Basco	Henrietta		2173
Basdeli	Nasoula		2173
Bash	Randall		2131, 2173
Bashen	Melinda		2000, 2173
Basinski	Arlene		2173
Baskett	Michael		2173
Baskin	Antonia		2173
Basler	Barbara		2131
Bass	Catherine		2173
Bass	Chana		2173
Bass	Jerimy		2173
Bass	Lisa		2173
Bassat	Candace		2173
Bassett	Loren		2173
Bassett	Robert		2173
Bassett	Susan		2000
Bassett-Dolan	Theresa		2173
Bassetti	Britton		2031(u)
Bassham	Cindy		2173
Bassil	Veronica		2173
Bassin	Paulie		2173
Basso	Joanne		2173
Basso	Theresa		2173
Basta	Kevin		2031
Bastea	Eleni		2131
Basu	Rosanne		2000
Basye	Mae		2173(u)
Batchelder	Heidi		2173
Batchelder	Jan		2173
Batchelor	Pam		2173
Batchelor	Sue		2000
Bate	Jo Ellen		2131
Bateman	Abby		2173
Bateman	Cheryl		2173
Bateman	Joe		2131
Bateman	Susan		2173
Bates	Angela		0187
Bates	Barbara		2173

Last Name	First Name	Org	CIN
Bates	Gail		2208
Bates	Gina		2000, 2173
Bates	Jason		2173
Bates	Karin		2173
Bates	Robert		2000
Batey	Angela		2173
Battaglia	Alisa		2000
Battaglia	Carolyn		2173
Battaglia	Rick		2173
Batten	Candace		2173
Batterman	Wayne		2173
Battin	Sharlot		2173
Battinelli	Gail		2173
Battis	Chris		2173
Battista	Clint		2173
Battistini	Paula		2173
Battle	Dorothy		2000(1), 2173
Battles	Sharrie		2173
Batty	Vern/Vernon		2000, 2131, 2173(u)
Batway	Jewell		2173
Bau	Evelyn		2173
Bauchat	Marilyn		2173
Baud	Annick		2173
Baudains	Barry Frederick		2000
BAudouin	Jacqueline		2000
Bauer	Barbara		2173(u)
Bauer	Becky		2173
Bauer	Elaine		2173

Last Name	First Name	Org	CIN
Bauer	Ernst		2131
Bauer	Heather		2131, 2173
Bauer	Henning		2173
Bauer	Kelly		2000, 2173
Bauer	Lani		2173
Bauer	Laura		2000
Bauer	Libby		2173
Bauer	Robin		2000
Bauerle	Den		2173
Baughan	Constance		2173
Baughman	Charles		2173
Baum	Amir		2014
Baum	Karen		2173
Baum	Leslie		2173
Baum	Miriam		2000
Baum	Rhona		2173
Bauman	Cory		2131
Bauman	Sarah		2000
Baumann	Brigitte		2173
Baumann	Charles		2173
Baumann	Emily		2173
Baumgartner	William		2173
Baures	Timothy		2173
Baus	Constance		2173(u)
Baus	Neil		2312
Bauscher	Ashley		2131
Bauschlicher	Shalyn		2131
Bauschlicher	Shalyn		2131
Bautista	Debra		2000

Last Name	First Name	Org	CIN
Bautista	Mary		2131
Baver	Beverly		2173
Baxel	Gary		2000, 2173
Baxter	Elsa		2173
Baxter	Joslyn		2000, 2173
Baxter	Linda		2173
Baxter	Lou		2000(u)
Baxter	Ramona		2173
Baxter	Susan		2173
Baxter	Taylor		2173
Baxter-Miguel	Jo		2173
Bay	Natalie		2131
Baybordi	Manucher		2173
Bayens	Carol		2000, 2173
Bayer	Elise		2173
Bayer	John		2173
Bayer	Judith		2000
Bayley	Daniel		2131
Bayley	Debra		2173
Baylor	Sandra		2173
Baynes	Deb		2131, 2173
Bayona	Antonio		2173
Bayouth	Michael		2173
Bayross	Desiree		2173
Bays	Charles		2000
Bayus	Marie		2173
Bazan	Linda		2173
Bazinet	Jon		2173

Last Name	First Name	Org	CIN
Beach	Craig R.		2173
Beach	John		2173
Beach	Patricia		2173
Beahm	Ben		2173
Beal	Barbara		2173
Beal	Donna		2131(1)
Beal	Richard		2173
Beall	Paula		2173
Beaman	Patricia		2173
Beamer	John		2173
Bean	F		2000, 2173
Bean	Linda		2173
Bear	M		2173
Beard	Jeff		2000, 2173
Beard	Leilani		0133
Beard	Pamela		2173
Bearhart	Michelle		2173, 2312
Bearman	Shannon		2173
Beattie	Debbie		2173
Beattie	Lauren		2080
Beattie	Warren		2173
Beatts	Anne		2173
Beatty	Diana		2131
Beatty	Gene		2173
Beatty	Janet		2173
Beatty	Kim		2173
Beatty	Lorne		2000, 2173
Beaty	N H		2131

Last Name	First Name	Org	CIN
Beauchamp	Belle		2131, 2173
Beauchamp	Catherine		2173
Beauchamp	Heather		2173
Beauchamp	Jan		2000, 2131, 2173
Beaudette	Jo Ann M.		2173
Beaudin	Bill and Ida		2131(u)
Beaudry	Jessica		2173
Beaufrere	Margaret		2173
Beaulaurier	Diane		2312
Beaumont	Lily		2173
Beaver	Betty		2173
Beaver	Debra		2173
Beaver	Heath		2131
Beavers	Bonne		2131
Beavers	Nancy		2173
Beavers	Wick		0023
Beavin	Kathleen		2131
Beazer	Fay		2173
Bebb	Ron		2173
Bebelaar	Kristin		2173
Bech	Diane		2173
Bechard	Jen/Jennifer		2000, 2131
Bechtel	Paul & Cathy		2173
Beck	Ann		2131
Beck	Annette		2131
Beck	Carol		2173
Beck	Chris		2000

Last Name	First Name	Org	CIN
Beck	Dana L		2000, 2173
Beck	Dave		2173
Beck	Deborah		2173
Beck	John		2173
Beck	Karen		2000, 2173
Beck	Khrystal		2173
Beck	Kim		2173
Beck	Margaret		2173
Beck	Nanette		2173
Beck	Patricia		2173
Beck	Rob		2173
Beck	Sandy		2173
Beck	Sherry		2173
Beck	Susan		2312
Becker	Carly		2173
Becker	Carol		2000, 2173
Becker	Elaine		2000, 2131, 2173(u)
Becker	Florence		2131, 2173
Becker	Janice		2173
Becker	Jessica		2173
Becker	Jon		2173
Becker	Juergen		2173
Becker	Kathleen		2131
Becker	Marga		2000
Becker	Margaret		2173
Becker	Shari		2173

Last Name	First Name	Org	CIN
Beckerman	Gary		2000, 2173
Beckler	Amy		2173
Beckman	Linda		2000, 2173
Beckman	Michael		2173
Beckman	Patricia		2173
Beckmeyer	Dwight		2173
Beckner	Azel		2173(u)
Beckord	Katharina		2000
Beckstrand	Tamara		2173
Becton	Patricia		2000, 2173
Bedard	Beverly		2173
Beddingfield	Syd		2173
Bedford	Patricia		2173
Bedford	Pauline		2173
Bedic	Kristina		2173
Bedics	Karen		2173
Bednarski	Richard		2031(u)
Bedoy	John Vasquez		2131
Bedrick	Sue		2000, 2173
Bedzyk	Catherine		2173
Bee	Chelsea		2173
Bee	Nancy		0153
Beebe	Nancee		2173
Beecherl	Dennis		2173
Beechy	Judith		2131
Beecken	Tim		2131
Beedle	Tina		2173
Beeghly	Charles		2173
Beeken	Frances		2173
Beeler	Kim		2173
Beeler II	James		2173
Beeman	Amy		2173
Beeman	Joanne		2131
Beemer	Sandra		2173
Beer	Julie		2000, 2173
Beers	Sharon		2131
Beeson	Joanne		2173
Begalske	Leigh		2000
Begay	Dan		2131
Begay-Taylor	Judy		2131
Begrisch	Mary		2173
Behan	JK		2131
Behar	Barbara		2173
Behla	Tina		2000
Behl-Whiting	Kathy		2173
Behm	Meghan		2131
Behnke	Elise		2173
Behnken	Del		2173(u)
Behrens	Carla		2131
Behrman	Colleen		2131
Behrman	Pamela		2173
Behrman	Richard		2173
Beilke	Sue		2173
Beilmann	John		2131
Bein	Ann		2000, 2173
Bein	J.		2173
Bein	Keith		2173
Beisler	Theodore		2031(u)
Beissinger	Kamala		2173
Beitel	Timothy		2000
Beitler	Sandra		2173
Bejcek	Sara		2173
Bekhet	Leigh		2173
Belair	Pat		2173
Belancio	Lucrecia		2031(u)
Belanger	Delonda		2173
Belanger	Elanna		2131
Belanger	Mark		2000
Belcastro	Bernadette		2000
Belcastro	Frank		2173
Belchinsky	Amy		2173
Beldin	Joan		2173
Beldy	Andrew		2031(u)
Beldy	Cynthia		2031(u), 2173
Beletsky	Agnieszka		2173
Belgiorno	Laura		2173
Belisle	Donna		2173
Belisle	Viviane		2173
Belknap	Bobby		2131
Belknap	Robert		2000
Belknap	William		2131
Bell	Deon		2173
Bell	Donna		2161
Bell	Dottie		2173
Bell	Frances		2000
Bell	Fred		0144

Last Name	First Name	Org	CIN
Bell	Gail		2131, 2173
Bell	Jan		2131
Bell	Judy		2173
Bell	Lauren		2173
Bell	Mary		2173
Bell	Myra		2173
Bell	Pamela		2131
Bell	Patrick		2173(u)
Bell	Rosemarie		2173
Bell	Sheila		2131, 2173
Bell	Steve		2000
Bell	Tony		2173
Bellamy	David		2000
Belland	Barbara		2000
Belland	Tara		2000
Bellano	Jennifer		2173
Belle	Ana		2173
Bellenger	Jayme		2131, 2173
Bellero	Lisa		2173
Bellevue	Susan		2173
Belli	Bryant		2131
Bellino	Kaitlyn		2173
Bellis	Lori		2031(u)
Bellisario	Emily		2031
Bello	D/Dominique		2000, 2173
Bello	Pamela		2131
Bellon	Michele		2173
Bellos	Marilyn		2173
Belloso-Curiel	Jorge		2173
Bellott	Brigette		2131
Bellows	David		2131, 2173
Belmont	Diane		2173
Belmonte	Jennifer		2173
Belovich	Anne T		3053
Belser	Lori		2173
Belsey-Crum	Denise		2173
Belt	Annie		2000(1)
Belt	Jerry		2031(u)
Belter	Jerry		2173
Beltram	Al		2173
Beltran	Emelia		2173
Beltz	Judith		2173
Belvill	Debra		2131
Bement	Lesley		2173
Bemis	Barbara		2000
Bemis	Evalyn		2131
Bemis	Judith		2173
Bempong	Samantha		2173
Benavidez	Eloy		2131
Benchmann	Elisabeth		2000
Bendall	Georganne		2173
Bender	Bruce		2173
Bender	Christine		2173
Bender	Donna		2173
Bender	Kae		2003, 2173 (u)
Bender	Karen		2131
Bender	Karen		2173
Bender	Teresa		2173
Bendixen	Julie		2173
Bendror	Margie		2173
Benedict	Derek		2131, 2173
Benedict	Louis		2173
Benes	Michelle		2000, 2173
Benet	Mercedes		2000, 2173
Benezet	Louis		3003
Benfield	V		2173
Benge	Laura		2173
Bengel	James		2173
Bengston	John and Kay		2131
Bengston	Lynn		2173
Benham	Melissa		2131
Benincasa	Terri		2173
Bening	Kathryn		2173
Benito	John		2173
Ben-Jacob	Ali		2173
Benjamin	Bonnie		2131
Benjamin	Corey		2173
Benjamin	Elaine		2173
Benjamin	George		2173
Benjamin	Glen		2173
Benjamin	Jody Cook		2173
Benkert	Ashley		2173
Benkert	Cynthia		2000
Benn	Annette		2131
Benner	Linda		2312

Last Name	First Name	Org	CIN
Bennett	Alyssa		2173
Bennett	Ann		2173(u)
Bennett	Brad		2173
Bennett	Cary		2312
Bennett	Colin		2173
Bennett	Frankie		2173
Bennett	Gary		2173
Bennett	Jeremy		2173
Bennett	Johnny		2173
Bennett	Karen		2173
Bennett	Katherine		2173
Bennett	Lisa		2173
Bennett	Marion		2173
Bennett	Meredith		2173
Bennett	Mi Ann		2031(u)
Bennett	Michael		2173
Bennett	Nancy		2131
Bennett	Neva		2126
Bennett	Roger		2173
Bennett	Tamera		2173
Bennett	Tess		2173
Bennett	Thomas		2131
Bennigson	Barbara		2000, 2173
Bennion	Kellie		2173
Bennion	Tony		0161
Benoit	Ken		2173
Benoit	Lani		2031(u)
Benoit	Madalyn		2173
Benoit	Marilyn		0096
Benoit	Sunshine		2131
Benoit	Walter		2031(u)
Benoodt	Joanne		2173
Bensalel	Johanna		2000, 2173
Bensch	Calvin II		2173
Benschoter	John		2173
Bensetler	Shirley		2000
Bensey	Linda		2131
Bensinger	Judy		2131
Benson	Barbara		2131
Benson	Danielle		2173
Benson	David B.		2173
Benson	Donnie/ Donelle		2131(1), 2173
Benson	Fay		2131
Benson	Joyce		2000(1)
Benson	Kate		2173(u)
Benson	Liane		2173
Benston	Kimberly		2173
Bensusan	Denise	The Bensusan Foundation	0332
Bent	Joan		2173
Benthien	Simone		2173
Benti	Wynne		0173, 3068
Bentivegna	Peterjon		2173
Bentley	Clint		0312
Bentley	Clint	Fraternity of the Desert Bighorn	3056
Bentley	Don		2000, 2312
Bentley	Linda		2173
Bentley	Michelle		2173
Bentley	Victoria		2000, 2173
Benton	Annette		2000
Benton	Coralie		2173
Benton	Don		2131
Benton	Marybeth		2173
Benton	Pamela		2131, 2173
Benton	Susan Garrity		2131
Benton	Suzanne		2173
Benttinen	Peter		2173
Bentz	Eva		2131, 2173
Bentzel	Jennifer		2173
Benvenuti	Lawrence		2173
Benvenuto	Elaine		2131, 2173
Benzel	Amy		2031
Berard	Carol		2131
Berardino	Diana		2173
Berario	Myra		2173
Berberi	Julie		2131, 2173
Berchek	Todd		2131
Bercier	Crissy		2031(u)
Bercovitch	Zelig		2173
Bereded	Mary		2173
Berend	Robert		2173
Berg	Britt		2173
Berg	Elaine		2173

Last Name	First Name	Org	CIN
Berg	Jennifer		2173
Berg	Jon		2131
Berg	Maureen		2173
Berg	Mo		2173
Berg	Nancy		2173
Berg	Pamela		2173
Berg	Parker		2131
Berg	Patricia		2173
Berg	Sheryl		2173
Berg	Thomas		2173(u)
Bergantino	James		2173
Bergen	Jeanne		2173(u)
Bergen	Peggy		2173
Bergenhem	Maria		2173
Berger	Alicia		2173
Berger	Barbara		2312
Berger	Elmer		2000, 2173
Berger	Karen		2173
Berger	Linda		2173
Berger	Michael		2173
Berger	Pamela		2173
Berger	Russ		2173
Berger	Trent		2173
Bergeron	Adrian		2173
Bergeron	Brenda		2173
Bergeron	Jason		2173
Bergeron	Jenna		2173
Bergeron	P		2173
Bergeron	Sheilagh		2000, 2173

Last Name	First Name	Org	CIN
Bergeron	Terry		2000
Bergerud	Lisa		2000
Berges	Emily		2173
Bergey	Don		2000
Bergey	Don		2173
Berggren	Kara		2173
Bergh	Colleen		2000
Berghammer	Annette		2000(1)
Bergherr	Theresa		2173
Bergholt	Sharyn		2173
Bergia	Berta		2173
Bergkamp	Danielle		2173
Bergman	Steve		2173
Bergman	William		2173
Bergmann	Amy		2000
Bergquist	Judith		2131
Bergren	Cecile		2173
Bergsma	Debi		2000(1), 2131
Bergsman	Wendy		2131
Bergstrom	Bo		2000(1), 2131, 2173
Bergstrom	Brenda		2173
Bergstrom	Jan and		2131
Bering	Caroline		2173
Berk	Deborah		2173
Berkel	Berry		2000
Berkel	Cady		2131
Berkeley	Carol		2173
Berkeley	Gail		2173
Berkeley	Pauline		2173

Last Name	First Name	Org	CIN
Berkemeijer	Belinda		2000, 2173
Berkey	Kathryn		2173
Berkland	John		2173
Berko	Elan		2173
Berkowitz	Henry		2173
Berkowitz	Paula		2173
Berkowitz	Sidney		2173
Berkowitz	Suzy		2173
Berkshire	Melissa		2299
Berkson	Andrew		2173
Berkvist	Andy		2173
Berlin	Maja		2173
Berlin	Susan		2000, 2173
Berliner	Jacqueline		2173, 2312
Berliner	Jill		2173
Berman	David		2173
Berman	Karen		2173
Berman	Mark		2000
Berman	Spencer		2173
Berman	Steven		2173
Bermani	Lila		2131(u)
Bermudez	Sara		2173
Bernard	James		2173
Bernard	Linda		2173
Bernard	Martin		2173
Bernard	Pam		2173
Bernardes	Daniela		2173
Bernardin	Carol		2131, 2173

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Bernardin	Edward		2131
Bernardo	Kate		2173
Bernas	Ed		2173
Bernbeck	Roland		2173
Berndt	Michael		2000(u)
Bernhard	Karen		2131
Bernhard	Yolanda		2000
Bernhardt	Abby		2000
Bernhardt	Alicia		2173
Bernholz	Jeff		2173
Berniker	Beth		2173
Berning	Joe		2173
Berninghausen	Betsy		2173(u)
Berns	Daniel		2000
Bernstein	Joseph		2173
Bernstein	Laura		2000
Bernstein	Mark		2173
Bernstein	Sandie		2173
Berntsen	Erik		2173
Berridge	Nigel		2173
Berry	Ben		2173
Berry	David		2173
Berry	Gail		2173
Berry	Judith		2173(u)
Berry	Lynne		2173
Berry	Nina		2173
Berry	Patricia		2131
Berry	Rab		2173
Berry	Rebeckah		2173
Bersanetti	Sabrina Grazia		2000(1)

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Bertano	Silvia		2000
Bertea	Christina		2173(u)
Bertelli	Valerie and Nick		2173
Bertelsen	John		2173
Bertelsen-James	Jan		2173
Berthelsen	Arve		2173
Berthrong	E. Candace		2173
Bertoldo	Luigi		2000
Bertoletti	Jackie		2173
Bertolone	Thomas		2173
Bertram	Jeanne		2173
Bertram	Travis		2173
Bertsch	Hans		2173
Berzac	Susan		2173
Berzon	Patricia		2173
Bescher	Jill		2131
Beschler	Ellen		2173
Bescript	Linda		2173
Besso	Sean		2173
Bessone	Marcello		2173
Best	Ana		2173
Best	Barbara		2173
Best	Brenda		2312
Best	Dharma		2173
Best	Diane		2000
Best	Jonathan		2131
Best	Nicole		2173
Besteiro	Marisa		2000
Bestick	Maureen		2131

Last Name	First Name	Org	CIN
Besyk	Yvonne		2131
Betanska	Natalia		2173
Bethel	Joann		2131
Bethel	Lisa		2173
Bethel	Simone		2173
Betourne	Susan		2173
Betters	Kathleen		2173
Betti	Mark		2131
Bettsteller	Tina		2131(u)
Betty	Shred		2173
Betz	Terri		2173
Bevan	David		2173
Beverage	Bonnie		2173
Beverly	Gary		2131
Beverly	J		2000
Beves	Peter		2173
Bevilaqua	Deborah		2173
Bevsek	Jean		2173
Bey	Lisa		2173
Beyer	Cindy		2131
Beyer	Monica		2173
Beyers	Karen		2167
Beylen	Diane		2173
Bhaiji	Cristine		2173
Bhakti	Sara		2000
Bharadwaj	Rama		2173
Bhargava	Asmita		2000
Bhattacharya	Ishita		2173
Bhattacharyya	Aparna		2173
Bhend	John		2173
Bhumbra	Nasreen		2173

Last Name	First Name	Org	CIN
Biagi	Josephine		2173
Biale	Cheryl		2000
Bialocki	Jen		2173
Biancalana	June		2131(1)
Biasci	Laura		2173
Biase	Margaret		2173
Bibby	Joyce		2173
Bible	Bairbre		2173
Bichler	Ingrid		2000
Bichsel	Darlene		2031(u), 2131
Bickel	Bettina		2000, 2131, 2173
Bickel	Kenneth		2000, 2173
Bickel	Nicole		2173
Bickel	Shirley		2173
Bickers	Kevin		2173
Bicking	Ann		2131, 2173
Bicknell	Thomas R.		2131
Biddle	Belinda		2173
Biddle	Judy		2173
Bidwell	Eileen		2000
Bidwell	Troy		2000, 2173
Bieber	Marybeth		2173
Biedenbender	Sharon		2000
Biederman	Janice		2173
Biederman	Sue		2021
Biedermann	Anita		2173
Biedka	Jill		2173

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Biegala	Jennifer		2312
Biel	Timothy		2173
Bielke	Joshua		2173
Bielski	Karen		2173
Bielski	Linda		2173
Biemuller	Eric		2173
Bieniek	Lynne		2173
Bienlein	Gerald		2131
Bierling	Leo		2173
Bierman	Kenneth		2131(1), 2173
Biernoff	Ari		2173
Biewen	Amaia		2131
Bifareti	Lawrence		2173
Bifulco	Loretta		2131
Bigelow	A.		2253
Bigelow	Erin		2131
Bigelow	Valerie		2173(u)
Biggane	Michele		2000, 2173
Biggins	Henry		2000(1)
Biggins	Nancy		2173
Biggs	Patricia		2173
Bigler	Cliff		2000
Bigley	Kim		2173
Bilderback	Robin		2173
Bildstein	Leonard		2173
Bilgen	Mehmet		2000, 2173
Bilir	Lale		2173
Bill	Barbara		2173
Bill	Eileen		2000(u)

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Billard	Tony		2131
Biller	Pam		2173
Billick	Ralph		2173
Billimoria	Christina		2173
Billings	Jean		2173
Billings	Ted		2173
Billiski	Cathleen		2131
Bills	Barbara		2000
Billy	Janice		2131
Bilwin	Gina		2173
Bilyeu	George		2000, 2173
Bilyeu	Sheila		2131
Bina	Sarah		2173
Binchet	Julie		2000
Bindas	Janet		2173
Binder	Fred		2131
Binder	Terri		2173
Binderim	Gary		2173
Bindernagel	Christopher		2173
Bindock	J.		2173
Binegar	Marv		2173
Binette	Janet		2173
Binford	Cynthia		2173
Bingo	Vicki		2173
Binnings	Diana		2173(u)
Binnion	Peggy		2000
Binstead	Elizabeth		2173
Bionda	Nancy		2173
Biondi	Christian		2173
Biondo, Jr.	Vincent		2031(u)

Last Name	First Name	Org	CIN
Bippert-Plymate	Teresa		2173
Birch	Suzanne		2131
Bircher	Kay		2173
Bird	Caroline		2000, 2131
Bird	Oscar		2000, 2173, 2312
Bird	Paul		2000(1)
Bird	Zoe		2000
Birdsall	Lynne		2212
Birenberg	Jane		2173
Birkeland	Mary		2173
Birkeland	Peter		2131
Birkenes	Sondra		2131
Birkett	Tom		2173
Birkey	Jayci		2131
Birkinshaw	Warren		2173
Birmingham	Tom		2173
Birnbaum	Jacqueline		2173
Birney	Gail		2173
Bisanzo	Mark		2173
Biscardi	Maureen		2131
Bischof	Greg		2173
Bish	M		2000
Bishop	Amanda		2031(u)
Bishop	Beth		2173
Bishop	Christie		2131
Bishop	Cori		2173
Bishop	David		2173
Bishop	Debra		2000
Bishop	Leora		2131
Bishop	Liberty		2173
Bishop	Merna		2173
Bishop	Nancy		2173
Bishop	Ralph		2173
Bishop	Walter		2131
Bisic	Ramiz		2131
Bisirri	Marie		2173
Bisping	Marisa		2131
Bisschop	Peter		2173
Bissell	Bill		0195
Bissell	M.		2000
Bissell	Mary		2000, 2173
Bissell	Stephanie		2173
Bissett	Sandra		2000
Bittenbinder	Barb		2000
Bittner	George		2173
Bittorf	Charles		2173
Bittremieux	Elisabeth		2000
Biviano	Charles		2173
Bixler	Mikki		2131, 2173
Bixley	Jean		2173
Bixter	Pam/Pamela		2000, 2131, 2173
Bjoring	Jonathan		2173
Bjork	Vince		2173
Bjorkman	David		2131
Bjorkman	Inge		2000
Bjorkquist	Elvi		2131
Bjornbak	Sharron		2173
Black	Brenda		2131
Black	Cassandra		2173
Black	Cinda		2173
Black	David		2131
Black	Diane		2173
Black	Heather		2173
Black	Jeff		2000
Black	Karina		2131
Black	Marian		2131(1)
Black	Mary Ann		2000
Black	Ronda		2131
Black	Sam		2000
Black	Susan		2000(1), 2131(1), 2173
Black	Tam		2173
Black	Tammy		2131
Blackall	Matt		2173
Blackburn	Betty		2131
Blackburn	Beverly		2173
Blackburn	Carrie		2131
Blackburn	Danny		2000
Blackburn	Mathew L	Fraternity of the Desert Bighorn	6008
Blackburn	Paul		2000, 2131, 2173
Blackburn	Wayne		2173
Blacketer	Ann		2131
Blackham	Uphoria		2000, 2131

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Blacklock	Craig		2173
Blacklock	Sandra-Yvonne		2173
Blacklow	Arielle		2173
Blackman	Patricia		2173(u)
Blackman III	William		2173
Blackmore	Babs		2173
Blackstone	Randee		2173
Blackwell	Audrey		2173
Blackwell	Debbera		2173
Blackwell	Lynn		2173
Blackwell	Meredith		2173
Blackwell	Thomas		2173
Blackwell-Marchant	Pat		2173
Blackwood	Louise		2173
Blagden	Katherine		2131
Blagen	J/Jessica		2000, 2173
Blahaus	Dolores		2173
Blain	Nikki		2173
Blain	Rick		2173
Blair	Elke		2000, 2173
Blair	Gary		2173
Blair	Henry		2131
Blair	Sharon		2173
Blair	William		2173
Blake	Deborah		2173
Blake	Eli		2173
Blake	Jennie		2173
Blake	Jocelyn		2173

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Blake	Kathleen		2173
Blake	Lisa		2173
Blake	Sr. Veronica		2173
Blakeborough	Ellen		2173
Blakesley	Robin		2173
Blakley	Margaret		2131, 2173
Blalock	Joyce		2131
Blancato	Nadine		2173
Blanch	Ed		2173
Blanchard	Cydney		2173
Blanchard	Diane		2173
Blanchard	Sammi		2173
Blanche	Ryan		2173
Blancher	Eddie		2173
Blanchett	Mary		2173
Blanchette	Jean		2000
Blanckaerts	Rosa		2000
Blanco	Alba		2173
Bland	Charley		2173
Bland	Dave		2173
Blandford	Mark		2173
Blandon	Cheyenne		2173
Blaney	Carol		2173
Blank	Chris		2173
Blank	Clara		2173
Blank	Gail		2000
Blank	Melanie		2173
Blankenbiller	Wayne		2173
Blankenburg	Wendy		2173
Blankenship	Artemisia		2173

Last Name	First Name	Org	CIN
Blankenship	Cynthia		2173
Blankenship	Micheal		2173
Blankenship	Virginia		2173
Blankinship	Ramona		2173
Blanton	Catherine		2131
Blanton	Cricket		2000, 2173
Blanton	Jeff/Jeffery		2000, 2173
Blasco	Natalie		2173
Blascovich	Greg		0321
Blase	Lilly		2000, 2173
Blasius	Karen		2306
Blass	Joachim		2173
Blaszczak	Lorraine		2173
Blatman	Resa		2173
Blattenberger	Beth		2173(u)
Blau	Kate		2173
Blaustein	Marvin		2173
Blazei	Alecia		2173
Blechman	Margaret		2000
Bledsoe	Cathy		2173
Blegen	Cynthia		2131
Bleimeyer	Rebecca		2131
Blemings	Tayler		2031
Blenis	Tiffany		2173
Blesoff	Marc		2173
Blessing	William		2173(u)
Bletzer	Siri		2173
Bley	Ann		2131
Bleything	Carol		2173

Last Name	First Name	Org	CIN
Blier	Robin		2131
Bligh	Denise		2173
Blincow	John		2173
Bline	Abigail		2000(u)
Bliss	Jackson		2173
Bliss	M.		2173
Blissett	Lesley		2173
Bliss-Pilcher	Ann		2131
Blitzer	D		2000
Blitzstein	Bonnie		2173
Bloch	Alice		2173
Bloch	Nini		2173
Block	Barbara		2173
Block	Jack		2173
Block	Julie		2173
Blocklinger	Lisa		2173
Blodgett	Michael		2173
Blombach	Ann		2173
Blommer	Kelsey		2173
Blomquist	Billy and Stacy		2131
Blomquist	Donna		2173
Bloom	Diane		2131
Bloom	Janet		2173
Bloom	Kathleen		2173
Bloom	Katie		2131
Bloom	Lauren		2173
Bloom	Maggie		2173
Bloom	Matthew		2131
Bloom	Melinda		2173
Bloom	Robert		2131, 2173
Bloomfield	Dionne		2131
Bloomfield	Gary		2173
Bloomfield	Hartley		2173
Bloomfield	Steve		2173
Bloss	Jeannine		2173
Blount	Delilah		2131
Blount	Mary		2131
Blue	Carol		2312
Blue	Cindy		2000
Blue	Donna		2173
Bluemel	Marina		2173
Bluemer	Sharon		2031
Blum	Denise		2173
Blum	Denny		2000
Blum	Fay		2131
Blum	Heidi		2173
Blum	Jane		2173
Blum	Joseph		2173
Blum	Karen		2173
Blumberg	Gail		2173
Blumberg	John		2131
Blumberg	Zach		2000
Blume	Ashley		2173
Blume	Gerald		2173
Blume	Hope		2173
Blumensaadt	Eric		2155
Blumenstein	Sarah		2173
Blumenthal	Harry		2173
Blumenthal	Linda		2173
Blum-Unibe	Myrna		2131(u)
Blunk	Wayne & Barbara		2173
Blunt	Christine		2131
Blunt	Susan		2173
Blyth	Richard		2173
Blythe	Noel		2173
Boan	Eleanor		2173
Boand	Sandrine		2000
Boardman	Noel		2173
Boardman	Petra		2173
Boas	Katherine		2173
Bob	Renate		2173
Bobbitt	Tammy		2173
Bobe	Pablo		2000
Bobek	Gabriel		2173
Bobmarler	Bob		2173
Bobo	Orion		2131
Bobo	Rene		2131
Bobzien	David		2034
Boccagna	Emilia		2000
Bocchino	J		2173
Boch	Chris		2173
Bochenek	Sher		2000
Bock	Joseph		2173
Bock	Regina		2131
Bock	Stephen		2131
Bock	Walter		2000
Bockholt	Joan		2131
Bockino	Alida		2173
Bodager	Karen		2173

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Bodarky	Esterina		2173
Bodek	Sharon		2173
Bodenmiller	Carol		2173
Bodenski	Richard		2173
Bodey	Robin		2173
Bodiford	Loretta		2173(u)
Bodner	Christine		2173
Bodner	Robert		2173
Bodycott	Dwight		2173
Boe	Taylor		2173
Boeckermann	Jesse		2173
Boedigheimer	Dane		2173
Boeger	Elise		2173(u)
Boehler	Mary		2173
Boehm	Chelsee		2131, 2173
Boehm	Cheryl		2173
Boehm	Richard		2173
Boehmer	Linda		2173
Boehnert	Caryl		2173
Boersma	Joe		2173
Boersma	Larry		2173
Boetcher	Bonita		2131
Boettcher	Gail		2173
Bogan	Sherry		2173
Bogan	Susan		2173
Boger	David		2131
Boggio	Frank		2173
Boggs	Darla		2173
Boggs	Donna		2173
Boggs	Milton		2173

Last Name	First Name	Org	CIN
Bogin	Ronald		2173
Bogle	Wendy		2173
Bogleff	Paula		2173
Bogolub	Larry		2173
Bogott	Meredith		2173
Bogren	Donna		2173
Boguske	Matthew		2173
Bohac	Stephen		2173
Bohach	Linda		2173
Bohan	Gabriella		2031
Bohannan	Susan		2173
Bohannon	Phyllis		2173
Bohannon, Jr	Gilbert		0221
Bohin	Holly		2173
Bohl	Tollie		2173
Bohlen	Gérard		2173
Bohlman	Nicole		2173
Bohmann	Jerry		2173
Bohmfalk	Robert		2173
Bohmsach	Rebecca		2000, 2173
Bohn	Kate		2173
Bohn	Nina		2000
Bohnert	Allen		2131, 2173
Bohning	Ashlee		2173
Bohorfoush	Kathleen		2173
Bohr	Ron		2000, 2131, 2173
Bohrman	Thatcher		2131
Boice	Ruth		2000, 2173

Last Name	First Name	Org	CIN
Bois	Daniele		2173
Bois	Myriam		2000
Boissonnas	Alix		2173
Boisvert	Richard		2173
Boixo	Karin		2000, 2131, 2173
Bojarski	Lawrence		2173
Boka	Erika		2173
Bokus	Jeremy		2173
Bol	Alice		2173
Boland	Lynn		3020
Bolander	Linda		2173
Bolanos	Don		2173
Bolcon	W./Walter		2173(1)
Bold	Richard		2173
Bolembach	Kevin		2000, 2173
Bolen	Cassandra		2131
Bolen	David		2131
Bolen	William		2173
Boles	Thomas		2173
Bolick	Cheryl		2173
Bolin	Clarence		2000, 2173
Bolin	Will		2131(1)
Boling	Beverly		2173
Bollea	Marcia		0234
Bollini	Valerie		2173
Bologna	Debra		2173
Bolognani	Christy		2131
Bolot	Fran??A?oise		2173

Last Name	First Name	Org	CIN
Bolser	Susie		2173
Bolsky	Debbie		2173
Bolt	Merry		2000
Bolt	Rebecca		2031(u)
Bolton	Loretta		2173
Bolton	Sharon		2000
Bolton	Ted		2173
Bolton	W.		2173
Boltz	Randall		2173
Bombe	Kaard		2131
Bomeisl	Jean		2131
Bon	Michael		2173
Bonacci	Jeff		2000
Bonar	Diane		2173
Bonardi	John		2173
Bonatti	Karen		2173
Bonaventura	Pam		2000
Boncal	Danae		2000
Bond	HA		2000
Bond	Michael		2131
Bond	Pamela		2173
Bond	S.		2173(1)
Bondi	Louis		2173
Bond-Kuglin	Tina L.		0090, 3018
Bondoc	Michael		2173
Bonello	Joe		2173
Boner	Jennie		2173
Bonette	Stacey		2000
Bonetti	Donna		2000, 2131

Last Name	First Name	Org	CIN
Bonfield	Barbara		2173
Bongiorno	Joseph		2173
Bongiovi	Kathy/ Kathleen		2000, 2173
Bonham	Laurie		2000
Bonica	Christopher J		2173
Boniface	Kathryn		2173
Bonifacio	George		2173
Bonin	Kelly		2173
Bonini	Lee		2173
Bonk	Dale		2312
Bonkoski	Jane		2173
Bonnell	Paula		2131
Bonner	Dana		2131
Bonner	Terry		2131
Bonner	Tracey		2000, 2131, 2173
Bonner-Payne	IfeTayo		2173
Bonnet	Beatriz		2131
Bonnet	Debbie		2173
Bonnie	Wise		2173
Bonometti	Robert & Ginny		2173
Bonse	Anne		2173
Bontacchio	Franca		2000
Bontrager	Debbie		2173
Bonualas	Monica		2173
Bonville	William		2173(u)
Booher	Donna		2131
Booher	Ruthann		2173
Booher	Sam		2173

Last Name	First Name	Org	CIN
Book	Carol		2131
Booker	John		2131
Bookheimer	Donna		2173
Boomhower	Deborah		2000
Boone	Abby		2173
Boone	Jim	birdandhike.com	0325, 2000, 2031(u), 2312, 3036
Boone	Joseph		2173(u)
Boone	Michael		2031(u), 2131
Boone	Rita		2173
Boonroong	Bess		2000, 2173
Boor	Carolyn		2173
Boortz	Brian		2000
Boos	Jane		2173
Boot	Patrick		2000
Booth	Jack		2312
Booth	Juliet		2131
Booth	Richard		2000
Boothby	Mimi		2173
Boothe	Dawn		2173
Borawick	MA		2173
Borchard	Daniel		2173
Borcherding	Paul		2000, 2173
Borchert	Rob		2173
Borchert	Sarah		2173
Borda	Benjamin		2173
Borda	Stephani		2173

Last Name	First Name	Org	CIN
Bordeaux	Bobbi		2173
Bordelon	Tika		2000, 2173
Borden	Carolyn		2173
Bordenave	Michael		2173
Border	Danial		2173
Border	Monica		2173
Borders	Josephine		2173
Bordon	Jose		2031(u)
Borelli	Nancy		2173
Bores	Millie		2173
Borg	Carolyn		2000(1), 2031
Borgardt	Karen		2173
Borgasano	Kathleen		2173
Borgen	L/Lynn		2015, 2173(u)
Borges	Kent		2131
Borgeson	Dean		2173
Borghese	Susan		2173
Borghi	Michael		2131
Borgstedte	Kaitlin		2173
Borja	Rosa		2131
Bork	Annette		2173
Borland	Matthew		2173
Born	Charlean		2173
Born	Deborah L.		2173
Borne	Jay		2173
Bornheimer	Thomas		2173
Bornholtz	Gavin		2000, 2173
Bornman	Megan		2000

Last Name	First Name	Org	CIN
Boroshok	Ruth		2173
Borovoy	Hope		2173
Borow	Mark		2173
Borowski	Aaron		2173
Borrelli	Silvana		2131
Borri	Patricia		2173
Borselli	Robert		2173
Borske	Cindy		2000, 2173
Bortolin	Robert		2173
Bortot	Deborah		2173
Borts	Anne		2203
Borunda	Perla		2031
Borus	Myrna		2173
Borys	Eva		2173
Borzik	Joette		2312
Bos	Katherine		2173
Bosch	David		2173
Bosch	Kenneth		2173
Bosch	Roland		2173
Boschert	Michele		2173
Bosco	Alessandra		2000
Boshears	Michael		2173
Bosio	Nivaldo		2173
Bosket	Larry		2173
Bosler	Justin		2312
Bosley	Leana		2173
Bosley	Peggy Sue		2173
Bosman	Larry		2173
Bosse	Tammy		2152
Bossers	Diane		2173

Last Name	First Name	Org	CIN
Bossert	Elizabeth		2000, 2131, 2173
Bossert	Eric		2131
Bossert	Kristen		2000
Bosshardt	Jaci		2173
Bost	Walter		2173
Bostian	Brian		2131
Bostic	Rickey		2173
Bostick	Thomas		2173
Bostock	Vic		2000
Bostwick	Susan		2173
Boswell	Jana		2173
Boswell	Sherri		2000
Boswell	Thomas		2000
Bosworth	Carol		2173
Bosworth	Patricia		2173
Botelho	Sharon		2173
Bothern	Lawrence		2173
Bottelier	Melissa		2173
Bottero	Marcella		2173
Bottin	Herve		2000
Bottom	Julia		2131(1), 2173
Bottomly	Thomas		2131
Bottorff	Virginia		2000
Bouchan	Pedro		2173
Bouchard-Shapiro	Kimberly		2000
Boucherie	Tina		2173
Boucot	William		2173
Boudaia	Mohammed		2173

Last Name	First Name	Org	CIN
Boudjenah	Said		2173
Boudreau	Lisa		2173
Boudreau	Lynne		2173
Boudreau	Susan		2173
Bouett	Lawrence		2173
Boughan	Tom		2173
Bouilland	Stacy Lerner		2173
Bouillon	Mark		2031(u)
Boulan	Cassidy		2000, 2131, 2173
Boumpouridou	Elena		2173
Boura	Theodora		2173
Bourassa	Veronica		2173
Bourbois	Terri		2173
Bourdeau	Madrona		2131
Bourdeau	Tiphanie		2000
Bouret	Maria		2000(1)
Bourland	Marcia		2173
Bourland	Patricia		2173
Bourlotos	George		2000
Bourque	Elijah		2173
Bousquet	Bob		2000, 2173
Boussy	Ian		2173
Boutin	Brenda		2173
Boutis	Lazarus		2131(1)
Bovitz-Sandefur	Janet		2173
Bowden	Annika		2173
Bowden	Joan		2173
Bowden	Julie		2173
Bowden	Karen		2131
Bowden	Margaret		2173
Bowden	Sally		2131
Bowditch	James Bruce		2131
Bowen	Chad		2173
Bowen	Dianne		2173
Bowen	Janelle		2131
Bowen	Mace		2131
Bowen	Nigel		2173
Bowen	Patricia		2173
Bowen	Patty		2173
Bowen	Sandi		2173
Bower	Jerry		2000, 2173
Bower	Kathy		2173
Bowers	Carol		2131
Bowers	Jack		2173
Bowers	Krista		2131
Bowes	Deborah		2173
Bowie	Martin		2131
Bowland	Denise		2131
Bowlby	Mary Maggard		2173
Bowler	Mary		0164
Bowles	Christine		2173
Bowles	Michele		2000
Bowles	Thomas		2131
Bowling	Beth		2173
Bowling	Lori		2173
Bowman	Claudia		2173
Bowman	Diane		2031
Bowman	DVonne		2173
Bowman	Gerald		2302
Bowman	Juli		2173
Bowman	Lee		2173
Bowman	Linda		2173(u)
Bowman	Mae		2000
Bowman	Matt		2031(u)
Bowman	Ronald		2131(1), 2173
Bowman	Ryland		2173
Bowman	Toni		2173
Bown	Joel		2131
Bowron	Alice		2173(u)
Bowser	Marea		2131
Bowser	Margery		2131
Bowser	Steve		2173
Bowsher	Dixie		2173
Boxer	Rachel		2173
Boyan	Conor		2173
Boyce	Brady		2173
Boyce	Peta		2173
Boyce	Shirley		2131, 2173
Boyd	Anja		2173
Boyd	Anthony		2173
Boyd	Bill		2173
Boyd	Brenda		2173
Boyd	Carol		2173
Boyd	Jane		2131
Boyd	Leah		2131(u)
Boyd	Michael		0078
Boyd	Rod		2173

Last Name	First Name	Org	CIN
Boyd	William		2131
Boyd-Durkee	Linda		2173
Boyden	Richard		2131
Boydston	Charlene		2131
Boydstun	Evelyn		2173
Boyer	Cassandra		2031(u)
Boyer	Cathy/ Catherine		2131(1), 2173
Boyer	David		2000, 2131, 2312
Boyer	Don		2173
Boyer	Francesca		2173
Boyer	Jess/Jessica		2000, 2173
Boyer	Kathleen		2173
Boyer	Robert		2000, 2131, 2173
Boyer	Tod		2173
Boyett	Marta		2173
Boyette	Jimandkaren		2173
Boykiw	Russel		2173
Boyle	Dennis		2173
Boyle	Lucia		2131
Boyle	Nancy		2173
Boyles	Jack		2173
Boyles	Langston		2173
Boylston	Sandra		2000, 2131
Boyne	Jonathan		2000
Boza	Mario A.		2000
Bozhko	Natalia		2131(1)
Bozzelli	James		2173
Bozzy	Jill		2173
Braaten	Chrystyne		2173
Brabham	Lorraine		2173
Brabson	Bill		2173
Bracamontes	Tiffany		2173
Bracciotti	Federica		2000
Brachman	Phyllis		2173
Bracken	Fay		2173
Bracken	Sarah		2000, 2173
Brackenbury	Hank & Joi	7J Ranch	0007
Bradach	Roberta		2173
Bradbury	Theresa		2173
Braddock	Rebecca		2173
Braddy	Orlin		2173
Braden	Denise		2131, 2173
Bradford	Anthony		2173
Bradford	Lauriann		2000, 2165
Bradford	Leslie		2000, 2173
Bradford	Nancy		2173
Bradford	Shanna		2173
Bradford	Teresa		2000
Bradlee	Todd		0274
Bradley	Alistair		2173
Bradley	Ann		2173
Bradley	Chery		2131
Bradley	James & Alice		2000
Bradley	Jennifer		2173
Bradley	Katharine		2173
Bradley	Kenn		2131
Bradley	Lisa		2173
Bradley	Rhonda		2000, 2173
Bradley	Stacey		2173
Bradley	Teresa		2173
Bradshaw	David		2173
Bradshaw	Elizabeth		2173
Bradshaw	Jacqui		2000, 2131, 2173
Bradshaw	Mary Ellen		2173
Bradshaw	Susan		2000(1)
Bradsher	Whitney-Bear		2173(u)
Bradway	Tyrus		2131
Brady	Bill		2173
Brady	Dixie		2173
Brady	James		2173
Brady	Katie		2000, 2173
Brady	Maureen		2173
Brady	Shelly		2173
Brady	Tom & Nikki		2173
Braga	Sarah		2173
Bragg	Jason		2173
Bragg	Sandra		2173
Braham	Brenda		2173
Braham	Tammy		2173
Brainard	Verna		2173(u)
Braithwaite	Georgia		2131
Braithwaite	Ruth		2173

Last Name	First Name	Org	CIN
Braly	Carol		2131
Bramlett	Larry		2131
Bramlette	Jenny		2000, 2173
Bramm	Claudia		2173
Bramson	Joanne		2173
Branagan	Kelly		2131
Branca	C		2173
Brancato	Nick		2031(u)
Branch	Pat		2173
Branco	Leslie		2173
Brand	Dennis		2000, 2173
Brand	Marilee		2173
Branderhorst	Gaya		2173
Brandes	Corey		2131
Brandes	Germano		2131, 2173
Brandes	Michael		2173
Brandes	Robert		2173
Brandes	Tom		2173
Brandi	Diana		2173
Brandler	Barbara		2000
Brandlin	Sean		2173
Brandner	Julia		2000
Brandon	Dana		2000
Brandon	Pam		2173
Brandon	Sara		2000
Brandt	Michelle		2173
Brandt	Sara		2131
Brandt	Sara		2173
Branham	Jill		2173
Brann	Paula		2173
Brannigan	Kelly		2173
Brannin	Tamara		2173
Brannon	Elizabeth		2000, 2131, 2173
Brans	Cathy		2173
Bransen	Jacquelyn		2131
Bransom	Linda		2173
Brant	Karen		2000(1)
Brantley	Tara		2000
Branyan	Jane		2173
Braoudakis	Spyros		2000, 2173
Brash	Laura		2173
Brasher	Jay		2312
Brasuer	Nicholas		2031(u)
Braswell	Ann		2131
Bratkowsky	Joan		2173
Bratty	Karen		2173
Braude	Michael		2173
Braue	Billie		2173
Brauer	A.		2000
Brauer	Ann		2131
Brault	Phyllis		2173
Braun	Beth		2173
Braun	Gregory		2131
Braun	Jill		2131
Braunlich	Julie		2000(1)
Bravo	Gloria		2000, 2173
Bravo	Ireri		2131
Bravo	Karen		2000, 2173
Brawner	Eve Reshetnik		2131
Brawner	Geric		2131, 2173
Bray	Karen		2131
Bray	Sherri		2173
Bray	Zoe		2131
Brazeal	Donna		2173
Brazelton	Steve		2031
Brazen	Colleena		2173
Brazin	Elaine		2173
Brazis	Chris		2000(1)
Brazis	Christine		2131, 2173
Brazzil	Tina		2173
Breakey	John		2173
Breakstone	Kay		2173
Brean	Sherri		2031(u)
Breaux	Fayla		2173
Breaz	George		0077
Breazeale-Baer	Renee		2173
Brebner	Alexander		2173
Brech	Patricia		2000
Brechtel	Carl	Corvus Gold Nevada Inc	6021
Brechtel	Felicia		2173
Brechter	Liz		2173
Breda	Bo		2173
Bree	John		2131
Breed	David		2131

Last Name	First Name	Org	CIN
Breedlove	Lori		2173
Breen	Robert		2173
Breeze	Jeannie		2173
Brehm	Joyce		2173
Brehm	Lisa		2000, 2173
Breiding	Stephanie		2131
Breitkreuz	Paul		2173
Brekken	Rosanne		2173
Bremer	John		2000
Bremfoerder-Michels	Kendra		2173
Bremmer	Cheli		2173
Brenke	Alexandra		2173
Brennan	Gayle		2173
Brennan	James		2173
Brennan	Jennifer		2173
Brennan	Judy		2173
Brennan	Katy		2173
Brennan	Margot		2173
Brennan	Noel-Anne		2173
Brennecke	Jenise		2173
Brenneis	Aida		2173
Brenneman	Luke		2131
Brenner	David		2173
Brenner	Jared		2000
Brenner	Natasha		2173
Brenner	Teresa		2173
Brenner	Thomas		2173
Brenon	Belinda		2173
Brenteson	Renee		2131
Brentlinger	Herbert		2131
Brenton	Becky		2031
Brents	Julie		2131
Bresette	Michelle		2031(u)
Bresnahan	Jerry		2173
Bresnan	L		2173
Bressler-Lemons	Robin		2173
Breton	Colette		2173
Brett	Keelin		2173
Brett	Shannon		2031(u)
Bretz	Wanda		2173
Breuer	Ann		2173
Breuer	Eduard		2173
Brewer	Anna		2131
Brewer	Byron		2319
Brewer	Clay	Wild Sheep Program	6009
Brewer	Deborah		2173
Brewer	John		2000, 2131, 2173(1)
Brewer	John		2173
Brewer	Judy		2173(u)
Brewer	Kelly		2131
Brewer	Laurel		2173
Brewer	Mickey		2131
Brewer	Suzanne		2173
Brewster	Richard		2173
Brex	Lois		2173
Brexel Sr.	Charles		2131
Breyman	Steve		2173
Breznik	Ivana		2000
Bria	Rosemarie		2173
Brian's	Marta		2173
Brickey	Peter		2173
Brickman	Judith		2173
Bridenstine	Dennis		2000
Bridges	Gary		2173
Bridges	Linda		2173(u)
Bridges	Linda		2000
Bridges	Robert		2131
Bridges	Susan		2173
Brierton	Jocelyn		2173
Brigandi	Joseph		2173
Briggs	Carolyn		2173
Briggs	Debbie		2000
Briggs	Deirdre		2173
Briggs	Martha		2131
Briggs	Mary		2173
Briggs	Nancy		2173
Briggs	Sandra		2173
Briggs	Scott		2131(u)
Brigham	Cathy		2173
Brigham	Paul		2173(u)
Brigham	Rick		2173
Bright	Bettye		2000
Bright	Debbie		2000
Brightman	Patsy		2173
Brigitte	Leroy		2000
Brijalba	Kindall		2000
Briley	Samantha		2173

Last Name	First Name	Org	CIN
Brill	Gary		2173
Brill	Jim		2000
Brillet	Matthieu		2173
Brimecombe	Lynne		2173
Brimm	Martha		2173
Brincka	Frank		2173
Brinker	Debra		2173
Brinkers	Geraldine		2131
Brinkley	Jennifer		2173
Brinkley	Randi		2173
Brinkley	Ursula		2173
Brinkman	John		2000, 2173
Brinkman	Lisabette		2000, 2173
Brinkmann	Patricia		2173
Brinson	Damon		2173
Brinson	Karen		2173
Brinton	Christiana		2173
Briones	Marilyn		2173
Briscoe	James		2131
Briscoe	John		2173
Brisson	Norm		2131
Brister	Bob		2000
Bristow	Alec		2000
Bristow	Gloria		2000
Bristow	Mary		2173
Britcher	Joyce		2173
Brite	Kathy		2173
Britt	Kathy		2173
Britton	Bill		2173
Britton	Catherine		2000
Britton	Joanne		2000, 2173
Britton	Laura		2173
Britton	Marilyn		2173
Britton	Ruth		2173
Britton	Sandra		2000
Britton	William		2131
Britzius	Alexander		2173
Brizard	Irene		2173
Brizendine	Shala		2173
Broadbeck	Virginia		2173
Broadbent	Dawn		2131(u), 2173
Broadhead	Susan		2173
Broadhurst	Sally		2000
Broccardo	Julia		2173(u)
Broccolo	Jane		2173
Broche	Leora		2131(1), 2173
Brocious	Pamela		2000
Brock	Brenda		2173
Brock	Catherine		2173
Brock	Chelsea		2173
Brock	D		2173
Brock	Jon		2000
Brock	Robert		2173
Brock	Valerie		2173
Brock	William		2131
Brockell	Barbara		2173
Brockgreitens	Dorothy		2131, 2173
Brockunier	Karen		2131
Brockway	Christi		2173
Brod	Natalie		2173(u)
Broda	Patricia		2000
Broderick	Kathleen		2173
Brodesser	Reinhard		0146
Brodie	Robert		2173
Brodsky	Enid		2131
Broeckx	Heather		2173
Broendel	Jane		2173
Broker	Sandy		2131
Broll	Carol		2173
Brombach	Elizabeth		2173
Bromberg	Glenda		2173
Brong	Mary		2173
Bronson	Wendy		2131
Bronzan	C.T.		2131
Brook	Claire		2173
Brook	Roger		2173
Brooke	Cheryl		2173
Brooke	Pat		2173
Brooke	Shirey		2173
Brooker	Eric		2312
Brooker	Gary		2131
Brooker	Mark		2173
Brookfield	Nicole		2173(u)
Brookins	Lura		2131
Brooks	Aspen		2131(u)
Brooks	Ben		2000
Brooks	Catherine		2173
Brooks	Colette		2131

Last Name	First Name	Org	CIN
Brooks	Cynthia		2173
Brooks	Darlene		2000
Brooks	David		2173
Brooks	Dianne		2173
Brooks	Donna		2173
Brooks	Dorothy Lynn		2173
Brooks	Elizabeth		2173(u)
Brooks	Janice		2173
Brooks	Jaxon		2173
Brooks	Jillian		2131
Brooks	Karl		2173
Brooks	Kathryn H		2131, 2173
Brooks	Kathy		2173
Brooks	Kerensa		2122
Brooks	Kim		2131
Brooks	Marnie		2131
Brooks	Marsha		2173
Brooks	Paul		2000, 2173
Brooks	Penny		2173
Brooks	Scott S.	none	0207
Brooks	Virginia		2173
Brooks-Fetty	Cynthia		2131, 2173
Brookstein	Jesse		2173
Broome	Leeza		2173
Brophy	Eileen		2173
Brophy	Heather		2173(u)
Brophy	Tracy		2173
Brose	Janice		2000, 2173

Last Name	First Name	Org	CIN
Brosiusjr	Robert		2173
Broski	Jay		2173
Brostek	Nicole		2000
Broten	Lucas		2131
Brotman	Carol		2173
Brotman	Jill		2173
Brough	Andy		2031
Broughton	Beatrice		2173
Broussard	Irene		2000
Brovarone	Barbara		2173
Brovold	Kristine		2173
Brower	Magaly		2173
Brown	Barbara		2173
Brown	Bonnie Jean		2173
Brown	Brian		2173
Brown	Bubba		2173
Brown	Candace		2173
Brown	Cari		2173
Brown	Carolyn		2173
Brown	Carolyn		2131
Brown	Casey		2000(u)
Brown	Cecilia		2173
Brown	Christine		2173
Brown	Cindy		2173
Brown	Cordale		2173
Brown	Cynthia		2173
Brown	D		2173
Brown	Damon		2000
Brown	Daniel		2131(1)
Brown	Dannis		2173
Brown	Danny		2173

Last Name	First Name	Org	CIN
Brown	Daryl		2173
Brown	Denise		2131, 2173
Brown	Denise		2173
Brown	Dick		2173
Brown	Donna		2173
Brown	Donna		2173
Brown	Dorothy		2173
Brown	Duncan		2131(1), 2173
Brown	Elaine		2131
Brown	Eliot		2131
Brown	Elizabeth		2173
Brown	Elizabeth		2255
Brown	Felina		2173
Brown	Georgia		2131
Brown	Gillian		2000
Brown	Harold		2173
Brown	Harold		2173
Brown	Heather		2031(u)
Brown	Ian		2173
Brown	James		2173
Brown	James		2173
Brown	James		2173
Brown	Jan		2000
Brown	Janice		2000, 2131
Brown	Jeffrey		2131
Brown	Jeffrey		2131
Brown	Jennifer		2031
Brown	Jerilyn		2173
Brown	John		2131

Last Name	First Name	Org	CIN
Brown	Joseph		2173
Brown	Josh		2173
Brown	Julie		2131
Brown	Kaitlyn		2173
Brown	Ken W.		2173
Brown	Kristina		2173
Brown	Leigh		2173
Brown	Leslie Danielle		2000, 2131, 2173
Brown	Linda		2000, 2131, 2173
Brown	Linda		2173
Brown	Lindsey		2031
Brown	Lisa		2131
Brown	Lisi		2173
Brown	Lori		2131
Brown	Louise		2173
Brown	Lynn		2173
Brown	Marcy		2031(u)
Brown	Margaret		2173
Brown	Marilyn		2000
Brown	Martha		2173
Brown	Mary		2131
Brown	Max		2312
Brown	Max		2173
Brown	Michelle		2173(u)
Brown	Mika		2173
Brown	Nancy		2173
Brown	Natalie		2173
Brown	Nathan		2131
Brown	Pamela		2173
Brown	Patricia		2173
Brown	Patricia		2173
Brown	Patrick		2172
Brown	Paul		2173
Brown	Rachael		2085
Brown	Rebecca		2173
Brown	Regina		2000
Brown	Robert		2173
Brown	Robert		2131
Brown	Rodney		2173
Brown	Ronald		2131, 2173
Brown	Sally		2173
Brown	Sarah		2173
Brown	Sherrill		2173
Brown	Stephen		2173(u)
Brown	Steve		2031(u)
Brown	Steven		2173
Brown	Susan		2131(1)
Brown	Sylvia		2173
Brown	Sylvia		2131
Brown	T		2173
Brown	Taylor		2173
Brown	Terrance George		2173
Brown	Thomas		2131
Brown	Thomas		2173
Brown	Tina		2173
Brown	Valerie		2173
Brown	Vanessa		2131
Brown	Vera		2173
Brown	Vicki		2173
Browndog	Lila		2173
Browne	Brooks		2173(u)
Browne	Mary		2000
Browne	Thomas		2173
Brownell	Audrey		2131
Brownell	Deirdre		2173
Brownewall	Miriam		2173
Browning	Cassandra		2173
Browning	Marjorie		2000, 2131, 2173
Browning	Patricia		2173
Browning	Tim		2173
Brownlee	Cathy		2000, 2173
Brown-Nesbit	Parker		2173
Brownridge	Alyce		0328
Brownridge	Dennis		0139
Brown-Silveira	Janice		2031(u)
Brown-Silveira	Janice		2031(u)
Brownson	Carol		2000
Brownstein	Carol		2173
Brown-Wagner	Marie		2131
Broyles	John		2131
Brozek	Celestyn		2131
Brubaker	Aaron		2173
Brubaker	Sandy		2173
Bruce	Carol		2131
Bruce	Dorothy		2173

Last Name	First Name	Org	CIN
Bruce	Neville		2131, 2173
Bruch	John		2000
Brucker	Bob		2173
Bruckert	Claudia		2173
Brueckner	Hannes		2188
Bruess	Laura		2000
Bruhn	Jean		2173
Brukner	Barbara		2312
Brultz	David		2173
Brumleve	Gail		2173
Brunell	Barbara		2173
Brunell	Eva		2031(u)
Bruner	Deborah		2131
Brunetti	Emilio		2000, 2131
Brungardt	Paula		2000
Bruni	Curzio		2173
Brunick	Cathy		2000, 2173
Brunning	James		2173
Bruno	Jeanne		2173
Bruno	Kimberly		2173
Bruno	Mark		2131
Brunson	Jennifer		2173
Brunson	K		2173
Brunson	Trixie		2173
Brunt	Terry		2173
Brunton	James		2173
Brupbacher	Elizabeth		2173
Brush	George		2061
Brusin	Eugene		2173

Last Name	First Name	Org	CIN
Bruton	Gayle		2131
Bryan	Annette		2173
Bryan	Bruce		2173
Bryan	Chris		2173
Bryan	Judy		2173
Bryan	Karol		2000, 2173
Bryan	Lori		2131
Bryan	Pat		2173
Bryan Jr	Sam		2173
Bryant	Amanda		2031(u)
Bryant	Bill		2173
Bryant	Carol		2173
Bryant	Debra		2173
Bryant	Elizabeth		2173
Bryant	Gloria		2187
Bryant	Mike		2312
Bryant	Pam		2173
Bryant	Pamela		2131
Bryant	Ross and Lori		2131
Bryant	Wylie		2173
Bryarly	Cathy		2173
Brydges	Sara		2173
Bryman	Holly		2173
Bryson	Emma		2131
Brzak	Cynthia		2173
Brzezicki	Cara		2173
Brzezinski	Matt		2173
Brzostek	Renee		2000
Brzozowski	Martha		2131

Last Name	First Name	Org	CIN
Bubala	Louis		2054
Bubala	Zora		2031(u)
Bubb	Donna		2000
Bubier	David		2173(u)
Bucci	Paola		2173
Buch	Anthony		2131, 2173
Buchan	Martha		2173
Buchanan	Anne		2173
Buchanan	Catherine L		3054
Buchanan	Paul		2173
Buchanan	Scott		2173
Buchanan	Sharon		2173
Buchanan	Tim		0028
Bucher	Donna		2173
Bucher	Hans		2131
Bucher	Ingrid		2131
Bucher	Robert		2173
Bucher	Sid		2131
Buchholz	Douglas		2173
Buchinger	Elisabeth		2000
Buchko	Suzanne		2173(u)
Buchman	Barbara		2173
Buchman	Linda		2131
Buck	Carol		2131
Buck	Jean		2131
Buck	Joyce		2173
Buck	Larry		2173(u)
Buck	Michelle		2031(u)
Buck	Pamela		2173
Buckel	Lynne		2173

Last Name	First Name	Org	CIN
Buckholdt	Stephanie		2173
Buckingham	Justin		2173
Buckler	Deborah		2173
Buckler	Lori		2131, 2173
Buckley	Barbara		2173
Buckley	Chris		2173
Buckley	Dianne		2131
Buckley	Jean		2173(u)
Buckley	Joan		2173
Buckley	Kathleen		2173
Buckley	Leo		2000
Buckley	Phyllis		2173
Bucknell	Christian		2000
Buckner	Carla		2173
Bucko	Brendan		2000(u), 2131
Bucko	Irene		2173
Bucolo	James		2173
Bucolo	Richard		2173
Buczkowske	Cynthia		2173
Buda	Anthony		2131
Buda	Janet		2173
Budde	Jessica		2000, 2173
Budde	Sharon		2173
Buddes	Shannon		2173
Budge	Judy		2173
Budin	Ilene		2173
Budnick	Mark		2173
Budnik	Bradley		2173
Budoff	Roslynn		2131
Budrewicz	Anne		2173
Budts	Marc		2173
Buelna-Pastor	Jean		2131
Bueno	Trinity		2031
Buerger	Michelle		2000
Buergermeister	Sabine		2000
Buffington	Carol		2131
Buffum	Susan		2131
Buford	Vickie		2173
Buhaissi	Eyad		2173
Buhan	Mechelle		2173
Buhlman	Lori		2131
Buhowsky	Joe/Joseph		2131, 2173
Builder	Erika		2173
Bukenberger	Katina		2173
Bukovanska	Hana		2173
Bukowski	Nancy		2173
Bulger	Hayley		2173
Bulicek	Cathyrn		2173
Bulington	Shannon		2000
Bull	Sherron		2173(u)
Bullard	Ross		2235
Bulloch	Ally		2173
Bullock	Mareye		2131
Bumbak	Anne		2173
Bumford	Magdalene		2173
Bumgarner	Janine		2173(u)
Bumguardner	Eddie		2131
Bunce	Denise		2173
Bundorf	Judy		0137
Buness	Cynthia		2131
Bungarden	Jim		2173
Bungarz	Kathleen		2131, 2173
Bunge	Lititia		2173
Bunin	Jerry		2173
Bunker	Jeanne		2173
Bunnell	Michael		2173
Bunting	Mary		2131, 2173
Bunton	Lin		2173
Buono	Carmen Dello		2173(u)
Buono	Michael		2000(1)
Buran	Bentley		2173
Buratowski	Julia		2173
Burbage	Lacey		2031(u)
Burbank	Walter		2312
Burbes	Judi		2173
Burby	Leslie		2000
Burch	K		2199
Burch	Kathy		2173
Burch	Kimberly		2173
Burch	Lilian		2173
Burda	Heather Hamilton		2000
Burdick	Amanda		2173
Burek-Faber	Mary		2173
Buresh	Stephanie		2173
Burgdorf	Jeri		2173
Burge	Laura		2173
Burge	Sharon		2173

Last Name	First Name	Org	CIN
Burger	Wolfgang		2173
Burgering	Jacques		2173
Burgess	Ian		2173
Burgess	K. H.		2000, 2131
Burgess	Kat		2173
Burgess	Melinda		2173
Burgess	Sara		2173
Burget	Sally		2131
Burgio	Angela		2173
Buri	Philip		2173
Burk	Amanda		2173
Burkard	Staci		2173(u)
Burke	Adam		2173
Burke	Bonnie Margay		2000
Burke	Gary		2312
Burke	Kathleen		2131
Burke	Linda		2173
Burke	Lyn		2173
Burke	Mary		2173
Burke	Michele		2173
Burke	Rachel		2173
Burkeland-Lie	Marit		2173
Burkey	Bruce		2173
Burkey	Erin		2000
Burkhard	Nancy		2173
Burkhardt	Angela		2131
Burkhardt	Kerry		2173
Burkhart	Kathryn		2173
Burkhart	Linda		2173
Burkhart	Victoria		2173
Burks	Jess		2173
Burks	Michael		2173
Burks	Robert		2173
Burlew	Jessica		2173
Burlingame	Todd		2173
Burman	Lionel		2173
Burman	Ruth		2173
Burmester	Michael		2131
Burmester	Rebecca		2131
Burnash	George		2173
Burnes	Janine		2131
Burnett	Gerald		2173
Burnett	Nicole		2173
Burnett	Rex		2000
Burnett	Robert		2000
Burnett	Sandra		2173
Burnett	Susan		2173
Burnham	R. Peter		2173
Burnham	Zeinob		2173
Burningham	Lee		2000
Burnley	Laura		2173
Burns	Bob		2173
Burns	Bruce		2000
Burns	C.		2173
Burns	Carla		2173
Burns	Charlie		2000, 2173
Burns	David		2173
Burns	Donna		2173
Burns	Gail		2173
Burns	Jerry		2173
Burns	Lalie		2173
Burns	Laurel		2173
Burns	Nick		0134, 0184
Burns	Peggy		2173
Burns	Rex		2131
Burns	Susan		2131, 2173
Burns	Tim		2173
Burpo	Leslie		2000, 2173
Burr	Brandon		2131, 2173
Burr	Charlotte		2131
Burr	Sidney		2173(u)
Burr	Tim		2312
Burr	Tina		2173
Burrell	Donna		2173
Burrell	Steven		2131
Burri	Carrie		2173
Burris	Tina		2173
Burris	Virginia		2173(u)
Burritt	Judith		2173
Burritt	Kenneth		2173
Burr-Lonnon	Jacqueline		2173
Burroughs	Allison		2031
Burroughs	Krystal		2173
Burroughs	Patricia		2173
Burrowes	Stefany		2131
Burrows	Donna		2173
Burrows	Janet		2131, 2173

Last Name	First Name	Org	CIN
Burrus	Wendy		2031(u)
Burshuliak	Gene		2173
Bursler	Mildred		2000(1)
Burson	Grace		2173
Burt	Barbara		2173
Burt	John		2131
Burt	Michael		2173
Burt	Robyn		2173
Burt	Susan		2173
Burton	Jordan		2173
Burton	Larry		2031(u)
Burton	Marlene		2173
Burton	Scott		2173
Burton	Vic		2173
Burval	Peter		2131, 2173
Burwasser	David		2173
Bury	Harry		2173
Busani-Perez	Elena		2173
Busby	Michael		2173
Buscemi	Donna		2173
Busch	Doug		2131
Busch	Grace		2173
Busching	William		2173
Busell	Janet		2173
Bush	Barbara		2131
Bush	Claire		2173
Bush	Constance		2173
Bush	Cris		2000
Bush	Jacqueline		2000
Bush	Jim		2312
Bush	John		2173
Bush	Julie		2000, 2173
Bush	Millie		2173
Bush	Sam		2000
Bushaw	Michael		2173
Bushbaum	Alan		2173
Bushey	Tory		2173
Bush-Luna	Cyndi		2131(u)
Bushman-Copp	Lily		2173
Bushnell	Martha W D		2131
Bushnell	Sharon		2031(u)
Bushur	Payton		2031(u)
Bushway	Cindy		2173
Bushyhead	Dale		2173
Buskirk	Dale		2131
Busler	Michele		2173
Buslot	Chantal		2000
Buss	William		2131
Busse	Judith		2000, 2131
Busse	Kenneth		2173
Bussing	Lenore		2000
Busso	Nancy		2173
Bustamante	Maria		2131
Bustani	Hooman		2131
Buster	Charlotte		2000
Busterna	Rosemary/Rose		2131, 2173
Bustya	Ed		2131
Busuttil-Cashman	Olivia		2173
Butch	Elizabeth		2173
Butche	Julie		2173
Butcher	John		2173
Butcher	Lauren		2173
Butcoff	Joe		2319
Butkiewicz	Mike		2173
Butland	Celine		2173
Butler	Carolina and Walker		2131
Butler	Connie		2173
Butler	Deirdre		2173(u)
Butler	Elizabeth		2173
Butler	Jonny		2173
Butler	Karla		2173
Butler	Lisa		2131
Butler	Michelle		2312
Butler	Patti		3062
Butler	Paul and Patti		0193
Butler	Rich		2173
Butler	Ron		2173
Butler	Sam		2000, 2173
Butler	Seaera		2173
Butler	Taz		2000
Butler	Teri		2173
Butler	Tim		2000
Butler	Tom		2000
Butler	Vicki		2173
Butler scientist	William and Nancy		2131
Buttaccio	Freddie		2173

Last Name	First Name	Org	CIN
Butters	Arlene		2173
Button	Jennifer		2131
Button	Olivia		2173
Butz	Cheryl		2173
Butz	Myla		2173
Butz	Robert		2173
Buydos	Geary		2000
Buys	Monique		2173
Buzick	Dwight		2173
BVD	J.		2173
Byerley	Jay		2131
Byers	Denise		2131
Byers	Justine		0259
Byers	Nancy		2000
Byers	Sherry		2173
Byers	Shirley Drake		2000
Byford	John		2173
Byington	William		2173
Byknish	Chris		2173(1)
Bylciw	Vicky		2173
Byman	David		2173(u)
Bynum	Leanne		2173
Byrd	Darlene		2173
Byrne	Anthony		2173
Byrne	Charles		2000
Byrne	Dave		2173
Byrne	Elaine		2173
Byrne	Nick		2000
Byrnes	Ellen		2173
Byrnes	Richard		2173
Byron	Randi		2173
Byrum	Mike		2173
Byrum	Nancy		2173
Bywater	Sandra		2173

C

Last Name	First Name	Org	CIN
C	C		2173
C	C		2173
C	Candice		2173
C	D		2173
C	Dan		2173
C	F		2173
C	Laura		2000
C	Lori		2173
C.	D.		2173
C.	Joe		2000
C.	Julianne		2173
C.	Lynne		2000
C.	Shruti		2131
Caballero	Juliette		2000
Caballero	Lucia		2173
Caballero	Nicolas		2000
Cabanban	Linda		2173
Cabanban	Robert		2173
Cabell	Cynthia		2173
Cabot	Cate		2131
Cabrera	Alex		0141
Cabrera	Heather A		2131
Caccavale	Carol		2173
Cacciabando	Jill		2173
Caccioli	Raymond		2031(u)
Cachopo	Patricia		2173
Cacioppo	Judy		2173
Cacoullos	Nike		2000
Cade	Tina		2173
Cadman	Rebecca		2173
Cadoret	Jan		2173
Cadwell	Summer		2173
Cady	Deborah		2173
Cafarelli	Cenie		2131
Cafeo	Anthony		2031(u)
Caffaro	Dolores		2173
Caffrey	Jim		2131
Cage	Ray		2131
Cagianello	Nicholas		2173
Cahill	Eugene		2173
Cahill	Victoria		2131
Cahn	Elaine		2173
Cahue	Lila		2000
Caiazzo	Joan		2173
Cain	Anthony		2173
Cain	Barbara		2173
Cain	Doug		2131
Cain	Gerrick		2319
Cain	Mary		2131
Cain	Melissa	Western Watersheds Project	6031
Cain	Traci Hamilton		2173
Caire	Janet		2131
Cairns	Rachel		2000
Calabi	Carlo		2173
Calabrese	Elaina		2173

Last Name	First Name	Org	CIN
Calabrese	Janet		2173
Calagna	Nancy		2173
Calambro	Leslie		2173
Calamnius	Elsabritt		2173
Calcagno	Guillermo		2173
Caldararo	Dwight		2173
Calder	Julio		2173
Calderon	Edye		2173
Calderon	Inez		2173
Calderon	Jesse		2173
Calderon	Nadja		2173
Calderone	Diana		2173
Calderwood	Grace		2173
Caldie	Cathy		2173
Caldow	Judy		2173
Caldwell	Elisabeth Gambill		2173
Caldwell	Jerry		2173
Caldwell	Jill		2000, 2173
Caldwell	Kaci		2000(1), 2173
Caldwell	Mary		2000
Caldwell	Stephen		2131
Calef	Ursula		2173
Calero	Stephanie		2173
Calhoun	Becky		2000
Calhoun	Jared		2173
Calicura	Gina		2173
Calkins	Cynthia		2173
Calkins	Debra		2173
Call	Beth		2173
Call	Elizabeth		2131, 2173
Call	Rebecca		2173
Callace	Jeanine		2173
Callahan	Charles		2173(u)
Callahan	Chris		2173
Callahan	Ellen		2173
Callahan	Frances		2173
Callahan	Gloria		2173
Callahan	Kara		2173
Callahan	Robert		2173
Callahan	Sharon		2173
Callahan	Tyler		2173
Callanan	Patrick		2173
Callander	Karin		2173
Callaway	Larry		2173
Callaway	Sharrell		2173
Calle	Cristina		2000
Callesen	Danielle		2131, 2173
Calliari	Cheryl		2173
Callison	Jim		2131(1)
Callison	Ron/Ronald		2131, 2319
Callista	Lynda		2173
Callovi	Ivan		2173
Calmes	Ariel		2173
Caltagirone	Kris		2173
Calvert	Chris		2000, 2131
Calvert	Christopher		2173
Calvert	Grace		2173
Calvo	Jeannette		2131
Calzetta	Giancarla		2173
Cama	L		2131
Camara	Wanda		2173
Camaraota	J.		2173
Camarata	Anna		2173
Camarillo	Carolina		2173
Camarillo	Laura		2173
Camel	Nancy		2173
Camera	Silvana Della		2173
Cameron	Cami		2173
Cameron	Catherine		2173
Cameron	Debra		2000, 2131
Cameron	Helen		2173
Cameron	Janice		2173
Cameron	Joan		2173
Cameron	Linda		2173
Cameron	Lydia		2173
Cameron	Pauline		2173
Cameron	Rory		2312
Cameron	Sandy		2173
Cameron	Sandy		2173
Cameron	Teena		2173
Camino	Abril Novoa		2173
Cammel	Ron		2312
Cammett	Kathleen		2173
Cammisa-Parks	Helen		2173
Camp	Gary		2173
Camp	Linda		2000
Campagna	Jim		2173
Campanella	Sharon		2000
Campanelli	Patti		2173

Last Name	First Name	Org	CIN
Campaner	Fulvia		2173
Campbell	Allan		2173
Campbell	Allen		3002
Campbell	Amber		2131
Campbell	Ben		2173
Campbell	Blair		2131
Campbell	Charles		2173
Campbell	Chris		2173(u)
Campbell	David		2173
Campbell	Dudley & Candace		2173
Campbell	Elena		2173
Campbell	Gail		2173
Campbell	Grant		2173
Campbell	James		2173
Campbell	James		2131
Campbell	Jan		2173
Campbell	John		2173
Campbell	Joni		2173
Campbell	Joyce		2173
Campbell	June		2000
Campbell	Kay		2000
Campbell	Kimberly		2173
Campbell	Kristin		2000
Campbell	Laura		2173
Campbell	Laura		0266
Campbell	Len		2173
Campbell	Linda		2173
Campbell	Lisa		2173
Campbell	Marie		2131
Campbell	Marta		2173
Campbell	Mary		2173
Campbell	Morgan		2173
Campbell	Nancy		2000
Campbell	Shi-Lynn		2031(u)
Campbell	Susan		2000
Campbell	Therese		2131
Campbell	Thomas		2173
Campbell	Trina		2131
Campbell-Symoms	Patricia		2173
Campion	Patrice		2173
Campitelli	Kristie		2000, 2131
Campo	Judith		2173
Camponeschi	Mindy		2173
Camus	Nathalie		2173
Camuso	Kim		2173
Camuti	Tony		2000
Canada	Curtis		2131
Canada II	Riley		2000, 2173
Canavan	Rachael		2173
Cancell	June		2000, 2131
Candelaria	Maria		2131, 2173
Cane	Mackenzie		2131
Canejo	Theresa		2173
Canete	Shari		2173
Canete	Shari		2000
Canfield	Skip	Nevada State Clearing-house	5004(1)
Canfield	Skip	Nevada Division of State Lands	5007(1)
Canfil	Ellen		2312
Canipe	Kara		2173
Cannara	A.		2173
Cannella	Carrie Morgan		2131
Canneto	Rose		2173
Canning	Tom		2173(u)
Cannon	Barbara		2173
Cannon	Frank		2173
Cannon	John		2173
Cannon	Miki		2173
Cannon	Thomas		2173
Canny	Brian		2173(u)
Cano	Marian		2173
Cano	Paula		2000
Canright	Mark		2000
Canright	Rebecca		2000, 2173
Cantara	Gary		2000
Canter	M		2173
Cantino	Carol		2031(u)
Cantino	J.		2173
Cantor	Miriam		2173
Cantrell	Anna		2173
Cantrell	Carol		2131
Cantrell	Eileen		2173
Cantrell	Sandra		2173
Cantrell	Vicki		2173
Cantrill	Jim		0315

Last Name	First Name	Org	CIN
Cantu	Eva		2173
Cantu	Gloria		2131
Cantu	Roel		2173
Cantwell	Grant		2131
Canty	Ken		2173
Caolo	Rosemary		2173
Capaccio	Robert		2173
Capalbo	Rosanne		2173
Capaldo	Christine		2131, 2173
Capasso	Bill		2000, 2173
Capasso	Gianna		2173
Cape	Donna		2000
Cape	Kathleen		2173
Capelle	Kathy		2131
Capello	Joseph		2173
Capeloto	L		2173
Capitolo	Linda		2173
Caplan	Alan		2131
Caplan	Vicki		2000
Caplinger	Beth		2031(u)
Capobianco	Anthony		2173
Capone	Michael		2173
Capowich	Suzanne		2173
Cappella	Joyce		2173
Cappella	L		2173
Cappello	Dan		2173
Cappi	Silvia		2000
Capps	Corky		2131
Capps	Joshua		2173
Capps	Julie		2173
Capps	Tracy		2173
Capra	Michele		2173
Capretti	Francesca		2173
Caprio	Marisa		2173
Caprio	Valeri		2173
Capstick	Hilary		2173
Capurro	Lyn		2000
Capute	Nobuko		2131
Caputo	Michael		2000, 2173
Caputo	Renee		2173
Carabajal	Crystal		2131
Carabelli	Enrica		2000
Caraco	Mercedes		2173
Caramanna	Vivian		2173
Caravella	JoAnne		2173(u)
Caravelli	Cyndi		2173(u)
Carbia	Vanessa		2000
Carbone	Madeline		2173
Carbone	Serena		2173
Carbonneai	Lise		2173
Carcamo	Jessica		2000
Carcasses	Patricia		2173
Carchesio	Anne		2173
Card	Charles		2173
Card	Junko		2173
Carda	Shelley		0124
Carden	Ben		2173
Cardenas	Alina		2000
Cardenas	Maria		2173
Carder	Ariadne C.		0002, 2000, 2031(u), 2131(u)
Cardiff	Edith		2131(1)
Cardiff	Lynn		2173
Cardillo	Jeanne		2173
Cardinal	Enid		2000
Cardinali	David		2131(1), 2173
Cardini	Frederick		2000
Cardona	Francheska		2173
Cardone	Bethany		2173
Cardoso	Isis		2173
Cardoso	Tania		2000
Cardwell	Nicholas		2173
Cardwell	Paul		2000
Cardyn/Avery	Mary/Don		2173
Careccia	Gabrielle		2173
Careccia	Maryfrances		2173
Carella	Michele		2173
Carey	Bradley		2131
Carey	Jackie		2173
Carey	Nancy		2000
Carey	Naomi		2173(u)
Carey	Pam		2131
Carey	Patricia		2131
Carey	Rachel		2173
Carey	Susan		2173
Carey-Kearney	David		2173
Carges	Carol		2131
Cargill	Emilia K	Coyote Springs Nevada, LLC	6022
Carhill	Bradley		2131
Cariglia	Renee		2000(1)

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Carl	Michael		2173
Carl	Nancy		2173
Carle	Ryan		0043
Carleo	Elena		2000, 2173
Carlin	Terry		2173
Carlisle	Janet		2131
Carlisle	Katherine		2000
Carlisle	Scott		2173
Carlisle	Shelley		2173
Carllson	Charles		2173(u)
Carlo	Gwendolyn		2131
Carlsom	Beth		2173
Carlson	Cathy		2173
Carlson	Dana		2131
Carlson	Debbie		2173
Carlson	Elisia		2173
Carlson	Eric		2031(u)
Carlson	Mary		2000
Carlson	Renee		2000
Carlson	Rita		2173
Carlson	Roberta		2173
Carlson	Ruth		2173
Carlson	Sandra		2131
Carlson	Stephanie		2000
Carlson	Trudy		2131
Carlstone	Darry		2173
Carlton	Deborah		2173
Carlton	Eileen		2173
Carlton	Jean		2173
Carlton	Robin		2173
Carlton	Tara		2131
Carlton	Taylor		2173
Carmack	Lindsey		2173
Carman	Ellen		2173
Carman	Heather		2173
Carmen	William		2173
Carmichael	Victor		2173
Carminati	Doreen		2173(u)
Carmody	Gloria		2173
Carmody	Jo-Ann		2173
Carmosino	Denise		2173
Carnal	Henri		2173
Carnes	Nancy		2173
Carnese	David		2131
Carney	Cheryl		2173
Carney	Michael		2173
Carney-Feldman	Catherine		2173
Caro	Yvonne		2131
Carola	Hugh		2173(u)
Carolin	Paulette		2131
Carollo-Zeuner	Christine		2173
Caron	Dianne		2173
Carosella	Christy		2000, 2173
Carosella	Joseph		2173
Carothers	Kim		2173
Carow	David		2173
Carpaneto	Daniel		2173
Carpenter	Annie		2000
Carpenter	Brittany		0074
Carpenter	Gary		2173(u)
Carpenter	George		2173
Carpenter	James		2279
Carpenter	Janet		2173
Carpenter	Jo		2173
Carpenter	John		2173
Carpenter	Michael		2131
Carpenter	Michael		2173
Carpenter	Nate		2173
Carpenter	Regina		2000
Carpenter	Steven		2000, 2173
Carpenter	Tasha		2173
Carpentier	Gloria		2173
Carpentier	James		2173
Carpozi	H Starr		2131
Carr	Barbara		2173
Carr	Beth		2173
Carr	Brian		2173(u)
Carr	D		2173
Carr	James		2131
Carr	Kathleen		2131
Carr	Laurie		2173
Carr	Rick/Richard		2131, 2173
Carr	Wayne		2173
Carraher	Patrick		2173
Carrara	Lisa		2000
Carrasco	Mariann		2000
Carreira	Adelino		2173
Carrick	Daniel		0115
Carrick	Elaine		0082, 2000, 2133
Carrier	Joseph		2173
CArrier	Paula		2173

Last Name	First Name	Org	CIN
Carrigan	Kelan		2173
Carrigan	Mary		2131
Carrigan	Sandy		2173
Carrillo	Nancy		2173
Carrington	Gilda		2173
Carrington	Martha		2173
Carrion	Yahaira		2173
Carroll	Amy Vermillion		2173
Carroll	Cassie		2173
Carroll	Cory		2131
Carroll	Daniel P.		2173
Carroll	Deborah		2173
Carroll	Jenny		2173(u)
Carroll	Joyce		2173
Carroll	Kathy		2000
Carroll	Linda		2000(u), 2173(1)
Carroll	Niall		2173
Carroll	Sara		2131(1), 2173
Carroll	Sherry		2173
Carroon	Chip		0027
Carrow	Rita		2173
Carson	Alan		2131
Carson	Karen		2000
Carson	Millie		2173
Carstarphen	Kristin		2173
Carsten	R.		2173
Cartabona	Nicholas		2173(u), 2312
Carter	Adrian		2131
Carter	Alan		2131
Carter	Anita		2173
Carter	Anne		2173
Carter	Annetta		2173
Carter	Ashley		2173
Carter	Carla		2131
Carter	Cindy		2000
Carter	David		2000
Carter	David		2173
Carter	Donna		2173
Carter	Gary		2173
Carter	Janet		2173
Carter	Jeff		2173
Carter	Krystal		2173
Carter	Larry		2131
Carter	Marcia		2173
Carter	Michael		2131
Carter	Paul		2131
Carter	Penelope		2173
Carter	Rob		2131(1)
Carter	Robert		2173
Carter	Susan		2173
Carter	Suzanne		2131
Carter	Tashionna		2173
Carter	Teresa		2173
Carter	Tracy		2000
Carter	Troy		2173
Carter	William		2173
Carter-Cereske	Gay		2173
Carton	Rosemary		2173
Cartwright	Charlsey		2173
Caruso	Suzanne		2131
Caruto	Anthony		2173
Carvajal	Mauricio		2000(1), 2173
Carver	Jennifer		2173
Carver	Kathy		2173
Casabianca	Richard		2173
Casale	Lisa		2131
Casale	Mary		2173
Casalini	Roseann		2173
Casamatti	Maria		2173
Casanova	Jerry		2173
Casares	Mary		2173
Casarez	Lilia		2000
Cascajares	Maria		2000
Casciano	J.		2173
Case	Beth		2173
Case	Lee		2131
Case	Mark		2173
Case	Sharon		2173
Case	Steven		2131
Caseley	Laura		2173
Casella	Carl		2000
Casella	Kim		2312
Casey	Barbara		2173
Casey	Eric		2131
Casey	Gene and Lizbeth		2173(u)
Casey	Joyce		2131
Casey	Sally		2173
Casey	Stewart		2000, 2173
Cash	Brenda		2131
Cash	Donna		2173
Cash	Karen		2173

Last Name	First Name	Org	CIN
Cash	Linda		2173
Cash	Lisa		2173
Cashier	Regina		2173
Cashman	Bernice Mellen		2173
Cashman	Christie		2131
Casiello	Kathy		2173
Casino	Judith		2173
Caskey	Kathy		2173
Caskey	Mark		2173
Casler	Tiffany		2173
Casner	George		2000, 2031, 2173
Caso	Mark		2173
Caspar	Julia		2173
Casper	Bonnie		2173
Casper	Charles		2173
Casper	Chris		2173(u)
Casperson	Jonathan		2173
Cass	Michael		2173
Cassano	Silvia		2031(u)
Cassar	Kristine		2173
Cassato	Candice		2173
Cassedy	Russ		2031
Cassel	Debra		2000, 2173
Cassiday	Michael W.		0314
Cassidy	John		2173
Cassidy	Kathleen		2173
Cassidy	Kathleen		2131
Cassidy	Laurie		2131, 2173
Cassidy	Leslie		2173
Cassidy	Lindi		2173
Cassidy	Melissa		2031
Cassiero	Debra		2173
Cassil	Armagh		2173
Cassinelli	Pete/Peter		2131, 2173
Cassotti	Consuelo		2173
Castacio	Norma		2173
Castagno	Sandra		2131, 2173
Castaldi	Joseph		2173
Castanien	Marjorie		2173
Casteel	Jessie		2000(1)
Castellano	John		2131
Castellanos	Anita		2173
Castellanos	Marco		2131
Castellanos	Vicky		2000
Castelli	James		2173
Castelli-Hill	Susan		2000, 2173
Castello	Olga		2173
Castelluccio	K.		2173
Caster	Arina		2173
Castiano	Judith		2166, 2173(u)
Castiglioni	Michael		2131
Castine	Girard		2173
Castle	Allison		2173
Castle	William		2173
Castleman	Curtis		2173
Castner	Emily		2000
Caston	Marilyn		2173
Castonguay	Sheree		2173
Castrenze	Joseph		2173
Castro	Connie		2173
Castro	Greg		2131
Castro	Kari		2173
Castro	Mafalda		2173
Castro	Pamela		2173
Caswell	Helen		0125
Catala	Pierre		2173(u)
Catalano	Sesi		2031(u)
Cataldo	Martha		2173
Cataldo	Nancy		2173
Catalona	Michael		2173
Catania	Joseph		2173
Catanzariti	Paul		2131, 2173
Cate	Amanda		2131
Cate	Deborah		2173
Cates	Leshe		2131
Cathey	Maggie		2131, 2173
Cathey	Margaret		2000
Catlett	Taylor		2031(u)
Cato	Mary		2173
Catron	Cheryl		2173
Catron	Samuel		2173(u)
Catt	Shannon		2000
Cattell	June		2173
Caudill	Debra		2000, 2173
Caudill	Larry T.		2173
Caudill	Lindsey		2000, 2173
Caughron	Janna		2131(u)

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Caul	Ashlee		2173
Cauler	Rhonda		2173
Cauley	Robert		2173
Caulkins	A		2173
Cauller	Tina		2173
Caumo	James		2173
Cava	Chris		2131
Cavalier	Gary		0005
Cavallo	Janet		2000
Cavanaugh	Courtney		2173
Cavanaugh	Daniel		2173
Cavanaugh	Heather		2173
Cavanaugh	Kathryn		2173
Cavanaugh	Michael		2173
Cave	William		2173
Caveny	Jake		2142
Caviglia	G		2000
Cayton	Chris		2173
Cayton	Dana		2131
Cázares	Francisco		2173
Cazel	Jim		2173
Cazenas	Dave/David		2000, 2173
Cease	Jeannie		2173
Ceaser	Tina		2173
Cebreros	Maria		2173
Cecil	Michael		2173
Cedillos	Marnie		2173
Cefalu	Chris		0313, 6032
Cefola	Elaine		2173
Ceja	Joe		2031(u)
Cejka	Jan		2000

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Celaya	Tim		2131(1)
Celentano	Dennis		2173
Celidonio	Daniel		2173
Celler	Carolyn		2131
Celli	Eli		2173
Celli	Peter		2173
Cellucci	Mary		2173
Cellurale	Linda		2173
Cencioso	Marilynn		2131(1)
Cencula	David		2131, 2173
Cencula	Nancy		2000, 2131, 2173
Center	Jeanine		2173(u)
Cento	Ilene		2173
Cerda	Rosie		2173
Cerkvenik	Donna		2173
Cerninger	Hooper		2319
Cernoch	Victoria		2031(u)
Cerny	Jayne		2173
Cerqueda	Christine		2000
Cerretani	Holly		2131, 2173
Cervantes	Louie		2173
Cervellati	Valeria		2000
Cervelli	Christine		2173
Cervenka	Kevin		2173
Cervera	Isabel		2000(3), 2131(2)
Cervone	Cathy		2173
Cesario	Ellie		2173
Cessna	Toni		2173
Cetacutan	Arnel		2173

Last Name	First Name	Org	CIN
Cetano	Joe		2173
Cetrulo	Cindy		2173
Chaback	Elaine		2173
Chabot	Angela		2173
Chabot	Christian		2173
Chacon	Joesph		2131
Chadbourne	Paula		2173
Chadwick	Andrea		2131
Chadwick	Carina		2173
Chadwick	Lisa		2000, 2173
Chadwick	Paul		2131
Chadwick	Rexanne		2173
Chaffee	Pamela		2173
Chaffin	Carrie		2131, 2173
Chaffin	Claudia		2173
Chaille	Carolyn		2173
Chakraborti	Mita		2000, 2173
Chakravorty	Serena		2000
Chalfin	D		2173
Chalker	Mikki		2173
Chalkley	David		2173(u)
Chalmers	Arlene		2173
Chalmers	Kirsty		2000
Chambadal	Philippe		2173
Chamberlain	Aaron		2131
Chamberlain	Gary		2173
Chamberlain	Keith		2131
Chamberlain	Richard		2173
Chamberlin	C.		2173
Chamberlin	Ed		2173(u)

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Chamberlin	Judi		2131
Chamberlin	Linda		2131
Chambers	Adam		2319
Chambers	Connie		2000
Chambers	David		2173
Chambers	Emily		2173
Chambers	Janis		2000
Chambers	John		2173
Chambers	Martha		2173
Chambers	Penny		2131
Chambers	Roger		2131
Chambers	Terri		2131, 2173
Chambo	Jim		2000
Chambo	Tim		2173
Chambrun	Gwendolyn		2173
Chamlou	Parisa		2173
Chamness	John		2173
Champigny	Heather		2173
Champion	Avery		2000, 2173
Chan	Guy		2173
Chan	Judy		2173
Chance	Sherry		2173
Chandl	Shirley		2000, 2173
Chandler	David B.		2173(u)
Chandler	Jc		2173
Chandler	Vickie		2173
Chandranatha	Rakesh		2131
Chaney	Dorothy		2047
Chaney	James		2131
Chaney	Mona		2173
Chaney	Susie		2173
Chaney	Walter		2000
Chaney	Wanda		2000, 2173
Chang	Bryna		2173
Chang	Gabriel		2000
Chang	Laura		2173
Chant	Margaret		2000
Chantal	Cherie		2000
Chantry	David		2131
Chao	Elizabeth		2173
Chapel	Mark		2173
Chapellier	Nancy		2000
Chapin	Nicole		2173
Chapman	Anji		2173
Chapman	Babbie		2173
Chapman	Billy		2031(u)
Chapman	Brian		2173
Chapman	Brian		2312
Chapman	Charles		0253
Chapman	J		2173
Chapman	James		2131, 2173
Chapman	Jeannette		0250
Chapman	Jo		2173
Chapman	Jo		2173
Chapman	Kevin		2000
Chapman	Lynn		2173
Chapman	Sam		2000
Chapman	Zola		2000
Chappell	Christina		2173
Chapple	Carol		2173
Chaput	Alicia		2173
Charbonneau	Aimee		2173
Charbonneau	Anne		2000(1), 2131
Charbonneau	John		2173
Charbonneau	Tim		2173
Chardonnens	Sonja		2000
Charest	Catherine		2173
Charest	Donald		2131
Charlap	Donna		2173
Charlebois	Stacie		2173
Charles	Constance		2000
Charles	Jody		2173
Charles	Lenore		2131, 2173
Charles	Mary		2173
Charles	Stanley		2173
Charlier	Maria		2173
Charney	Jacob		2131
Charney	Leah		2131
Charnin	Varda		2173
Charnow	Eleanore		2173
Charobee	Julianna		2131
Charrette	Pamela		2000
Charron	Madeleine		2131
Chartrain	Mary		2131
Chase	Anita		2173
Chase	Christine		2173
Chase	Jayne		2173(u)
Chase	John		2173
Chase	Linda		2131
Chase	Mary		2173
Chase	Michael		2000, 2173

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Chase	Richard		2173
Chase	Tony		2173
Chason	Hilary		2173
Chasson	Kate		2131
Chastain	Elizabeth		2173
Chastain	Vicky		2173
Chatelain	Abigail		2173
Chatfield	Sara		2173
Chati	Janet		2000
Chatigny	Diane		2000
Chatterji	Mona		2131
Chaudhri	Sam		2000
Chauvey	Valerie		2173
Chavera	Bill		2031(u)
Chavez	Candice		2173
Chavez	Fernando Gomez		2173
Chavez	Leslie		2131
Chavez	Yolanda		2173
Chavis	Voletta		2173
Chayka	Irina		2000(1)
Chea	Deanna		2031(u)
Checketts	Mary Jo		2173
Cheema	Misha		2131, 2173
Cheeseman	Ted		2173
Cheesman	Jean		2173
Cheesman	Lois		2309
Cheffi	Gisele		2173
Cheitlin	Melvin		2173
Chejlava	Dede		2173
Chelmecki	Patricia		2173
Chen	Allan		2000
Chen	Carol		2173
Chen	Thuon		2319
Chen	Zhen		2173
Cheney	G.W./G. William		2000, 2173
Cheng	Allison		2131
Chenoweth	John		2000
Cheow	Michele		2131
Chepeska	Jan		2173
Cherise	Monet		2173
Chermack	Lisa		2173
Cherner	Caitlin		2173
Chernof	Mark		2131
Cherry	Allison		2176
Cherry	Judith		2173
Chertok	Irina		2173
Cherubin	Elizabeth		2173
Cheruka	Ruth		2173
Chervek	David		2000
Chesebrough	Caroline		2173
Cheslock	William		2173
Chesser	Will		2131
Chesworth	Jennifer		2173
Chevalier	Doreen		2131
Chevalier	Nicole		2173
Chew	Cory		2000
Chew	Timothy		2131
Chewning	Debbie		2173
Chi	Animae		2000(1), 2131(1), 2173
Chiacchio	Diane		2173
Chianese	Ange		2173
Chianis	Antonia		2000, 2173
Chiarella	Jacquelyn		2173
Chiarello	Joan		2173
Chiazzese	Louise		2000
Chidester	Barbara		2173
Chidley	Cara		2173
Chilcoat	Rose		2000
Childers	Betty		2131
Childers	Deborah		2173
Childers	Judy		2000, 2173, 2131(1)
Childers	Marilyn		2173
Childers	Tori		2173
Childress	Erica		2000
Childs	Christie		2000
Childs	Doug		2173
Childs	Liz		2173
Childs	Marilyn		2131
Childs	Pete		2173
Chilinski	Steven		2000
Chill	Deborah		2173
Chillcott	Thomas		2000
Chilson	Carrie		2173
Chilton	Jayne		2173
Chilton	Paul		2173
Chimiklis	Lynne		2000(1), 2173
Chin	Joseph		2173
Ching	Patricia		2173
Chinigo	Brittany		2173
Chinn	Karen		2173

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Chiodo	Samuel		2173
Chipcase	Silke		2173
Chipman	Pamela		2131
Chippi	Kathleen		2173
Chirpin	Robert		2173
Chisari	Andrea		2000
Chisari	Andrea		2173
Chischilly	Jane		2173
Chisholm	Christine		2131
Chisholm	Holly		2173
Chisholm	Robbi		2173
Chisholm	Steven		2173
Chittenden	Jerald		2173
Chittenden	Jim		2173
Chittick	Chad		2131
Chiu	Kevin		2173
Chivian	Susanna		2173
Chlebowski	Clinton		2173
Chleide	Tatiana		2173
Choate	Roland		0206
Chodos	Eileen		2173
Choi	Brenda		2000, 2173
Choi	Kelly		2173
Cholewa	Mitch		2173
Choquet	Martine		2173
Chott	Merle		2173
Chou	Ana		2173
Chouinard	Leslie		2000
Chovy	Anne		2131
Chowen	Carole		2131
Choy	Mel Cup		2000, 2173

Last Name	First Name	Org	CIN
Chris	Carolyn		2173
Chrissos	H.L. Chris		2000(1)
Christ	Alexander		2173
Christ	M'Lou		2173
Christ	Ronald		2131
Christ	Silvia		2173
Christel	Ann		2173
Christensen	Dave		2031(u)
Christensen	Debora		2173
Christensen	Debra		2131
Christensen	Freya		2000, 2173
Christensen	Gary		2000
Christensen	Joan		2173
Christensen	Karen		2173
Christensen	Lisbett		2173
Christensen	Robert		2131
Christensen	Shelly		2173
Christensen	Sonia		2173
Christensen	Stephanie		2000(u)
Christensen	Tina		2173
Christenson	Jaci		2173
Christenson	Julie		2131
Christian	Brian		2000, 2131
Christian	Janet		2173
Christian	Kathryn		2000, 2131, 2173
Christian	Lynn		2173
Christiansen	Bonnie		2131
Christiansen	Lisa		2131
Christianson	Ross		2173

Last Name	First Name	Org	CIN
Christie	Marge		2173
Christie	Mike		2173
Christie	Susan		2000
Christilles	Laura		2173
Christner	Arielle		2173
Christo	Jeffrey		2000, 2173
Christofaro	Sherri		2173
Christoferson	Pam		2173
Christofferson	Michael		2131
Christopher	Annette		2173
Christopher	Dede		2131, 2173
Christopher	Sandra		2000, 2173
Christy	Alice		2173
Chrol	Jenna		2173
Chu	Andrea		2131
Chu	David		2173
Chu	J		2000
Chu	Jonathan		2173
Chuang	Jonathan		2173
Chubrilo	Lisa		2173
Chubrilo	Robert		2173
Chuchwar	Pat		2173
Chudzik	Alex		2131, 2173
Chui	Janice		2000
Chuick	Doug		2173
Chun	Grace		2173
Chuplis	Cynthia		2173
Church	Andrew		0335
Church	Glenn		2173

Last Name	First Name	Org	CIN
Church	Janelle		2000
Church	Kel		2000
Church	Lisa		2173
Chutich	Michael		2131
Chwalisz	Reneta		2173
Chyba	Mike		2000
Ciancibelli	Allison		2173
Cibellis	Tamara		2173
Cibery	John		2173
Cicalese	Amy		2131
Cicchitto	Derek		2131
Ciccone	Franco		2173
Cicerchi	Christina		2173
Cicerchi	Michael		2131
Cichetti	Kevin		2173
Cichobn	Julia		2131
Cichon	Joan		2131
Ciddio	Renee		2173
Cierech	Thomas		2173
Ciesla	Christina		2173
Cieslak	Urszula		2131
Cifaldi	Margret		2131
Cihouski	Dorothy		2131
Ciminera	Ann		2173
Cimini	Tara		2000
Cimino	Andrea		2000
Cimino	Lisa		2173
Cimino	Maryrose		2000, 2173
Cimino	Stephanie		2173
Cinao	Frederick		2173
Cinardo	Claudia		2173
Cincotta	Anthony		2173
Cioci	Jan		2173
Ciosici	Stefan		2000
Ciotti	Joyce		2173
Cipoletti	Joy		2312
Cipolla	Patricia		2173
Cipris	Zeljko		2173
Ciriacks	Lynn		2173
Cirillo	Pat		2173
Cirulnick	Paul		2173
Cisler	Jennifer		2173
Cisler	Jessica		2173
Cisna	Todd		2000
Cisneros	Evangeline		2131
Cisneros	Tara		2173
Citizen	Concerned		2000
Citron	Alan		2173
Citron	Christiane		2312
Citrullo	Dom		2173
Civish	Corinne		2131
Civitelli	Susan		2173
Cizmas	Natalie		2173
Cl;ausen	Marlene		2173
Clack	Misty		2173
Claggett	Bonnie		2000(1)
Claggett	Suzanne		2173
Claiborn	William		2173
Clair	Lily		2131
Clair	Phillip		2173
Clairmonte	Amanda		2173
Clancy	Nancy		2173
Clanderman	Ray		2000, 2131
Clanton	Taylor		2173
Clapham	Lesley		2173
Clapp	Jim		2131
Clapp	Leslie		2173
Clapper	Rita		2131
Clare	James		2173
Clarida	Fran		2131
Clark	Alice		2000
Clark	Angela		2000, 2131
Clark	Anne		2173
Clark	Audrey		2000
Clark	Betty		2173
Clark	Brennan		2131
Clark	Carolyn		2173
Clark	Casey		2173
Clark	Denise		2131
Clark	Diane		2173
Clark	Duane		2173
Clark	E		2000
Clark	Garry		2131
Clark	Jaclyn		2173
Clark	Jean		2173
Clark	Jean		2173
Clark	Jeff		2173
Clark	Jeff & Nikki		2173
Clark	Jerry		2131
Clark	Jessica		2173
Clark	Jill		2173
Clark	Joanna		2131
Clark	Kathy		2173

Last Name	First Name	Org	CIN
Clark	Ken		2000
Clark	Kenneth		2000
Clark	Kimi		2173
Clark	Laura		2000
Clark	Linda		2173
Clark	Loralee		2000
Clark	Marilyn		2173
Clark	Mary		2173
Clark	Mary Ann		2173
Clark	Maureen		2131
Clark	Maxine		2173
Clark	Michele		2131
Clark	Michele		2173
Clark	Michelle		2312(1)
Clark	Morgan		2173(u)
Clark	Mychelle		2173
Clark	Philip		2000
Clark	Rachel		2173
Clark	Rebecca		2312
Clark	Sarah		2000
Clark	Stacey		2173
Clark	Stephanie		2000, 2173
Clark	Stephanie		2173
Clark	Steven		2173
Clark	Sueanne		2173
Clark	Susan		2131
Clark	Todd		2000
Clark	Valerie		2173
Clark	W.		2000, 2131, 2173
Clark	Warren		2000, 2173
Clark	Whitney		2031(u)
Clark III	Joseph		2173
Clark Jr	James A		2131
Clarke	Alana		2000
Clarke	Bob		2173
Clarke	Cassie		2173
Clarke	Dean		2173
Clarke	Denise		2173
Clarke	E		2173
Clarke	Eric		2000
Clarke	George		2173
Clarke	Gwendolyn		2131
Clarke	Judith		2173
Clarke	Michael		2173
Clarke	Suzanne		2131
Clarke	Veronica		2173(u)
Clarke	Virginia		2173
Clark-Johnson	Andrea		2173
Clark-McKitrick	Blythe		2173
Clarksen	Robert		2173
Clarkson	Courtney		2000
Clarkson	Susan		2173
Clark-Wilkerson	Courtney		2173(u)
Clary	Kimberly		2173
Claugus	Lindalee		2173
Claunch	Helen		2173
Claunch-Meyers	Jennifer		2173
Claus	Carol		2000
Clausing	Mary		2173
Clavin	Tom		2000, 2173
Claxton	Jordan		2173(u)
Clay	Autumn		2173
Clay	Robert		2173
Claycomb	Jason		2173
Clayman	J./Julie		2000, 2173
Clayman	Melissa		2173
Claypool	Margaret		2000
Claypool	Sharon		2173
Clayton	Darren		2000
Clayton	Ginger		2031(u), 2312
Clayton	Ronald		2234
Claytor	Patricia		2000, 2173
Cleary	Colleen		2173
Cleary	Karen and Will Lozow		2131, 2173
Cleavelin	Tina		2173
Cleaver	Melissa		2173
Cleaves	Robyn		2000
Cleland	Patricia		2173
Cleman	Kurt		0257
Clemas	Michelle		2173
Clement	Angela		2173
Clement	Sally		2131
Clement	Victoria		2173
Clements	Lisa		2312
Clements	Marie		2131(1)
Clements	Melissa		2173
Clements	Patricia		2131
Clements	Teresa		2173
Clementson	Harriett		2173

Last Name	First Name	Org	CIN
Clemenzi	Alyssa		2131
Clemmersmith	Carolyn		2131
Clemson	G. Scott		2000(u), 2131, 2131(u), 2173, 3024
Clesen	Helen		2173
Cleveland	Cynda		2000
Cleveland	Cynthia		2131
Cleveland	JD		2131(u), 2173(u)
Cleveland	Jill		2173
Cleven	Heidi		2173
Clewett	Barbara		2173
Click	Cathy		2131
Clifflson	Elizabeth		2131
Clifford	Nancy		2173
Clifford	Ruth		2000
Clifford	Sue		2173
Clifford	William		2000, 2173
Clifton	Anonymous		2173
Clifton	Brian		2173
Clifton	Helene		2173
Cline	Andi		2286
Cline	Catherine		2173
Cline	Colleen		2173
Cline	L		2173
Cline	Lara		2173
Cline	Lois		2173
Cline	Lorraine		2173
Cline	Lynn		2131
Cline	Shawn		2173

Last Name	First Name	Org	CIN
Cline	Victoria		2173
Cline	William		2131
Clinger	Thomas		2173
Clipner	Scott		2173
Clisson	Marjorie		2000
Clodfelter	Leigh		2000
Close	Christopher		2173
Close	Clare		2000
Closs	James		2173
Cloud	Aaron		2173
Cloud	James		2131
Cloud	Jarrett		2173
Cloud	Michael		2000
Cloudsdale	Jan		2000
Clouser	Devlon		2173
Clow	Melissa		2173
Clukey	Charlene		2173
Clyburn	Arline		2173
Clymer	Elliot		2131
Clymer	Lois		2000
Clyons	Jon		2173
Coakley	Jody		2000
Coart	Karin		2173
Coates	Julie		2131
Coates	Portland		2173
Coats	Helen		2173
Coats	Patsy		2000
Cobb	Anna		2131
Cobb	Barbara		2173
Cobb	Karen		2131
Cobb	Kathy		2173
Cobb	Robert		2173

Last Name	First Name	Org	CIN
Cobb	Sandra		2000, 2173
Cobb	Tanya		2173(u)
Cobble	Sara		2131
Cobert	Michelle		2173
Coble	Kfd		2173
Coble	Teresa		2000
Cobleigh	Susan		2173
Cobrin	Audrey		2173
Coburn	Elaine		2131
Coburn	Pamela		2000
Coca	Leslie		2173
Cocca	Julia		2000
Cocciolo	Claudia		2173(u)
Cocco	Brian		2131
Cochran	Carol		2131
Cochran	Todd		2173(u)
Cochrane	Cait		2173
Cockcroft	Eileen		2131
Cocker	Elizabeth		2173
Cockerham	Andrea		2173
Cocks	Renee		2173
Codding	Don		2131
Cody	Dannys		2173
Cody	Jeff		2280
Cody	John		2173
Coe	Eileen		2173
Coe	Joyce		2173
Coe	Lauren		2173
Coe	Michael		2000, 2173
Coe	Roderick		2173
Coelho	Frank		2031(u)

Last Name	First Name	Org	CIN
Coen	Cheryl		2131
Coen	Chris		2173
Coen	Robert		2131
Coen	Susan		2173
Coey	Marjorie		2000
Coffee	Eileen		2000
Coffey	Gerry		2000
Coffey	Heather		2173
Coffey	Lisa		2173
Coffey	Lynn		2173
Coffey	Rotraud		2173(u)
Coffey	Seth		2173
Coffin	David		2173
Coffin	Gina		2173
Coffman	Carol		2173
Coffman	Kathleen/ Kathy		2131, 2173
Coffman	Lauri		2173
Cogar	Nicki		2173
Cogelja	Izabela		2131
Coghlan	Patricia		2000
Cogliandro	Christine		2173
Cognato	Jodine		2173
Cohen	Amanda		2173
Cohen	Ann		2173
Cohen	Asher		2173
Cohen	Benita		2173
Cohen	Beth		2131
Cohen	Bruce		2173
Cohen	Bruce		2173
Cohen	Charles		2000
Cohen	Claire		2173

Last Name	First Name	Org	CIN
Cohen	Harriet		2173
Cohen	James		2173
Cohen	Jason		2173
Cohen	John		2173
Cohen	Justin		2173
Cohen	Karen		2173
Cohen	Linda Smith		2173
Cohen	Marilyn		2173
Cohen	Myrna		2000
Cohen	Nicholas		2173
Cohen	Paul		2173
Cohen	Robert		2173
Cohen	Susan		2173
Cohen	Tova		2000
Cohen	Zoë		2031(u)
Cohen-Glinick	Gabriel		2173
Cohill	Michael		2300
Cohn	Barbara		2173
Cohn	Cheryl		2173
Cohn	Jacqueline		2000
Cohn	Janet		2131
Cohn	Ken		2173
Cohn DVM	Mike		2173
Cohnen	Marvin		2173
Coker	Edmond		2173
Coker	Kat		2173
Coker	Pamela		2131
Colafranceschi	Tina		2173
Colapinto	Kristen		2031(u)

Last Name	First Name	Org	CIN
Colarusso	Angela P.	Department of Energy, National Nuclear Security Administration, Nevada Field Office	5000
Colbert	Amanda		2173
Colby	Laura		2173
Colby	Porter		2173
Colby	Ray		2173
Colden	David		2131
Coldiron	Ronn		0212
Coldspring	Ruth		2173
Coldwell	Cheryl		2173
Cole	A.T. and Lucinda		2131
Cole	Ann M.		2173
Cole	Chris		2173
Cole	Dori		2131
Cole	James		2131, 2173
Cole	Jeffrey		2173
Cole	Jo		2173
Cole	Jon		2173
Cole	Judy		2131
Cole	Kathleen		2000
Cole	Kent		2173
Cole	Linc		2173
Cole	Margaret		2173
Cole	Michael		2131

Last Name	First Name	Org	CIN
Cole	Paul		2000, 2131(1)
Cole	Paula		2173
Cole	Robert		2131
Coleman	Bill		2000
Coleman	Caroline		2131
Coleman	Colleen		2173
Coleman	D.S.		2031(u)
Coleman	Ellis		2173
Coleman	Jerry		2173
Coleman	Keith		2173
Coleman	Kristine		2173
Coleman	Misty		2173
Coleman	Nina		2173
Coleman	Taylor		2131, 2173
Coleman	Victoria		2173
Colen	James		2131
Coles	Christopher		2173
Coles	Lynne		2000, 2173
Coletti	Patrick		2000
Coley	Cynthia		2000
Colgan	Beverly		2135
Colgan	Sherri		2131
Colgrove	Joan		2173
Collar	Michelle		2000, 2173
Collarile	Paul		2173
Collecchia	Geri		2000, 2131
Collett	Karen		2131
Colletti	Kathy		2131
Collier	Alan		2173(u)
Collier	Don		2173
Collier	Erinn		2173
Collier	James		2031(u)
Collier	Janet		2173
Collier	Jenny		2173
Collier	Kim		2131, 2173
Colligan	Pam		2173
Collignon	Chris		2173
Collin	Jana		2031(u)
Collin	Michel		2000
Collings	Laurene		2000
Collingwood	Kimberly		2173
Collins	Amy		2173
Collins	Barbara		2173
Collins	Carol		2000, 2131, 2173
Collins	Cassie		2131
Collins	Charles		2173
Collins	David		2131
Collins	Heidi		2173
Collins	Jackie		2281
Collins	Jan		2173
Collins	Janis		0262
Collins	Jared		2312
Collins	Jeffrey		2173
Collins	John J.		2173
Collins	Jon		0280
Collins	June		2173
Collins	Katherine		2173
Collins	Kathleen		2202
Collins	Kyrie		2173
Collins	Lyle		2000
Collins	Margaret		2131
Collins	Margaret		2131
Collins	Roberta		2131
Collins	Rose		2173
Collins	Stephen		2131
Collins	Susan		2173
Collins	Toby		2173
Collins	Ty		2173
Collins	Valerie		2173
Collins-Ranadve, Rev	Gail		2031(u)
Collishaw	Suzanne		2173
Collonge	Marc		0199
Collord	Pamela		2000, 2131
Colman	Robert		2173
Colman	Simon		2173
Colman-Pinning	John		2173
Colmenares	Clemencia		2173
Coloangeli	Anthony		2173
Colombo	Jennifer		2173
Colon	Alicia		2031
Colon	Rachel		2173
Colon	Yvonne		0063
Colonius	Cari		2319
Colony	Pamela		2173
Colosimo	Michela		2173
Colpas	Marcie		2173
Colson	Debra		2173
Colt	Mary-annex		2131
Coltman	Evelyn		2000, 2173

Last Name	First Name	Org	CIN
Colton	April		2173
Colton	Cammy		2173
Colton	Jeff		2173
Colton	Kathy		2173
Colton	Katrine		2173
Colton	Keita		2173
Columbia	James		2000
Colver	Terry		2131
Colvin	Margaret		2173
Colvin	Maria		2131
Colyer	Jacqueline Sowa		2173
Colyer	John		2173
Colyer	Joni		2173
Comack	Nedra		2173
Combs	Cris		2173
Combs	Debi/Debra		2000, 2173
Combs	Vonda		2173
Commisso	Sabrina		2000
Commons Russo	Meridith		2000
Comninos	Soheila		2173
Comstock	Ginger		2173
Conant	Deborah		2173
Conard	Judy		2173
Conaway	Carol		2173
Conaway	Marcy		2173
Conaway	Renea		2173
Concialdi	Anthony		2173
Condon	Kenneth		2131
Condon	Paul		2131
Condron	Cathy		2173

Last Name	First Name	Org	CIN
Condry	Jacque		2173
Cone	Sylvia		2173
Cone	Troy		2131
Conelley	B.		2173(u)
Confectioner	Vira		2000, 2173
Congdon	Laura and Bill		2173
Conger	Barrie		2173
Coniglio	Mark		2000
Conklin	Joyce		2173
Conklin	Lindsay		2173
Conklin Jr	William		2131
Conkright	Lance		2173
Conlan	Mark		2173
Conlan	Mike		2173
Conley	Alisa		2173
Conley	LeAnna		2031(u)
Conlon	Laurie		2173(u)
Conlon	Suzanne		2173
Conn	Clayton		2173
Conn	Craig		2173
Conn	Patrick		2173(u)
Connell	Megan		2173
Connell	Nancy		2031(u)
Connell	Regina		2173
Connelley	Paul		2173
Connelly	Carol		2173
Connelly	Lillian		2131
Connelly	Ned		2312
Connelly	Walter		2173
Conner	Ashley		2131
Conner	Charles		2173(u)

Last Name	First Name	Org	CIN
Conner	Eileen		2173
Conner	Gail		2131
Conner	Lisa		2173
Conner	Marianna		2173
Conner	Nancy		2173
Conner	Robert		2173
Connick	Cherie		2173
Connolly	James		2173
Connolly	Vivian		2173
Connor	Ann Marie		2000(u)
Connor	Bill		2173
Connor	Carol		2131
Connor	Roz		2131
Connors	Becky		2173
Connors	Karen		2131
Connors	Patricia		2173
Conrad	Barbara		2000
Conrad	Bridget		2000
Conrad	Diane		2131
Conrad	Gloria		2173
Conrad	Kathryn		2173
Conrad	Lori		2131, 2173
Conrad	Norm		2173
Conrad	Patricia		2173
Conrad	Valerie		2173
Conrich	Bob		2312
Conroy	Beverly		2173
Conroy	Faith		2000, 2173
Conroy	Jim		2173
Conroy	Mary		2173(1)
Conroy	Thomas		2173

Last Name	First Name	Org	CIN
Console	Robert		2173
Consorte	Susan		2173
Constable	Amanda		2173
Constantino	Paul		2312
Consul	Ruth		2173
Conte	Edward		2173
Conte	Kelli		2173
Conte	Mariana		2173
Conti	Jacqui		2173
Contreras	Jaenelle		2031
Contreras	Jaime		2000
Contreras	Rosario		2000, 2173
Contro	Julie		2000
Converse	E. Blaine		2173
Conway	Angel		2173
Conway	James		2173
Conway	John		2173
Conway	John		2131
Conway	Julianne		2173
Conway	Maurene		2000
Conway	Naomi		2173
Conway	Patricia		2131
Conway	Sandra		2173
Conway	Sylvia		2131
Conwell	Kemper		2173
Conzelmann	Paul		2173
Coogan	Aimee		2173
Coogan	C.		2173
Coogan	Peg		2000, 2173
Cook	Arlene		2173
Cook	Barbara		2173
Cook	Brooke		2312
Cook	Carol		2173
Cook	Charlotte		2000, 2173
Cook	Cherie		2173
Cook	Cheryl		2000
Cook	Cynthia		2173
Cook	Derek		2000
Cook	Donna		2000, 2131
Cook	E		2173
Cook	Gary		2173
Cook	Gordon		2173
Cook	Janet		2173
Cook	Jeannine		2173
Cook	Jennifer		2000
Cook	Joy		2173
Cook	Kay		2173
Cook	Lynette		2173
Cook	Martha		2173
Cook	Maryjane		2173
Cook	Mike & Joy		2173
Cook	Nancy		2173
Cook	Necole		2173
Cook	R.		2173
Cook	Raymond		2173
Cook	Rick/Richard		2000(1)
Cook	Sandria		2173
Cook	Stephen & Patricia		2173(u)
Cook	Tina		2173
Cooke	Carol H.		2173
Cooke, Jr.	Robert		2173
Cooksey	Gaia		2131
Cooksey	Marti		2173
Coolbaugh	Patrece		2173
Cooley	Adam		2173
Cooley	Paul		2173(u)
Cooley	Richard E		2131, 2173
Cooley	Tarl		2031(u)
Coolidge	Alexia		2173
Coolidge	Anita		2131
Cools	Janet		2131(1), 2173
Coombes	Jade		2173
Coomer	Steven		2173
Coon	Leslie		2131
Cooney	Patricia		2131
Coons	Devin		2173
Coons	Michelle		2173
Cooper	Adam		2173
Cooper	Brenda		2173
Cooper	Brenda		2173
Cooper	Courtney		2173
Cooper	Gabrielle		2173
Cooper	Gail		2173
Cooper	J.		2173
Cooper	Jan		2173
Cooper	Judith		2173
Cooper	Lenora		2031(u)
Cooper	Lynne		2173(u)
Cooper	Marilyn		2173
Cooper	Ray/ Raymond		2000, 2173
Cooper	Richard		2031(u)

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Cooper	Riva		2173
Cooper	Susan		2131
Cooper	Sylvia		2000
Cooper	Therese		2173
Cooperrider	Jaice		2173
Coots	Dana		2173
Copanos	Beth		2131, 2173
Cope	Sandra		2173
Copeland	Damon		2000(1)
Copeland	Dian		2173
Copeland	Jeanette		2000
Copeland	Kim		2173
Copeland	Nancy		2173
Copello	Janell		2173
Copley	Lesla		2173
Coppede	Julian		2173
Coppens	Stacie		2073
Copper	Dave		2173
Coppotelli	Fred		2000
Coppotelli, PHD	Heide		2000, 2173
Corak	Judy		2173
Corathers	Ken		2131
Corazza	Marcello		2173
Corbelli	Karen S		2000
Corbett	Carol		0041
Corbett	Chad		2173
Corbett	Eileen		2173
Corbett	Frances		2173
Corbett	Jack		2173
Corbin	Alice		2173
Corbin	Janda		2173
Corbin	Marion		2000, 2173
Corbo	Melissa		2173
Corby	Kathleen		2000, 2131
Corcacas	Phyllis		2173
Corcoran	Janet		2173
Corcoran	Tim		2131
Cordero	Roberta		2173
Cordero	Salma		2173
Cordoni	Patrizia		2173
Corey	Bonnie		2173
Corey	Dakota		2173
Coriell	Anne		2131
Corkhill	Douglas		2131
Corkrean	Gretchen		2173
Corleone	Mike		2173
Corley	Julian		2000(1), 2173
Corley	Katie		2031(u)
Cormack	Chereale		2000, 2173
Cormany	Dayna		2319
Cormier	Stephanie		2173
Cormons	Matt		2173
Cornelia	Jared		2000, 2173
Cornelius	Carissa		2031(u)
Cornelius	Don		2007
Cornelius	Margaret		2000, 2173
Corneliusen	Ellen		2173
Cornell	Barbara		2173
Cornell	Linda		2131
Cornell	Matt		2173
Cornell	Sandra		2000
Cornely	John		2000, 2173, 2312
Corney	Richard		2173
Cornez	Sandi		2000, 2173
Cornish	Pamela		2173
Corona	Arlene		2131
Corona	Marianne		2173
Coronado	Helen		2173
Corpas	Corie		2173
Corpuz	Sharen		2173
Corradi	Lori		2173
Corrado-Babe	Amie		2173
Correa	Hana		2000, 2173
Correa	Manuel		2173
Correia	Filomena		2173
Correia	M Cecilia		2173
Correia	M Rute		2173
Corrick	Constance		2173
Corrigan	Diane		2173
Corrigan	James		2131, 2173
Corrigan	Jennifer		2173
Corrigan	Sean		2000, 2173
Corris	Joshua		2000, 2131
Corry	Ronit		2000, 2173
Corteccioni	Francesca		2173
Cortes	Jackie		2173

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Cortes	Rosa		2000
Cortez	Desiree		2173
Cortez	Linda		2173
Cortimilia	Uta		2173
Cortner	Mark		2131
Corwin	Scott		2131
Corzatt	Karla		2131
Corzo	Cara		2000
Cosand	Diana		2173
Cosden	Susan		2173
Cosentino	Deborah		2173
Cosgrove	Colleen		2000
Cosgrove	Donna		2173
Cosimo	Rosario		2000
Cosman	Catherine		2173
Cosmano	Theresa		2173
Cossettini	Lisa		2173
Cossins	Susan		2000
Costa	Ana		2173
Costa	Lynn		2173
Costa	Michael		2173
Costa	Penny		2173
Costa	Sandra		2000
Costa	Sandra		2000, 2173
Costantino	Debbie		2173
Costanzo	Linda		2173
Costaras	Susan		2131
Costas	George		2173
Costello	Carol		2000, 2173
Costello	Michael		2173
Costides	Barbara		2173

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Costoff	S.		2173
Costolo	Elaine		2000
Cote	Katherine		2173
Cothran	Ame		2173
Cotter	Joyce		2173
Cotter	Michele		2131
Cotter	Nadine		2173
Cotter	Nancy Lyn		2173
Cotterill	Bob		2173
Cotton	Cindy		2131
Cotton	Maxwell		2131
Cotton	Susan		2173
Cottrell	David		2173
Cottrill	Angela		2173
Cottrill	Scott		2131, 2173
Couch	Norvelle		2131
Couche	Stephen		2173
Coughlin	Rev. J./Jacki		2000, 2173
Coulson	Elyse		2173
Coulson	Susan		2173
Coulter	Catherine		2173
Coulter	Sara		2173
Coulter Searer	Kimberly		2173
Council	Barbara		2173(u)
Councilman	David		2131, 2173(1)
Counterman	Jacqueline		2173
Countryman-Mills	G./Gayle		2000, 2173
Counts	Paul		2173
Courange	Katelyn		0298

Last Name	First Name	Org	CIN
Courim	Steve		2173
Courser	A Nelson		2173
Court	Artelia		2173
Courtaway	Robbi		2173
Courtney	Heidi		2173
Courtney	Ms.		2173
Cousino	Joyce		2131, 2173
Cousins	Catharine		2173(u)
Cousins	Jennifer		2173
Cousins	Sharon		2173
Coustaty	Annie		2000
Coutant	Donna		2173
Coutet	Denis		2173
Couture	Ray		2173
Covarrubias	Paola		2131
Covelli	Barbara		2173
Coven	Jacquelyn		2173
Cover	Tamara		2173
Covey	Brooke		2031(u)
Covey	Susan		2173
Covie	Christine		2173
Coviello	Deborah		2173
Covington	Gaya		2131
Covington	Lainie		2173
Covington	Laurel		2173
Covino	Robin		2173
Cowan	Diana		2173
Cowan	Keith		2173
Cowan	Scott		2173
Cowans	Diana		2173(u)
Cowell	Janet		2173

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Cowen	Anna		2000, 2131
Cowie	Michelle		2173
Cox	Aimee		2173
Cox	Alice		2131
Cox	Carol		2173
Cox	Cyndi		2173
Cox	Heidi		2131, 2173
Cox	Jennifer		2173
Cox	Joseph		2000, 2131, 2173
Cox	Lanie		2173
Cox	Lauren		2173
Cox	Lily		2173
Cox	Lorena		2173
Cox	Luisa		2131
Cox	Marian		2173
Cox	Millicent		2131
Cox	Nancy		2000
Cox	Nonya		2173
Cox	Rachel		2173
Cox	Sarah		2173
Cox	Susan		2131(1)
Cox	Susan		2173
Coyle	Nora		2173
Coyne	Erin		2131
Crabill	Phil/Phillip J		2131, 2173
Crabtree	David		2173
Craciunoiu	Paul		2131
Craft	Eric		2173
Craft	Robin		2173
Craft	Tabitha		2173
Craig	Carol		2000, 2173
Craig	Chalese		2131
Craig	Ella May		2173(u)
Craig	Isobel		2000
Craig	Joyce		2173
Craig	Julie		2173
Craig	Leonard		2173
Craig	Margaret		2173
Craig	Morgan		2173
Craig	Robert		2173
Craig	Sean B.		2173
Craig	Wendi		2312(u)
Crail-Rugotzke	Donna		2031(u)
Crain	Bradford		2173
Crain	Celeste		2031(u)
Craine	Cassie		2173
Cramer	Jane		2173
Cramer	Linda		2173
Cramer	Marilyn		2173
Crandal	Patricia		0330
Crandall	AnaLisa		2000, 2173
Crane	Jeff		2173
Crane	Kimberly		2312
Crane	Mark		2000
Crane	Matthew		2173
Crane	Susan		2173
Crane	Tara		2173
Crane/Friend of Defenders	Marcella		2131, 2173
Cranford	Connie		2173
Cranmer	Pat		2173
Crannell	Raymond		2173
Cranston Jr	Andrew		2173
Crapuchettes	Janet		2173
Crary	Aleasa		2000
Crase	Sandra		2173
Crase	Steven		2173
Crase	Tara		2173
Cratty	Bruce		2131, 2173
Craven	Jessica		2173
Craven	Josh		2173
Crawford	Beverly		2173
Crawford	Cari		2173
Crawford	Cindy		2173
Crawford	Denise		2173
Crawford	Donald		2131
Crawford	Holly		2173
Crawford	Jean		2131
Crawford	Kim		2131, 2173
Crawford	Lawrence		2173
Crawford	Marilyn		2131, 2173
Crawford	Mary		2173
Crawford	Mike		2173
Crawford	Norman		2131
Crawford	Richard		2131
Crawford	Stacy		2173
Crawford	Tracy		2000
Crawford	William		2000
Crawley	Suzanne		2173
Crawmer	Mary		2173

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Crawshaw	Pauline		2173(u)
Creany	Eugene		2131
Creatore	Wilma		2173
Cree	Audrey		2173
Creeger	Rick		2131
Creer	Ron		2131
Creighton	Laura		2131
Cremeans	Tara		2000
Cremin	Gayla		2173
Crescione	Hope		2173
Cress	Dianne		2173
Cress	Ronald		2173
Cresseveur	Jessica		2173
Cressman	Ellen		2173
Cresswell	Kathleen		2173
Cresswell	Margo		2173
Cresswell	Stewart		2173
Cresswell	Tom		2000
Creswell	Richard		2131, 2131(u)
Creswell	Roland		2173
Cretser	Cathy		2173
Crews	Michael		2173
Crichton	Chantel		2173
Criddle	Auri		2319
Cridge	Kathleen		2173
Crim	Noel		2131, 2173
Crimbring	William		2173
Cripps	Phillilp		2173
Crisanti	Tamara		2131
Crisp	Adam		2173
Crisp	Ethan		2031
Crisp	Ethan		2037
Crispin	Kim		2173
Crissman	Frances		2173
Crist	William		2173
Criste	John		2000(u)
Cristobal	Bheng		2173
Critchlow	Lisa		2173
Critzer	Judy		2173
Croasdale	Kathlene		2173
Croce	Donna		2173
Crockett	Cailin		2000
Crockett	Jamie		2173
Crockett	Nelson		2173
Croft	Melanie		0084
Crofton	Luther		2173
Croissant	Susan		2000
Crombie	John		2173
Cromer	Susan		2131
Cromwell	Christopher		2173
Cromwell	Lawrence		2173
Crone	Hannah		2173
Cronin	Brian		2173
Cronin	Elizabeth		2173
Cronin	Siobhan		2173
Cronk	Kathleen		2173
Crook	Susan		2000
Crookston	John		2173
Crookston	Theresa		2131
Crosby	Chris		2173
Crosby	Ellen		2173
Crosby	John		2173
Crosby	Nancy		2173
Cross	Debra		2173
Cross	Heather		2000(1), 2173
Cross	Kathryn		2173
Cross	Lisa		2173
Cross	Mary		2016
Cross	Tara		2173
Crossen	Jennifer		2173
Crossland	T		2173
Crosson	Paul		2131
Crosswell	Kathryn		2173
Crothers	Thomas		2173
Crouch	Lindsay		0215
Crouse	Pamela		2173
Crouser	Paul		2173
Crow	Laura		2173
Crow	Michelle		2173
Crow	Shell		2173
Crowden	Michael		2312
Crowe	Edith		2173
Crowe	Jeff		2173
Crowl	Nichole		2131
Crowl	Peggy		2173
Crowle	Susan		2173
Crowley	Colleen		2000
Crowley	Jane		2173
Crowley	Jeanne		2173
Crowley	Lawrence		2131
Crowley	Lori		2173
Crowley	Marie		2173
Crowley	Marty		2173
Crowley	Nadia		2000

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Crowley	Timothy		2173
Crowley	Val		2173
Croxton	Jesse		2173
Crozier	Stephen and Erin		2131
Crudgington	Keith		2173
Cruickshank	Elizabeth		2173
Cruickshank	Leanne		2173
Cruikshank	Anna		2173
Cruise	Betsy		2173
Crum	Cathy		2173
Crum	E.D.		2173
Crumbley	Jason		2031(u)
Crumbley	John		2319
Crume	Gail		2131, 2173
Crump	Deborah		2173
Crusha	Connie		2173
Crutchfield	Carmen		2173
Cruz	Carolyn		2131
Cruz	Johanna		2173
Cruz	Marina		2173
Cruz	Mary		2173
Cruz	Michelle		2173
Crysler	Leslie		2031(u)
Csaszar	John		2000
Cseke	Jake		2131
Csenge	Debra		2131
Csolak	Janet		2173
Csstellano	Patricia		2173
Csuhta	Tom		2173
Cuadrado	Lola		2173
Cubeiro	Lisa		2173
Cucci	Karen		2173
Cuccia-Nilsen	Laura		2000
Cuccione	Paolo		2000
Cucolo	Nancy		2173
Cucurello	Nancy		2173(u)
Cudd	Karin		2000, 2173
Cudsko	Patricia		2173
Cueva	Norma		2173
Cuevas	Esmeralda		2131
Cuff	Dee		2173
Cuff	Kermit		2000
Cuff	Samantha		2131
Culbert	Laurette		2173
Culbertson	Ginger		2173
Culbertson	Jack		2173
Culbertson	Jon		2173
Culbertson	Maria		2173
Culhane	Deborah		2173
Cullen	Christian		2131
Cullen	Dave		2173
Cullen	Joanne		2173
Cullen	Judy		2173
Cullen	Yvonne		2173
Culles	Misss		2000
Culmore	Matthew		2173
Culp	Wendy		2173
Culwell	Debra		2000, 2173
Cumberbatch	Elizabeth		2173
Cumingham	Amanda		2173
Cumings	Dawn		2000
Cumings	Dawn		2173
Cummer	Christine		2173
Cumming	Chantal		2173
Cummings	Joan		2173
Cummings	Johanna		2173
Cummings	L.		2173
Cummings	Patrick		2173
Cummings	Raewyn		2173
Cummings	Robinson		2173
Cummings	Sally		2173
Cummings	Terry		2000
Cummins	Peter		2000
Cundiff	Debbie		2000(u)
Cunha	Jeff/Jeffery		2131, 2173
Cunningham	Alan		2173
Cunningham	Aubrey		2131
Cunningham	Bob		2173
Cunningham	Brin		2173
Cunningham	Carol		2131
Cunningham	Debra		2157
Cunningham	Debra		2173
Cunningham	Elizabeth		2000
Cunningham	Erica		2173
Cunningham	Glenn		2173
Cunningham	Heather		2319
Cunningham	Ian		2173
Cunningham	Jane		2173
Cunningham	Janeen		2173
Cunningham	Jennifer		2000, 2173
Cunningham	Laura	Basin and Range Watch	3043

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Cunningham	Laura	Basin and Range Watch	6031
Cunningham	Margaret		2173
Cunningham	Margot		0135
Cunningham	Mark		2173
Cunningham	Mary & Thomas		2173
Cunningham	Michael		2173
Cunningham	Richard and Bonna		2131
Cunningham	Robert		2131
Cunningham	Wayne		2131
Curdie	David		2000, 2131, 2173
Cureton	Anjanette		2131
Curewitz	Emily		2173
Curia	Peter		2000, 2173
Curiale	Ruth		2173
Curl	Teresa		2173
Curlee	Elizabeth		2131
Curley	Ellen		2173
Curley	June		2173
Curmi	Joshua		2173
Curnow	Connie		2000, 2173
Curow	Jerry		2173
Curran	Lisa		2319
Currie	Jennifer		2173
Currie	Jenny and Jim		2173
Currie	Marianne		2000(1)
Currie	Mike		2173
Curry	Chelsea		2131
Curry	Dennis		2173
Curry	Gina		2173
Curry	Nathalie		2173
Curry	Robert		2173
Curry	Terri		2173(1)
Curry-Huston	Lynda		2173
Curtin	Paul		2131
Curtis	Carol		2000, 2173
Curtis	Cody		2131
Curtis	Colleen		2173
Curtis	Connie		2131
Curtis	Darlene		2031
Curtis	Dolores		2173
Curtis	Helen		2000
Curtis	Kathleen		2000
Curtis	Kathryn C		2131
Curtis	Kevin		2173
Curtis	Marie		2173
Curtis	Michael		2173
Curtis	Theresa		2173
Curtis	Wendy		2173
Curtis-Moore	Jasmine		2173(u)
Curtiss	Kathy		2173
Curtminer	Rev		2173
Curzie	Bill		2173
Cusano	James		2173
Cusano	Karen		2131
Cush	Dan		2000
Cushing	Michael		2173
Cushing	Nicole		2000
Cushman	Arthur		2173
Cushwa	Richard		2173
Cushway	Penny Daab		2173
Custodi	Paolo		2173
Cuthbertson	Jacqueline		2000, 2173
Cutler	Joan		2173
Cutler	Keith		2173
Cutler	Preston		2173
Cutney	Emma		2000
Cutrera	Mary		2173
Cutshaw	Chris		2031(u)
Cutts	Bruce		2131
Cutts	Matt		2131
Cuva	Catherine		2173
Cwirenbaum	Ruth		2173
Cygan	Lina		2131
Cyr	Amy		2173
Cyriac	Cigy		2000
Cyrill	Janice		2173
Cyrnek	Arlene		2131
Czarnecki	Virginia		2131
Czekalski	Aurelia		2173(u)
Czerniakowski	Sandra		2131
Czichos	Romona		2000, 2173
Czinger	Betsy		2131
Czuj	Christina		2173
Czujko	Deborah		2173

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Last Name	First Name	Org	CIN
D	Amber		2173

Last Name	First Name	Org	CIN
D	Jolene		2131
D	Kari		2173
D	Linda		2173
D	Llll		2131
D.	C.		2173
D.	Catherine		2173
D.	K.		2000
D.	Liz		2000
Daab	Antoinette		2312
Dabajo	Nico		2173
Dabney	Mary		2173(u)
Dabrowski	Maria		2173
Dace	Letitia		2000, 2173
Dacus	Chris		2000, 2173
Daddy	Michelle		2000
Dadgari	Joseph		2173
Dadurka	Carole		2173
Daenzer	Sandra		2173
Daet	Deanna		2173
Dagan	Carmel		2173
Dagci	Aylin		2000
Dagnall	Richard		2173
Dagostino	Cindy		2173
D'Agostino	Frank		2000, 2173
D'Agostino	Michael		2131, 2312
Dagri	Erika		2031(u)
Dahavarian	Sophie		2173
Dahl	Alan		2173
Dahl	Liz		2173

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Dahl	Sandi		2173
Dahlgren	Jim		2173(u)
Dahlke	Tracy		2173
Dahlman	Charles		2173
Dahlman	Diana		2173
Dahlquist	Thomas		2131
Daiber	Jo		2173
Daigle	Lisha		2173
Dail	Simone		2000, 2173
Dailey	Barbara		2173
Dailly	Valerie		2173
Daily	Brenda		2173
Daily	Cleo		2131
Daily	G Allen		2000
Daily	Marie		2173
Dais	Jack		2131
Daiss	Becky		2173
Daitch	A.J.		2131
Daiuto	Joan		2173
Dakin	Lindsey		2000
Dakouzlian	Marge		2000, 2173
Dal Bello	Roseann		2173
Dal Porto	Danna		2011
Dalal	Namita		2173
Dale	Diana		2173
Dale	Donna		2000
Dale	Felicia		2173
Dalessandro	Erin		2131
D'Alessandro	Keith		2173
Daley	Susan		2237

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Daley	Suzann		2000(u), 2173
Dalgety	Sean		2173
Dalili	Dalia		2173
Dalla	John		2000, 2173
Dallari	M.Cecilia		2000
Dallas	Charles		2031(u)
Dallin	Eric		2000
Daloia	Lisa		2173
DAlonzo	Amanda		2173
Dalporto	Amy		2000, 2173
Dalrymple	Charles		2131
Dalsemer	Richard		2173
Dalton	Brian		2173
Dalton	Marsha		2000, 2173
Dalton	Mary		2173
Dalton	Sonoma		2173
Dalton	Timothy		2173
Daly	Paul		2000
Daly	Samantha		2131
Daly-rouse	Susan		2173
Dalzell	Gay		2173
Dam	Russell		2173
Damato	Louise		2173
Damberg	Sheldon		2312
Dambrun	Nicole		2173
Dameworth	Kerry		2000
Damico	Daniel		2131
Damon	Marie		2173
Damon	Rhea		2173

Last Name	First Name	Org	CIN
D'Amore	Tammy		2000, 2173
Damte	Lidya		2173
Dana	Krista		2173
Danby	Diane		2131
Dancel	Lisa		2173
D'Andrea	Olivia		2173
Dane	William		2173
Danehy	Cecile		2173
Danese	Barbara		2173
Dang	Saw		2173
D'Angelo	Jennifer		2173
D'Angelo	Rosalie		2131
Danhauer	Mary		2173
Daniel	Al		2173
Daniel	Jan		2173
Daniel	Jonathan		2131
Daniel	Katrina		2173
Daniel	Kian		2173, 2312
Daniel	Marc		2173
Daniel	Marinell		2000
Daniel	Sherry		2173
Daniel	Todd		2173
Daniel	William L		0136, 0299
Daniello	John		2000, 2173
Daniels	Anita		2173
Daniels	Barbara		2000
Daniels	Bobbie		2173
Daniels	Erin		2173
Daniels	Jack		2173(u)
Daniels	James		2173
Daniels	Lynda		2173
Daniels	Mark		2173
Daniels	Mark		2131, 2173
Daniels	Patricia		2173
Daniels	Sandra		2173
Daniels	Tegan		2031
Daniels-Lee	David		2173
Dankner	Elinor		2173
Danko	Barbara		2312
Danko	Lori		2173
Dankowski	Michael		2173
Danley	Patty		2131
Danna	Gay		2173
Dannahy	Tina		2173
Danne	Christopher		2173
Danner	Jennifer		2173
Danner	Susan		2173
Danner-Lentz	Eve		2173
Dannhauser	Janice		2173
Dannheim	Joyce W. & Robert		2173
DAnnunzio	Patrick		2173
Danowitz	Lisa		2173
Danser	Patricia		2131
Dantona	Alexandra		2173
Danziger	Leslie		2131
Darcourt	Mark		2173
Dare	Carol		2131, 2173
Dare	Cheryl		2000
Darish	Susan		2131, 2173
Darland	Pam		2173
Darling	Alice		2000
Darling	Carrie		2000, 2131, 2173
Darling	Michael		2173
Darlington	Beth		2173
Darnell	Hopi		2131
Darner	Renee		2173
Darovic	Elizabeth		2173
Darrigo	Kate		2000
Darst	Deeandbob		2173
Dartez	Carroll		2173
Darvin	Barbara		2173
Dascalos	Stephanie		2173
D'Ascoli	Camille		2173
Dascotte	Melinda		2173
Dase	Melissa		2173
Dash	Amitav		2000
Dash	Andrea		2173
Dashiell	Gwendolyn		2173
Dasilva	Alan		2173
Daskal	Sharon		2173
Dass	Carol		2131
Dassler-Pardalos	Evan		2173
Date	C		2173
Date	Sarah		2173
Dauberman	Anita		2173
Dauer	Karen		2131
Daugherty	Mari		2173

Last Name	First Name	Org	CIN
Daugherty	Rita		2173
Daughtrey	Rodney		2173
Daum	David		2173
D'Auria	Carol		2173
Dautovic	Ajla		2173
Davee	Heidi		2173(u)
Daveiga	Michael		2173
Davella	Gina		2173
Davenport	Jeanne		2173
Davenport	June		2000
Davenport	Kit		2312
Davenport	Paul		2173
Davenport	Rita		2173
Davenport	Susan		2173
Daversa	Fran		2000
Daversa	Fran		2173
David	Don		2173
David	Grace		2173
David	Judith		2173
David	Lin		2173
David	Maryanne		2173
David	Nina		2173
David	Noelle		2173
Davideit	Dennis		2131(u)
Davidson	Charles		2173
Davidson	Darron		2173
Davidson	Darwin		2173
Davidson	Dolores		2173
Davidson	Edward		2173
Davidson	John		2131
Davidson	Linda		2173
Davidson	Maggie		2173

Last Name	First Name	Org	CIN
Davidson	Mary		2173
Davidson	Michelle		2173
Davidson	Nora		2173
Davidson	Pamela		2173
Davie	Dennis		2173
Davies	C.		2173
Davies	Frances		2173
Davies	Gregory		2131
Davies	Karin		2173
Davies	Kenneth		2173
Davies	Kristin		2173
Davies	Stephen		2173
Davies	Sue		2000, 2173
Davies, Jr.	Thomas M.		2131
Davis	Alana		2173
Davis	Almer		2173
Davis	Ann		2131
Davis	Anthony		2173
Davis	Candace		2000, 2173
Davis	Carla		2173
Davis	Carol		2173
Davis	Chandriee		2173
Davis	Cheryl		2173
Davis	Cindy		2131
Davis	Daniel		2173
Davis	David		2173
Davis	David		2131
Davis	Debbie		2173
Davis	Deirdre		2173
Davis	Donna		2173
Davis	Doris		2173

Last Name	First Name	Org	CIN
Davis	Edwina		2173
Davis	Elliott		2173
Davis	Gail		2000(1), 2031(u), 2131
Davis	Garnett		2173
Davis	Gary		2173
Davis	Glenn		2173
Davis	Gloria		2173
Davis	Hazel		2173
Davis	James		2173
Davis	Janet		2173
Davis	Jason		2173
Davis	Jessica		2173
Davis	Joanna		2131
Davis	Karen		2173
Davis	Katryn		0079
Davis	Kim		2000
Davis	Linda		2312
Davis	Liz		2173(u)
Davis	Loraine		2173
Davis	Lynn		2173
Davis	Mackenzie		0109
Davis	Marjorie		2173
Davis	Mark		2173
Davis	Marla		2173
Davis	Maxine		2173
Davis	Maya		2173
Davis	Megan		2173
Davis	Melissa		2000
Davis	Mike		2031(u)
Davis	Miranda		2173

Last Name	First Name	Org	CIN
Davis	Nellie		2031(u)
Davis	Pamela		2173
Davis	Patricia		2173(u)
Davis	Patti		2173
Davis	Rachelle		2173
Davis	Ramona		2173
Davis	Randy &/OR Michelle		2173
Davis	Robert		2131
Davis	Robin		2173
Davis	Ronald		2312
Davis	Ronda		2173
Davis	Ryan		2173
Davis	Sallie		2173
Davis	Sam		2031(u)
Davis	Sarah		2031(u)
Davis	Scheree		2173
Davis	Sharon		2173
Davis	Sharren		2173
Davis	Sherri		2173
Davis	Shonna		2000
Davis	Stacey		2173
Davis	Steve		2173
Davis	Susan		2173
Davis	Suzanne Slyn		2312
Davis	Sydney		2000
Davis	Terri		2173
Davis	Tommy		2173
Davis	Vanessa		2173
Davis	William		2173
Davis-Alpert	Laurel		2131
Davison	Carol		2173

Last Name	First Name	Org	CIN
Davison	Christopher		2131
Davison	David		2000
Davison	John		2173
Davison	Kathy		2173
Davison	Michele		2173
Davison	Wilma		2131
Davis-Stein	Jessica		2173(u)
Dawicki	Jayme		2173
Dawley	Thomas		2173
Dawson	Adele		2312
Dawson	Beverly		2131
Dawson	Bob		2173
Dawson	Cheryl		2173
Dawson	Donna		2173
Dawson	James		2131, 2173
Dawson	Jerri		2173
Dawson	Mark		0296
Dawson	Nick		2000
Dawson	Richard		2131
Dawson	Stephanie		2173
Dax	Karin		2173
Dax	Shaheena		2173
Day	Angela		2173
Day	Arlene		2173
Day	C		2000
Day	Deborah		2173
Day	Edward		2173
Day	J.L.		2173
Day	Jennifer		2000
Day	Jerry		2173
Day	Joanne		2173

Last Name	First Name	Org	CIN
Day	Larry		2131
Day	Mary H		2131
Day	Patricia		2000, 2131, 2173
Day	Robert		2131
Dayan	Eva		2000, 2173
Daybell	Amanda		2031
Daylight	Teresa		2131
Dayton	David		2000
Dayton	Miranda		2173
Dayton	Stephanie		2173
Dazzi	Andrea		2131
De Aragon	Santiago		2131
De Armond	Jemanah		2173
de Arteaga	Jose		2173
De Belder	Marie-Therese		2173
De Castillia	Caterina Strambio		2173
De Cock	Steve		2000
De Francis	Patricia		2173
De Graw	Kathy		2173(u)
De Grazio	Dawn		2131
De Groot	Donald		2131
De Guardi	Janet		2173
De Haan	Irene R		2031
De Koatz	Carole		2173
de Kwaadsteniet	Tina		2173
de la Fuente	Dolores		2173
De La Garza	Adriana		2173
De la Garza Blanca	Laura		2000

Last Name	First Name	Org	CIN
De la Garza Jiménez	Patricia		2173
De La Garza Und Senk	Paul		2173
De La Garza-Garcia	Carlos		2173
De La Giroday/ Delagiroday	Francois		2131, 2173
de la Iglesia	Gabriel		2000
de la Rosa-Young	Maria		2000, 2173
De La Vega	Marianne		2173
De laurentis	Cristiana		2000
De Leon	Melissa		2173
De Leon	Valeria		2131
de los Rios	Stephanie		2000
de Marville	Jessica		2173
De Muynck	Annie		2173
De Nicola	Franco		2000
de Oyarzabal	Manuel		2000
De Palma	Rebecca		2173
De Pasquale	Silvana		2173
De Pinies	Pablo		2173
De Poorter	Jocelyne		2000
De Rose	Marjorie		2131
De Ruiter	Jessica		2000
De Sena	Lori		2000
De Silva	Asoka		2000
De Simone	Ilaria		2173
de Sosa	Andrew		2173
De Sousa	Sarah		2173
De Stefano	Robert		2173
De Sylvia	Kristi		2173
De Tar	Mark		2173

Last Name	First Name	Org	CIN
De Vier	Kayleen		2173(u)
De Vore	Vicki		2173
De Vries	Dolores		2173
Deadman	Florence		2173
Deal	Betty		2131
Deal	Brandie		2173
Deal	Tiffany		2173
Dean	Cynthia		2031(u)
Dean	Matthew		2173
Dean	Nancy		2173
Dean	Rayline		2000, 2173
Dean	Sarah		2173
Dean	Shirley		2173
Dean	Sue E		2000, 2131
Dean	Timothy		2173
DeAnda	Pam		2131
DeAngelis	Bill		2173
Deangelis	Christine		2173
DeAngelo	Vic		2131
Deans-Smith	Susan		2173
DeAntoni	Carol		2173
Deapen	Kristopher		2131
Dear	Sharon		2173
Dearbeck	April		2173
Dearborn	Carol		2173
Deardorff	Glen		2173
Dearing	Danielle		2173
Dearing	Deb		2173
Dearnaley	Carol-Ann		2173
Dearstyne	William		2000
Deaver	Bobby		2312

Last Name	First Name	Org	CIN
DeBacco	Tony		2173(u)
Debasitis	Brian		2173
Debeliso	Elizabeth		2173
Debes	Barbara		2173
DeBiasse	Olivia		2173
DeBing/Debing	Therese		2000, 2173
DeBoer	Natalie		2173
DeBoer	Natalie		2000
Debraal	Karen		2173, 2312
DeBruler	Jason		2173
Debus	Michelle		2000(u)
DeCarla	Tina		2173
Dece	Sinde		2000(1)
DeCelle	Sharon		2131
Deck	Denise		2173
Decker	Carolyn		2173
Decker	Diana		2131(1)
Decker	Dody		2173
Decker	Dorothy		2173
Decker	Gail		2173
Decker	Heather		2173
Decker	Kristy		2131
Decker	Susan		2131
Decker	Terri		2173
Decker	Thomas		2173(u)
Deckman	Tammy		2000
Declements	Mari		2173
DeCleve	Frank		2000
Decook	Michael		2173
Decora	Sheila		2173(u)
DeCraemer	Mary		2173

Last Name	First Name	Org	CIN
Decunzo	Denise		2173
Deddy	John		2000
Dederer	Mary		2000
Dee	Denise		2173
Dee	Diana		2173
Deeb	Lamya		2131, 2173
Deelstra	Jenna		2031(u)
Deem	Richard		2146
Deems	Robert M.		2131
Deering	Sam		2173
Deerlyjohnson	Suzanne		2131
Deery	Theresa		2173
DeFazio	Maressa		2173
DeFazio	Susan		2173
Defelice	Paula		2225
Deffenbaugh	Lincoln		2131
Deffke	Donna		2131
DeFino	Jenny		2173
DeFlurin	Robert		2173
Defoe	Roberta		2173
Deford	Denecia		2173
Deforest	Mary		2131
Defrancesco	Andrea		2173
Defranco, Jr	Joseph		2173
DeFrank	Deb		2000
DeFratus	Tracey		2000
Defrin	Elin		2000, 2173
DeFurio	Debra		2000
DeGaglia	Christina		2173
Degastyne	Luanne		2173
Degenhart	DM		2173
Degerolamo	Jennifer		2173
DeGeyter	Pamela		2173
deGoede	Maryanne		2173
DeGolier	Leland		2173
Degrand	Alan		2131
DeGroff	Dorinda		2173
Dehart	Joanne		2131
Dehler	Patricia		2173(u)
DeHoog	Herman		2173
Deiaco	Renee		2173
Deist	Barry		2173
Deitchman	Judie		2173
DeJessa	Joseph		2173
DeJohn	LeeRoy		2173
DeJohn	Michael John		2173
DeJong	Joan		2131, 2173
Dekanski	Delphine		2173
Dekker	Katherine		2173
del Barrio	Irma		2173
Del Colle	Raymond		2131
Del Prato	Pierre		2173
del rosario	Theresa		2131
del Santo Warp	Jean		2173
Del Solar	Raul		2131, 2173
Del Vecchio	Celeste		2000, 2173
Delaine	Sheri		2173(u)
Delamater	Adair		2173
Delaney	Catherine		2173
Delaney	Janet		2000, 2173
Delaney	Linda		2173
Delaney	Mark		2173
Delaney	Robin		2173
Delattre	Angelique		2000
DeLaundreau	Maria		2173
Delavega	Dania		2131
Delay	Dee		2173
Delcastillo	Gwendolyn		2173
DeLeo	Nanci		2173(u)
Delezenne	Connie		2173
Delgado	Estelle		2173
Delgado	Mary		2173
Delgado	Roxanne		2173
Delgado	Terrence		2173
Delia	Cathy		2173
D'Elia	Mary		2312
Delibos	John		2131
Delidow	Beverly		2312
DeLillo	Deborah		2173
Dell	Jenny		2173
Dellacalce	Jennifer		2000, 2131
Dellafera	Maryanne		2131
DellaLoggia	Denis		2000
Dellapina	Robert		2131, 2173
Della-Terza	Grazia		2173
Delles	Susan		2000, 2173
Dellinger	Francine		2173
Dellinger	Stephen		2173
Dellospidale	Mary		2173
DeLoach	Caden		2000

Last Name	First Name	Org	CIN
Deloach	Lisa		2131
Deloff	D.		2173
Delong	Jonae		2131
DeLoye	Michael		2000
Delozier	Greg		2173
Delprete	Joanne		2173
DelSignore	Jennifer		2173
DelToro-Ramirez	Virginia		2173
DeLuca	Patricia		2131
Deluca	Theresa		2000, 2173
DeLucia	Gennaro F.		2000
DeLuke	Jan		2173
DeLuna	Marie Claire		2131, 2173
Delvecchio	Cheryl		2173
Delwald	Steve		2173
DeMaine	Mary		2173
Deman	Jen		2173
Demar	Pamela		2173
Demarais	Jackie		2173
Demaria	Karen		2173
DeMark	Christi		2000
DeMartin	Renee		2312
Demartine	Annette		2131
Demaske	Dawn		2173
Demaso	Mary		2173
Dematteis	Philip		2173
Demchenko	Vera		2173
DeMeo	Joan		2173
DeMers	Daniel		2031
Demers	Edward		2131
Demes	Helen		2173
DeMetz	Kathleen		2173
Demianiuk	Monika		2173
Deming	Daniel		2173
Deming	Diana		2131
Deming	Jacqueline		2000
Deming	Lynn		2173
Deming	Pat		2000
Demonbrun	Carl		2131
Dempsey	Marilyn		2131
Dempsey	Patrick		2031(u)
Demuth	Jennifer		2173
DeMuth	Robert		2000, 2173
Demuth	Susan		2173
Denardo	L		2173
Denbo	Nancy		2173
Deneault	Donna		2173
Dengel	Julia		2131
Denham	Catherine		2173
Denham	Judith		2131
Denies	Claire		2131
Denis	Daniel		2131
Denis	Laurie		2173
Denise	Turner		2173
Deniz	Amaya Ma		2131
Denk	Janice		2173
Denlinden	Forrest		2131
Denman	Debra		2173
Denman	Jack and Margarita		2173
Dennard	Deborah		2131
Dennett	HR		2000
Denney	Heather		2000, 2173
Dennie	Barbara		2173
Denning	Asphodel		2173
Denning	Bruce		2131
Denning	Elizabeth		2173
Denninger	Sandra		2173
Dennis	Beverly		2131
Dennis	Colleen		2173
Dennis	Duncan		2173
Dennis	Edward		2173
Dennis	Gabrielle		2000
Dennis	Gudrun		2000
Dennis	Jim/James		2000, 2173
Dennis	Steve C.		2000
Dennison	Carolyn		2173(u)
Denny-Davies	Gillian		2173
Densing	Lindsey		2173
Denson	Ron		2173
Denton	Carolyn		2173
Denton	Deb		2173
Denton	Kathleen		2173
DeNunzio	Bruce and Maureen		2000
Denver	Allison		2173
Deora	Karen		2173
DePadova	Elizabeth		2173
Depaso	Virginia		2131
Depew	Robert		2131
Depippo	Anthony		2173
Depue	Aimee		2131
DePue	Mike		2173

Last Name	First Name	Org	CIN
DeQuasie	David		2173
Derby	Hillary		2173
Derby	Marian		2173
Derchia	Terry		2173
Dereix	John		2173
Derence	Lea		2173
Derengowski	Mary		2173
Derezotes-Miernik	Kimberly		2070
Derfler	Pam		2000
DeRiemer	Philip		2031
Derleth	Penny		2131
Deroche, Jr.	Russel		2173
Derooy	Beth		2173
DeRose	Star		2173
DeRoy	Al		2173
Deroy	Aleta		2173
Derrickson	Raymond		2173
Derrico	Nancy		2173(u)
Derrig	James		2131
Derring	Erica		2031
Derringh	Helena		2173(u)
Dershimer	P		2173
Derstine	M Gerald		2131
Deru	Flora		2173
Derugeris	John		2173
Derus	Roy		2173
Derussy	Glenn		2131
Dervan	Michael		2000
Dervin	John		2173
Derwin	Heather		2173
Derzon	James		2000

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Desai	Neal	National Parks Conser-vation Assoc-iation	6010
DeSalvo	Gloria		2173
DeSarno	Victoria		2173
Desautels	Jo-Ann		2173
Deschain	Derin		2031
Deschenes	Paul		2173
Deseve	Geri		2173
DeShaies	Cheryl		2000, 2173
Deshotel	Shelley		2131, 2173
DeSimone	Ciana		2173
DeSimone	Elaine		2173
DesJardin	Kimberly		2173
Deslandes	Jacqueline		2173
DesMarais	Dave		2031
Desmarais	Theodore		2131
Desmedt	Carole		2173
Desmond	Sheila		2131, 2173
Desormeaux	Margie		2131
Desport	Oliver		2000
Despres	Faye Rapoport		2173
Desrochers	Francoise		2000
Dessain	Ron		2131
DeStefano	Andrew		2173
Detato	Susan		2131(1), 2173
Deterts	Tamara		2173

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Dethlefsen	Leila		2131
Dethlefsen	Michaela		2173
Detingo	Brett		2173
Detmers	Peggy		2173(u)
Detzler	Jody		2000, 2173
Deuel	Carol		2173
Deuell	Michael		2000
Deurloo	Hanneke		2173
Deutsch	Alice		2173
Deutsch	Eileen		2173
Deutsch	Vivian		2000
Devall	Susan		2131(u)
DeVane	Gerald and Mary Lou		2186
Devaney	Robin		2000, 2173
Dever	Karen		2312
Devereaux	Seth		2031(u)
Devers	Deborah		2173
Devillier	Azarias		2131
Devine	Christopher		2173
Devine	Deborah		2173
Devine	Irene		2131
Devine	Karla		2000
Devine	Lauren		2173
Devinney	Claudia		2131, 2173
DeVito	Renee		2173
Devlin	Felicity		2173(u)
Devlin	Summer		2173
Devlin III	Cornelius		2000
Devoll	Karen		2131

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Devoss	Carol		2173
Devrell	Julia		2131(u)
DeVries	Kathleen		2312
DeVries	Nicole		2173
DeVries	Nicole		2000
DeVries	Robert		2173
Devries	Valerie		2173(u)
DeWald	Lloyd		2131
Dewalt	Cindy		2173
DeWees	Kathryn		2173
Dewenter	David		2000
Dewhurst	Myra		2173
Dewitt	Amy		2131
DeWitt	Pam		2173
DeWolf	Dana		2173
Dewolfe	Pat		2173
Dezotelle	Linda		2000
dff	df		2000(2)
dfs	rdsfd		2000(3)
Dhanani	Lynna		2000
Dharia	Sohil		2131
Dhawan	Vivek		2131
Dhi	Bo		2000
Di Bello	Antonio		2173
Di Buo	Nicholas		2173
Di Gregorio	Amber		2173
Di Mond	Connie		2173
Di Russo	Donald		2131, 2173
Diamantis	Michelle		2000
Diamond	Judith		2131(1)
Diamond	Meredith		2173
Diamond	Nicholas		2173
Diamond	Nichole		2173
Dian	Lisa		2000
Diana	Daniela		2173
Diana	Debra		2173
Dianich	A.		2173
Dias	Marie		2173
Diaz	Jim		2000
Diaz	Liliana		2173
Diaz	Lourdes		2173
Diaz	Mauricio		2173
Diaz	Robin		2173
Diaz	Sara		2173
Diaz	Susan		2000, 2131, 2173
DiBartolomeo	Sheila		2000
DiBenedetto	Nicholas		2000
Dibenedetto	Rainbow		2173
DiBiagio	Sabrina		2173
DiCarlo	Cindy		2173
DiCarlo	Leigh Ann		2173
DiCarlo	Melissa		2173
DiCato	Leilani		2173
Dicesare-Pannutti	Sahnta		2131
Dick	Aimee Martz		2131
Dick	Martha		2131
Dick	Rebecca		2173
Dick	Thomas		2173
Dicken	Donald		2173
Dickens	Matthew		2319
Dickerson	Gayle		2173
Dickerson	Joan		2173
Dickerson	Suzanne		2173
Dickey	David		2131
Dickey	Mary		2173
Dickinson	Cindy		2173
Dickinson	Cynthia		2173
Dickinson	Mandy		2000
Dickinson	Robert		2000
Dickinson-Adams	Emily		2000, 2173
Dickman	Ann		2173
Dickman	Rex		2131
Dickson	Heidi		2173
Dickson	Mary		2173
Dicpinigaitis	Michael		2131(2)
Dicus	Laura		2000
DiDiego	Michael		2000
Didomenico	Linda		2173
Diehl	Daniel		2173
Diehl	Patrick		2131
Diehl	Thomas		2173
Diel	Holli		2173(u)
Diemand	Grace		2173
Diener	B. Thomas		2131
Dieringer	Irini		2131
Diernbach	Diane		2173
Dies	Nancy		2173
Diesel	Pamela		2173
Dieter-Brabant	Pallas		2173
Dieterich	Michele		2173
Dietz	Kerry		2173
Dietzer	Margaret		2173

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Dieumegard	Ted		2173
DiFeo	Jen		2131
Diggle	Gloria		2173
Diggs	Joan		2173
Digiacomo	Alexandra		2173
Digiacomo	Patricia		2173
Diiorio	Amanda		2173
DiIorio	Lesa		2131
Dileo	Nadine		2173
Dillabough	Diane		2270
Dillan	Colin		2319
Dillard	John		2173
Dillard	Rev		2173
Dillard	Sandra		2173
Dilley	Tamara		2173
Dillmann	George		2173
Dillon	Christi		2000
Dillon	Errol		2173
Dillon	Sheila		2000, 2131, 2173
Dills-Weaver	Jordan		0108
Dilorenzo	Edward		2173
DiLorenzo	Leslie		2173
diLuck	Melinie		2173
DiMaggio	Joseph		2173
DiMaio	Chris		2173
DiMarco	Jennifer		2173
DiMarco	Paul		2173
DiMartino	Penelope		2173
Dimassa	Karen		2000
Dimauro	Susan		2173

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Dimitri	Lindsay		2031(u)
Dimitroff	Aaron		2031(u)
Dimitroff	Pencho		2131
Dimitrov	Carol		2131
Dimitry	Jane		2173
Dimmitt	Rafe		2173
Dimond	Christopher		2173
Dimovska	Sonja		2000
DiNatale	Dini		2173
Dincecco	Robert		2131
Dinda	Kim		2173(u)
Dineen	Bill		2173
Ding	Sejon		2000
Dingledeine	Mike		2173
Dingman	Jennifer		2131, 2173
Dinhofer	Jacalyn		2131
DiNicola	Glenn		2031(u)
Dinucci	Mark		2173
Dione	Jill		2173
Dior	Marie		2173
Diorio	Dawna		2173
DiPaola	Kristina		2173
Dipaola	Marisa		2000
Dipert	Brian		2131
DiPiero	Andrew		2173
DiPietro	Crystal		2031(u)
Dipirro	Carrie		2131
Diran	Junko		2173
Diran	Richard		2173
Dire	Tonette		2131
Director	Z. Vijay		2173

Last Name	First Name	Org	CIN
Dirks	Gary		2173
Dirosato	Donna		2173
Dirr	Jeanie		2173
Disch	Stephen		2173
Disdier	Ricki		2173
Dishman	Benjamin		2173
Dishong	Katie		2031(u)
Disibio	Carol		2173
Disley	Lynsey		2173
Dismachek	Dennis		2131
Diss	Marybeth		2173
Diss	Michelle		2173
Dissette	Deborah		2173
Distad	Leslie		2131
Distin	Carolyn		2173
Ditieri	Marcia		2173
DiTizio	Vincent		2173
Ditta	Madeline		2173
Dittemore	Kathryn/ Kathrym		2000, 2173
Ditto	Jeff		2131
Ditto	Todd		2031(u)
Ditzler	M. Susan		2173
Divich	Deborah		2173
Divis	Darrel		2173
Divito	Scott		2000
Dix	Janet		2173
Dix	Sally		2173
Dixon	Angie		2173
Dixon	Bonnie		2173
Dixon	Emily		2173
Dixon	Joan		2173

Last Name	First Name	Org	CIN
Dixon	Joann		2173
Dixon	Joyce		2173
Dixon	Mary		2000
Dixon	Nick		2319
Dixon	Patricia		2173(u)
Dizy	Frederique		2000
Dlima	Annie		2173
D'Lucca	Arsbella		2173
Dluhy	Liana		2031(u)
Doak	Jana		2173
Doane	Anne		2173
Doane	Dorene		2173
Dobbelaere	Ainga		2000
Dobbelaere	Susan		2024, 2173
Dobbs	Paul		2131(u)
Dober	Sofia		2173
Dobesh	Don		2173
Dobran	Joni		2173
Dobroslawa	Dobi		2000
Dobrovolny	Delcie		2173
Dobrovolny	Peter		2131
Dobrovolskaya	Lyudmila		2000
Dobski	Deborah		2312
Dobson	Melissa		2173
Dobson	Patricia		2131(1)
Doctor	Mary		2173
Dodd	Michelle		2173(u)
Dodd	Natalie		2173
Dodd	Patricia		2131
Dodd	Timothy		2000
Dodd	Wendy		0034

Last Name	First Name	Org	CIN
Dodds	David		2000
Dodds	Kathrin		2173
Dode	Robert		2173
Dodge	David		2173
Dodge	John		2000
Dodge	Kellie		2173
Dodov	Bianka		2129
Dodson	Bryan		2031
Dodson	Carol		2000
Dodson	Cynthia		2131
Dodson	Daton		2173
Dodson	David		2173
Dodson	Melissa		2173
Dodson	Ryan		2131
Dodson	Susan		2173
Dodson	Taylor		2173
Doebel	John		2312
Doebereiner	Carlie		2173
Doerfler	Mark		2173
Doering	David		2000
Doering	Debra		2173(u)
Doerr	Helena		2000, 2173
Dogan	Nicole		2173
Doherty	Gill		2173
Doherty	Jeanne		2000
Doherty	Joanne		2173
Doherty	Liz		2173
Doherty	Nia		2173, 2312
Dohner	Allen		2000
Doineau	Eileigh		2131
Doineau	Emma		2151

Last Name	First Name	Org	CIN
Dolan	Kat		2173
Dolan	Lisa		2000
Dolan	Sharon		2173
Dolan	Susan		2173
Dolen	Carolyn		2173
Dolin	Renate		2173
Dolinka	Toby		2173(u)
Dolins	Merelyn		2173
Doll	Barbara		2173
Doll	Carl		2173
Dollahon	Christian		2131, 2173
Dollar	Ellen		2000
Dollard	Nancy		2131, 2173
Dolleman	Sharon		2173
Dolloff	Diana		2173
Dolma	Brenda		2312
Dolph	Kristin		2173
Dolph	Lenore		2131, 2173
Dolson	Kathleen		2000
Domal	David		2173
Doman	Beverly		2131
Domanski	Kate		2173
Domb	Doreen		2173
Dombek	Amy		2173
Dombroski	Christine		2173
Domenico	Joellen		2131, 2173
Domian	Stephanie		2173
Dominguez	Karen		2131
Dominguez	Laura		2173

Last Name	First Name	Org	CIN
Dominguez	Leda		2173
Dominguez	Mari/Marisol		2000(1), 2131(2), 2173(1)
Dominick	Gail		2000, 2173
Domino	Len		2173
Domke	Ellen		2000(1)
Domzalski	Karen		2113
Don	Amanda		2131(1)
Donaghue	Jim		2173
Donahue	James		2173
Donahue	John		2173
Donahue	Kathryn		2173(u)
Donahue	Ned		2131
Donahue	Sarah		2173
Donaldson	Ainsley		2173(u)
Donaldson	Irene		2131
Donaldson	Rosemary		2173
Donaldson	Susan		2173
Donaldson	William		2173
Donchik	Liliana		2173
Donegan	Kathy		2173
Donelan	Frances		2173
Doney	Christopher		2173
Dong	Erin		2131
Donges	Ruth		2000
Donlon	Kait		2173
Donlon	Rusty		2031(u)
Donnadieu	Elisa		2131
Donnaway	Joan		2000, 2131, 2173

Last Name	First Name	Org	CIN
Donnell	Bruce		2131
Donnelly	Diane		2131
Donnelly	Margaret		2173
Donnelly	Patrick	Center for Biological Diversity	3037, 6011(1)
Donnelly	Stephen		2173
Dono	Mike		2173
Donofrio	Maureen		2173
D'Onofrio	Adam		2000
D'Onofrio	Adam		2173, 2312
Donohoe	S		2000
Donohue	Eugene		2131
Donohue	Gloria		2173
Donohue	Paul	Lincoln County Board of County Comm-issioners	5009
Donohue	Roxanne		2173
Donovan	Carolyn		2173
Donovan	Elaine		2173
Donovan	Jeannie		2173
Donovan	Jill		2173
Donovan	Sarah		2173
Donovan-Popa	Mary		2173
Donston	Kacey		2173
Doochin	Dianne		2173
Dooley	Elizabeth		2131
Dooley	John		2131
Dooley	Mary		2173
Doolittle	Devon		2173

Last Name	First Name	Org	CIN
Doran	Patricia		2131
Dorchin	Susan		2173
Dorer	Michael		2173
Dorey	April		2173
Doria	Angela		2173
Doria	Carol		2173
Doris	Lily		2000
Doris	Theresa		2131, 2173
Dorish	Joan		2173
Dorn	Linda		2173
Dornback	Marijean		2000
Dorr	Kelly		2173
Dorrington	Jenny		2131
Dorsey	Susan		2173
Dorsey	Thomas		2000
Dorval	Melissa		2173
Dos Santos	Jamie		2173
Dosch	Mary		2000
Doss	Melissa		2000
Dostalek	Patricia		2131
Doster	Linda		2173
Dotson	Mike		2173
Doty	Carol		2173(1)
Doty	David		2173
Doty	Gregory		2173
Doty	Susan		2131
Doubleday	Peri		2173
Doucet	Lisha		2000, 2131, 2173
Doucette	John		2173
Doud	Janice		2173

Last Name	First Name	Org	CIN
Doud	Justin		2173
Dougher	Marilyn		2173
Dougherty	Dennis		2173
Dougherty	Julie		2173
Dougherty	Lyle		2000
Dougherty	Paul		2131
Doughty	Jonathan		2131
Doughty	Stephen		2000
Douglas	Dianne		2131(1)
Douglas	Fawn	Las Vegas Paiute Tribe	3026, 4012
Douglas	James		2173
Douglas	Jan		2131
Douglas	Jon		2173
Douglas	Kenneth		2000
Douglas	Lisa		2173
Douglas	Pat		2173
Douglas	Walter		2173
Douglass	Michael		2173
Douglass	Sharon		2000, 2173
Douglass	Theresa		2173
Doulakis	Joanna		2173
Doulatshahi	Paulette		2173
Doull	Deanna		2173
Dover	Jean		2173
Dow	Lois		2173
Dow	Rick		2173
Dow	Roxane		2131
Dowd	Pamela		2131, 2173
Dowdy	Margaret		2173
Dowell	Janet		2312
Dowell	Kathy		2173
Dowell	Stephanie		2000
Dowell	Stephanie Ann		2173
Dowis	Debbie		2173
Dowling	Holly		2000, 2131
Dowling	Samantha		2173
Downer	Craig		2000(1)
Downer	Patricia		2131
Downey	Deirdre		2131, 2173
Downey	Linda		2000(1)
Downey	Miriam		2131
Downie	Alice		2000
Downie	Elizabeth		2173
Downing	Mary		2173
Downing	Peggy		2173
Downing	Roz		2000(u), 2173(u)
Downing	Tammy		2173
Downs	J.		2173
Downs	John		2173
Downs	Sharon		2173
Dows	Kathie		2000
Dowson	Eleanor		2173
Doxey	Bruce		2131
Doxtator	Lisa		2173
Doyle	Aaron		2173
Doyle	Abigail		2173
Doyle	Anna		2173
Doyle	April		2173
Doyle	Claire		2173
Doyle	Kathleen		2131, 2173(u)
Doyle	Kevin		2131
Doyle	Kristina		2173
Doyle	Lisa		0156
Doyle	Martin		2312
Doyle	Nikki		2173
Doyle	Patricia		2173
Doyle	Polly		2173
Doyle	Suzanne		2000
Doyon	Nancy		2173
Drabbs	Mary		2131, 2173
Drabik	Bill		2173
Drabik	Jeanne		2173
Draege	L. M.		2173
Draeger	Ramona		2173
Dragavon	David		2173
Dragon	David		2173
Drahos	Ronald		2173
Drake	Mercy		2131, 2173
Drake	Nicole		2131
Drake	Sarah		2125
Drake	Tara		2173
Drake	Tasha		2173
Drapala	Kathleen		2173
Draper	Barb		2173
Draper	Harold		2312
Draper	Jan		2173
Dratch	Diane		2131
Drayden	Diane		2173

Last Name	First Name	Org	CIN
Drazek	Andrew		2173
Drea	Christine		2173
Drecktrah	David		2173
Dreeszen	Carolyn		2131, 2173
Dreger	Shannon		2173
Dreher	Diana		2173
Dreher	Elizabeth		2173
Dreimanis	Peter		2031(u)
Drembus	Joel		2000, 2173
Drescher	Kathleen		2173
Dresdner	Katherine		2173
Dressel	Benjamin		2173
Dressel	Tim		2173
Dresser	Kyle		2031(u)
Dresser	Kyle		2031(u)
Dreste	Arlene		2131, 2173
Drew	Janet		2173
Drew	Merry		2173
Drewelow	Beth		2173
Drews	Jane		2000, 2173
Dreyer	Judy		2031(u)
Dreyer	Sharyn		2131, 2173
Driessen	Lynn		2000, 2173
Driscoll	Jack		2173
Driscoll	Mary		2173
Driskill	Anna		2131
Dristiliaris	Arthur		2173
Driver	Darlene		2173
Driver	Ken		2000
Drobeck	Susan		2131
Drogan	Kathryn		2173
Drolshagen	Marva		2173
Droman	Rick		2173
Drommond	Christine		2173
Droodiani	Jay		2031(u)
Drop	Robert		2173
Drost	Deanna		2131
Drouin	Dale		2173
Drozda	Kathleen		2131
Drozdyk	Carol		2000, 2173
Drucker	Beverly		2173
Drucker	Susan		2173
Drueke	Paul		2173
Druffel	Tatiana		2000, 2131
Drum	Debra		2031(u)
Drum	Erin		2131
Drumming	Veronica		2173
Drummond	Anna		2173
Drummond	Jakob		2031
Drummond	Paul		2131
Drumright	Chris		2000, 2173
Drury	Bob		2173
Drury	Susan Maher		2173
Dryad	Anne		2173
Dryden	Marlie		2173
Dryer	Bonnie		2173
Dryer	Ellen		2173
Du Bois	Julie		2131
Du Plessis	Martin		2173
du Preez	Andrea		2173
du Preez	Denise		2000
Du Preez	Sieglinda		2000(1)
Dubavaya	Alena		2131
Dube	Gary		2173
Dubin	Kristina		2173
Dubinsky	Sandra		2173
Dubois	Gilles		2000
Dubois	Sandra		2173
DuBois	Sara		2173
Dubois	Sybille		2131, 2173
DuBray	Charmaine		2173
DuCharme	Christy		2173
duChateau	Guzel		2173
Ducker	Renee		2173
Duckson	Robert		2173
Duckworth	Alice		2131
Duckworth	Nadine		2173
Ducote	Alice		2173
Ducsik	Sharon		2173
Dudas	Anita		2000
Dudek	Deborah		2131
Dudley	Julie		2031(u), 2131
Dudrick	Roseann		2173
Dudzinski	James		2131
Duesterhoeft	Bruce		2173
Dufau	Pat		2173
Dufel	Laura		2173
Duffey	Kathy		2173

Last Name	First Name	Org	CIN
Duffie	Sonia		2173
Duffin	Simone		2173
Duffus	Kathleen		2000
Duffy	Diana		2173
Duffy	Emma		2131
Duffy	Kara		2173
Duffy	Mike		2173
Duffy	Patty		2173
Dufner	Emily		2173
Dufour	Eve		2000
Dugan	Constance		2173
Dugan	Dugan		2131
Dugan	Kathleen		2131
Dugan	Meg		2000
Dugan	Pamela		2173
Dugan	Shawn		2173
Dugas-Sellers	Debbi		2000
Dugaw	Anne		2173
Dugdale	Steven		2173
Duggan	Eric		2031(u)
Duggan	Paula		2173
Duggan	Steve		2173
Duggins	Brenda		2173
Dugmore	Wendy		2000(1)
Dukes	Phillip		2131
Dukes	Thomas		2173(u)
Dulak	Ronald		2173
Dulany	Lynda		2131
Dulas	Scott		2173
Duley	Deborah		2173
Duley	Rick		2173
Dulgeroff	Mary		2173

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Dulitz-Altman	Jeri		2131
Dull	Wilma		2173
Dullmeyer	Stacie		2173
Dumas	Lorraine		2173
Dumas	Marc		2173
Dumas	Martha		2173
Dumke	Sandy		2173
Dumler	Robin		2173
Dumond	Don		2173
Dumont	Paulette		2173
Dumrath	Wiebke		2173
Dunajska	Milena		2000, 2031(u)
Dunaway	Catherine		2173
Dunaway	Michaela		2131, 2173
Dunayer	Stan		2173
Dunbar	Christina		2173
Dunbar	Mikele		2173
Duncan	Barbara		2131
Duncan	Bryan		2173(u)
Duncan	DaLana		2173
Duncan	Jaye		2131
Duncan	Kellan		2173
Duncan	Kim		2173
Duncan	Laurie		2173
Duncan	Lawrence		2173
Duncan	Lee		2173
Duncan	Meagan		2031(u)
Duncan	Monica		2173
Duncan	Nancy		2173
Duncan	Pat		2173
Duncan	Renee		2173

Last Name	First Name	Org	CIN
Duncan	Scott		2173
Duncan	Sylvia		2173
Duncan	Teresa		2173
Duncanson	Stacy		2173
Dunford	Diane		2173
Dungerow	Janie		2173
Dunham	Elizabeth		2131
Dunham	Lori		2131
Dunhill	Diane		2173
Dunigan	Judy		2131
Dunkel	Trevor		2173
Dunkle	Doug		2131, 2173
Dunkley	Debbie		2173
Dunlap	Carl		2173
Dunlap	Dorothy		2312
Dunlap	Naomi		2131, 2173
Dunleavy	Pamela		2173
Dunleavy	Sheila		2173
Dunn	Bonnie		2173
Dunn	Connie		2173
Dunn	Debbie		2173
Dunn	James		2173
Dunn	John		2000
Dunn	Julie		2173
Dunn	Kathleen		2131, 2173
Dunn	Kelly		2000
Dunn	Kristina		2173
Dunn	Larry		0011
Dunn	Maggie		2000
Dunn	Micah		2000

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Dunn	Michelle		2173
Dunn	Pam		2173
Dunn	Pat		2131, 2173
Dunn	Rebecca		2173
Dunn	Roger		2000, 2131, 2173
Dunn	Shawn		2173
Dunn	Sherrykath-erine		2173
Dunn	Timothy		2173
Dunn	Tracey		2173
Dunn	Veronica		2000
Dunn	Warren		2312
Dunnahoo	Clare		2131
Dunnam	James		2173(u)
Dunne	Chros		2031(u)
Dunnington	Greg		2173
Dunsey	George		2173
Duong	Kevin		2173
Duong	Nic		2000, 2173
Dupilka	Jeff		2131
Duplan	Nancy		2000
DuPont	John		2088
Dupray	Cindy		2173
Dupree	Donna		2173
Dupree	Sarah		2173
Dupuree	Lisa		2173
Duralia	Melissa		2000
Duran	Candace		2131, 2173
Durand	Sarah		2312
Durant	Catherine		2173
Durbin	Eric		2173(u)
Durbin	Janice		2000, 2173
Durbin	Steve/ Stephen		2000(1), 2131, 2173(u)
Durcan	Carolyn		2173
Durden	Lynda		2173
Durham	Maggie		2173
Durkalski	Pamela		2173
Durkin	Carla		2173
Duro	Mark		2131
Durocher	James		2000
Durol	Joyce		2131
Duron	Clementina		2173
Duronio	Angela		2173
Durrer	Mary		2173
Durrum	Kathy		2131
Durst	Thomas		2131
Dusanovska	Nataliia		2000
Dusastre	Breanne		2031(u)
Dusek	Russ		2173
Dusman	Susan		2173
Dustin	FW		2000
Dustrud	Faith		2173
Dutcher	Kirsten		2031(u)
Dutka	Janice		2173
Dutka	Tanya		2173
Dutschke	Stephen		2173
Dutton	Alfred		2173
Dutton	John		2000
Dutton	Lisa		2173
Dutton	Michael		2173
Dutton	Monica		2173
Duval	Devin		2131
Duval	Jackie		2173
Duval	Trudy		2173
Duvall	Janet		2173
Duvall	Kaitlyn		2319
Duvert	Elizabeth		2303
Duvo	Anne		2173
Dwiyana	Lusia Yosefa		2173
Dwyer	Sylvia		2173
Dyakon	Douglas		2173
Dyas	Kathy		2173
Dybvig	Teresa		2173
Dycus	Terry		2173
Dyer	Darlene		2131
Dyer	John		2031(u)
Dyer	Paul		2173
Dyer	Susan		2173
Dygert	Scott		2173
Dykema	Angela	Governor's Office of Energy	5006(1)
Dykema	Barb		2173
Dykema	Cathy		2131
Dykema	Cornelius		2000
Dyksman	Leo		2131
Dylewska-Bujar	Renata		2000
Dynowski	Fiona		2173
Dyre	Margaret		2173
Dysart	Tonya		2173
Dyszel	Janet Petery		2312

Last Name	First Name	Org	CIN
Dziamba	Michelle		2173
Dzick	Ginger		2173
Dziekonski	Thadeus		2173
Dzienius	Susan		2173
Dzikoski	Angela		2131

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Last Name	First Name	Org	CIN
E	M		2031(u)
E	M		2173
E	Norm		2000
Eads	Jeffrey		2173
Eager	Rachel		2173
Eager	Robert		2131
Eagle	Steven		2173
Eagling	Katrine		2173
Eakin	Daniel		2173
Eakins	John		2131
Eales	Tracy		2173
Eames	Cheryl		2131(1)
Eames	Lee		2173
Eanes	Trina		2173
Earl	Hillery		2173
Earle	Ray		2173
Earles	Karen		2173
Early	George	Nevada Outdoor Recreation (NORA)	3016
Early	George		0197
Early	Lance		2031(u)
Early	Tim		2173
Early	Wally & Bonnie		2173
Earnheart	Edwenna		2131
Earnshaw	Shinann		2311
Easley	Philomena		2173
Eason	Michael		2131
Easson	Roger		2131
East	Gwendolyn		2173
East	Lawrence		2173
Eastabrooks	Ann		2173
Easter	Caitlin		2131
Easterling	Anne		2173
Easterly	Mendy		2173
Eastes	Mary		2000, 2173
Eastman	Ann		2173
Eastman	Anne		2173
Eastman	Mary		2173
Eastmead	Drew		2131, 2173
Easton	Rick		2173
Easton	Robert		2131
Easum	Ellen		2173
Eatherly	Gail		2173
Eathorne	Donna		2173
Eaton	Chris		2173
Eaton	Kathleen		2173(u)
Eaton	Kathleen		2173
Eaton	Lauren		2173
Eaton	Lucy		2173
Eaton	Paula		2173
Eaton	Sarah		2173
Eaton	Sheryl		2131, 2173
Eaton	Tim		2173
Eaton-Pike	Michelle		2173
Eatwell	Margy		2131
Eaves	Kelly		2173
Ebbitts	Naomi		2173
Eberhard	Patricia		2173
Eberhardt	Barbara		2131(u)
Eberhart	Bonnie		2173
Eberl	Karuna		2312
Ebers	Tammy		2000
Ebner	Maureen		2173
Ebner	Michael		2173
Eby	James		2173
Echegaray	Elsa		2173
Echristman	Mary		2173
Eck	J.J.		2131, 2173
Eckberg	Brenda		2000
Eckert	Angela		2173
Eckert	Ann		2131
Eckert	C.		2173
Eckert	Dorothy		2131
Eckert	Patti		2173
Eckert	Rachel		2173
Eckert	Rose		2173
Eckert	Wendy		2173
Eckler	John		2131
Eckwortzel	Gary		0246
Economou	Constantina		2000
Ecord	Rosanna		2131
Eda	Judith		2312(u)

Last Name	First Name	Org	CIN
Edder	Joyce		2173
Eddy	E		2173
Eddy	Melissa		2173
Eddy	Michael		2000
Eddy-Lee	Gladys		2173
Edelen	Jennifer		2000
Edelman	Amy		2173
Edelman	Ann		2173
Edelman	Reda		2131
Edelstein	Susan		2173
Eden	Jonathan		2173
Edenburn	Elaine		2031
Edenfield	Kari		2173
Edens	Alice		2173
Eder	John		2282
Edgar	Barbara		2173(u)
Edgar	Jamie		2000, 2131, 2173
Edgar	Judith		2000
Edge	Joseph		2173
Edgington	David		2131
Eding	Megan		2000
Ediss	Dimitry		2031(u)
Edlund	Kenneth		2131
Edmison	Sean		2173
Edmonds	Cliffe		2173
Edmonds	Matthew		2173, 2312
Edmonds	Steven		2173
Edmonds	Teresa		2000, 2173
Edmonds	Wanda		2173

Last Name	First Name	Org	CIN
Edmondson	Nancy		2173
Edmondson	Rick		2173
Edmonds-Rodgers	Joann		2173
Edmonson	Lorrie		2173
Edney	Cynthia		2131
Ednie	Kim		2173
Edsall	Thomas		2173
Edwards	Al		2131
Edwards	Elizabeth		2173
Edwards	Elizabeth Carol		2000
Edwards	Eric		2000, 2173
Edwards	George		2173
Edwards	Greg		2173
Edwards	Kellie		2031
Edwards	Linda		2131
Edwards	Margaret		2173
Edwards	Mark		2031(u)
Edwards	Monique		2173
Edwards	Paula		2173
Edwards	Peri		2173
Edwards	Rhonda		2173
Edwards	Stephanie		2173
Edwards	Stephen		2131
Edwards	Victoria		2131
Edwards	William		2173
Edwardson	Dandelo		2173
Edwardy Towle	Denise		2173
Efant	Sue		2173
Efhan	Donna		2173
Efthymiou	Katie		2000

Last Name	First Name	Org	CIN
Egan	Janet		2131
Egan	Katharine		2173
Egan	Kevin		2173
Egan	Lola		0050
Egan	Margie		2173
Egan	Susie		2173
Egbert	Mary Lee Lassett		2173
Egbert	Tenaya		2000, 2173
Egen	Gretchen		2173
Eggenberger	Florian		2131
Eggert	Joyce		2173
Eggie	Lisa		2173
Eggleston	Elizabeth		2173
Eggleston	Jerri		2131
Eglintine	Joel		2173
Egtvedt	Claire		2173
Ehline	Patti		2131
Ehnes	Tiffany		2173
Ehrgott	David		2131
Ehrhardt	Carole		2272
Ehrhardt	Erin		2173
Ehrhardt	Timothy		2173
Ehrlich	Barbara		2173
Ehrlich	Henry		2173
Ehrlich	Isaac		2173
Ehrnman	Sammy		2173
Eichelberger	Edwin		2173
Eichen	Kathleen		2173
Eichenberg	Erin		2081
Eicher	Annie		2173
Eicher	Randi		2173

Last Name	First Name	Org	CIN
Eide	Brandu		2031(u)
Eide	Mary		2173
Eidenbach	Peter		2131
Eiffert	Jennifer		2173
Eigen	Michelle		2173
Eigen	Susan		2000
Eikeland	Karen		2173
Eikenbary	Susan		2131, 2173
Eiler	Louise		2173
Eisberner	Holly		2173
Eisenbeis	Elizabeth		2173
Eisenberg	Eric		2173
Eisenberg	Judith		2173
Eisenberg	Michael		2173
Eisenberg	Paul		2173
Eisentrager	Evan		2000, 2173
Eisman	Gregg		2173
Eisner	Susan		2173
Ekard	Brian		2173
Ekland	Marianne		2173
Eklund	Glenn		2173
Elam	Judi		2173
Elam	Susan		2173
Elamma	Christy		2173
Elberti	Jane		2173
Elbow	Linda		2173
Eldard	Leslee		2000, 2173
Elder	Debra		2173
Elder	Fonda		2173

Last Name	First Name	Org	CIN
Elders	Pamela		2131, 2173(u)
Elderton	Lisa		2173
Eldredge	Mary		2000
Eldridge	Chantal		2173
Eldridge	Claire		2173
Eldridge	Cristina Vialmin		2173
Eldridge	Karen		2173
Eldridge	Sara		2000
Elems	Greg/ Gregory		2000, 2173
Elepano	Amy		2000, 2173
Eley	James		2173
Elf	Pamela		2173
El-Farkh	Terri		2173
Elgin	Bill		2173
Elgut	Eileen		2173
Elgut	Malcolm		2000, 2131
Elia	Marguerite		2000
Elias	Carol		2173
Elias	Jesse		2173
Elias	Marlen		2173
Eliason	Carol		2173
Eliasson	Marguerite		2173
Elicerio	Audrey		2173
Elijah	Mathews		2173
Eliopoulos	Jacqueline		2131, 2173
Elise	Amy		2000
Elkins	Carol		2000, 2173
Elkins	Cheryl		2173

Last Name	First Name	Org	CIN
Elkins	D. Elkins		2173
Elkins	Melinda & Orville		2173
Elkins	Rachel		2288
Elkins	Sharon		2173
Ell	Erica		2173
Elledge	Heather		2173
Ellefsen	Trissa		2173
Ellen	Barbara		2173
Ellen	Nancy		2173
Ellenberg	Jane		2173
Ellicott	Alison		2000
Ellifrits	Cherie		2173
Elling	Skye		2000
Elliot	J		2173
Elliot	Serelda		2173(u)
Elliott	Alyssa		2131
Elliott	Benton		2000
Elliott	Carolyn		2131
Elliott	Claire		2173
Elliott	D		2173
Elliott	Jean		2173
Elliott	Jim		2173
Elliott	John		2173
Elliott	Judith		2173
Elliott	Laine		2173
Elliott	Laura		2131
Elliott	Leonard		2312
Elliott	Liza		2173(u)
Elliott	Lynn		2312
Elliott	Meredith		2173
Elliott	Naomi		2173

Last Name	First Name	Org	CIN
Elliott	Shannon		2173
Elliott	Shawn		2173
Elliott	Susan		2173(u)
Elliott	Victoria		2173
Elliott	Vincent		2173
Elliott	Virgil		2173
Elliott	William		2173(u)
Elliott-Brown	Judith		2173
Elliott-Holmes	Ann		2173
Ellis	Anne		2173
Ellis	Carol		2173
Ellis	Carol		2173
Ellis	Carol		2173
Ellis	Dale		2131
Ellis	Debbie		2131, 2173
Ellis	Graham		2173
Ellis	Julie		2173(u)
Ellis	Kathryn		2000
Ellis	Koll		2000
Ellis	Margaret		2173
Ellis	Mary		2131(1), 2173
Ellis	Sage		2031(u)
Ellis	Shelia		2000, 2173
Ellis	Steve		2312
Ellis	Susan		2173
Ellis	Susan		2173
Ellison	Jane		2173
Ellison	Margery		2131
Ellis-Vickers	Camille		2173
Ellman	Deborah		2173

Last Name	First Name	Org	CIN
Ello	Joan		2173
Ellois	Austin		2173
Ellsperman	Ken		2173
Ellsworth	John		2000, 2131
Ellsworth	Morgan		2000
Elman	Mark		2173
Elmer	Jane		2173
Elmes	Janet		2000
Elmore	Aramoana	Kiwis in Las Vegas	3028
Elmore	Rata	Kiwis in Las Vegas	3027, 4010
Elmore	Ronald/ Walter		2000, 2173
Elpers	Mary Jo		2000, 2031(u)
Elphinstone	John		2173
Elrod	Dorothy		2173
Elsayed	Christina		2173
Elsbrock	Joanne Koehl		2173
Elsby	Jen		2131, 2173
Else	Carol		2173
Elsener	Paul		2173
Elsibay	Kathleen		2173
Elston	Crystal		2173
Elton	Tina		2173
Elvester	Kelly		2031(u)
Elvira	Concepcion		2131
Elwell	Herbert		2173
Elwell	Teddy	Public land owner	0311
Elwood	Kyle		2173

Last Name	First Name	Org	CIN
Ely	Richard		2173
Elzby	Richard		2173
Emanuel	Karen		2173
Emanuel	Katrina		2173
Embers	Pat		2173
Embid	Eileen		2131
Embler	Kyle		2173
Embree	Angela		2173
Embrey	Richard		2173
Embry	Judith		2173
Embry	Regina		2173
Emdy	Lorna		2173
Emerick	Craig		2173
Emerick	Phil		2173
Emerick	Susanne		2131
Emerle-Sifuentes	Jennifer		2000, 2173
Emerson	Carole		2173
Emerson	Chelsea		2173
Emerson	Dakin		2173
Emerson	Darrel		2131
Emerson	Jan		2173
Emerson	Kathy		2131
Emerson	Larry		2173
Emerson	Shirley		2173
Emerson	Susan		2173
Emery	Angie		2173
Emery	Gunnar		2031(u)
Emery	Jane		2173
Emery	Kerry		2173
Emery	Maryann		2000
Emery	Pam/Pamela		2000, 2173

Last Name	First Name	Org	CIN
Emery	Susan		2173
Emeson	Martha		2173
Emlet	Mark		2173
Emlinger	Wendy		2173
Emmel	Elizabeth		2182
Emmerich	Kevin	Basin and Range Watch	3047, 3061, 6031
Emmerth	Victoria		2000, 2173
Emmerton	Keith		2173
Emmetti	Maria		2173
Emmons	Roberta		2173
Emmons	Robin		2173
Emond	Lise		2173
Empereur	Chad		2173
Empson	Nancy		2131, 2173
Emrick	Carol		2173
Emry	Michelle		2131
Emrys	Merlin		2000
Emswiler	Noel		2173
Enamorado	Naomi		2000
Enani	Jennifer		2173
Encarnacion	Laren		2173
Endes	Ernest		2173
Endresen	Vonnie		2173(u)
Endress	Daphne		2000, 2173
Endries	Tara		2173
Enfield	Martie		2173
Engel	Vianna		2173
Engelbert	Jane		2173
Engelbrecht	Amanda		2173
Engelbrecht	Lindi		2000
Engell	Dana		2000, 2173
Engels	Angelika		2000
Engelsman	Kate		2131
Engineer	Yasmin		2173
England	Bruce		2173
England	Diane		2131
England	Laura		2131
Engle	I.		2000, 2173
Engle	Mary		2173
Engle	Richard		2173
Engledow	Helen		2000
Englehart	Kristen		2173(1)
Engleman	Jim		2173
Englender	Carol		2173
Engler	Carol		2173
Englert	Jillian		2131
English	Ann		2131, 2173
English	Denie		2173
English	Donna		2173
English	Kim		2173
English	Mary		2173
English	Paulette		2131
English	Sheila		2173
English-Daniels	Marcia		2173
Englund	Klaudia		2173
Englund	Melody		2131
Engonidis	Peter		2173
Engquist	Pamela		2173
Engst	Joan		2173
Enholm	Traci		2131
Ennis	Martha		2131, 2173
Ennouri	Elena		2000
Ennouri	Elena		2173
Enos Jr	Wayne		2173
Enrich	Albert Roca		2000, 2173
Ensign	Dianne		2000(u)
Ensman	Tammy		2131, 2173
Ensor	Sandy		2173
Enzi	Sharon		2173(u)
Enzinna	Susan		2131
Epailly	Guillemette		2173
Epding	Al		2173
Eppelheimer	MaryAnn		2173
Eppen	Loretta		2173
Epperson	Leslie		2131
Epperson	Renee		2173
Eppler	Julie/Ann		2000, 2173
Epstein	Judy		2000(u)(1) 2173
Epstein	Ken		2173
Epstein	Sarah		2173
Epstein	Sarah		2173
Erazo	Shawna		2131, 2173
Erb	Arthur		2173
Erba	Antonino		2173
Erbs	Lori		2173
Erceg	George		2173
Erckmann	Lynn		2173

Last Name	First Name	Org	CIN
Erdakos	Garnet		2173
Erdeljac	Joseph		2173
Erdmann	Donette		2000, 2173
Eremita	Linda		2131
Erez	Genevieve		2173
Erhart	Marla		2131
Erhorn	Walter		2000, 2173
Eric	Mauguy		2173
Ericksen	Allen		2173
Ericksen	Thomas		2173
Erickson	B.		2173
Erickson	Janet		2131
Erickson	Karen		2173
Erickson	Karen		2173
Erickson	Kathleen		2173
Erickson	Lori		2173
Erickson	Margaret		2173
Erickson	Penny		2173
Erickson	Rebecca		2173
Erickson	Steve		2000
Erickson	Steve		2173(u)
Erickson	Suzanne		2173
Ericson	Eric		2173
Ericson	Gretchen		2000
Ericson	Susan		2020
Erie	Donna		2173
Eriksen	Sylvia		2173
Eriksson	Annica		2173
Eriksson	Cecilia		2173
Erkfritz	Kirsten		2131
Erlbaum	Sheila		2173
Erlick	Rob		2173
Ernst	Cathie		2131, 2173
Ernst	Sharon		2173
Erquiaga	Carl	Theodore Roosevelt Conserv-ation Partner-ship	6012
Errington	William		2131
Ertaud	Alex		2031(u)
Ervin	Caroline		2173
Ervin	Jane		2173
Erwin	Christy		2173
Erwin	Jeffrey		2000, 2131, 2173
Erwin	Kelly		2173
Erwin	Phyllis		2173
Esajian	Nancy		2173
Escarcega	Christopher		2000
Esch	Dean		2131
Eschmann	Deborah		2173
Escobar	Lucy		2173
Escobar	Ron		4015
Escobar	Victor		2173
Escobedo	Cindy		2173
Esden-Tempski	Danika		2173
Eskew	Jerry		2000(1), 2131, 2173
Eskuri	Rachel		2173
Esler	Izzy		2000
Esmonde	Laurel		2173
Espamer	Kathleen		2173
Esparza	Kerry		0068
Esparza	Maria		2131
Espe	Greg		2173
Espeleta	Catalina		2173
Espenel	Renee		2173
Espinosa	Patricia		2131
Espinosa	Randy		2000
Espinoza	Bernadette		2173
Espinoza	Robert		2173
Esposito	Brittany		2131, 2173
Esposito	Dan		2000
Esposito	Erika		2173
Esposito	J./Jennifer		2131(u), 2173
Esposito	Karen		2173
Esposito	Karen		2173
Esposito	Louis		2173
Esposito	Russell		2173
Esposito	Susan		2173
Esposito	Thomas		2131
Esposito	Thomas and June		2131(u)
Esprit	Joy		2173
Esser	Nicholas		2000
Essig	Miranda		2173
Esswein	Paul		2031(u)
Estacion	Carlene		2173
Estep	Baylee		2031(u)
Estes	Carl		2000
Estes	Donna		2173
Estes	Elizabeth		2131

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Estes	Michaela		2000, 2173
Esteve	Gregory		2131
Esteves	Ana		2173
Estevez	Nicolas		2173
Estis	Jeff		2131
Estok	Karen		2000, 2173(u)
Estrada	April		2000
Estrada	Hank		2173
Estrada	Kimberly	Progress-ive Leadership Alliance of Nevada	0010, 3022
Estrada	Laurie		2173
Estrada	Marina		2173
Estrada	Melinda		2173
Estruch	Mario		2000
Etancelin	Corinne		2173
Etgen	Benjamin		2173
Etherton	Mary		2173
Etter	John		2173
Eubank	Foster		2173
Eucalyptus	Linda		2173
Eudy	Elaine		2173
Eukitis	Joan		2173
Eunice	Elissa		2173
Eunson	Jean		2173
Euripides	V.		2000
Eurs	Albert		2000
Evans	A		2173
Evans	A. S.		2000
Evans	Ann		2131(u)
Evans	Anne		2173
Evans	Brenda		2000, 2173
Evans	Bronwen		2000, 2173 (1)
Evans	Cathryn		2131
Evans	Chad		2173
Evans	Chris		2131, 2173(u)
Evans	Christopher		2000
Evans	Cliff/Donald		2131(u), 2273
Evans	Dorothy		2173
Evans	Gary		2173
Evans	Hersha		2000, 2173
Evans	Holly		2173
Evans	Jack		2173
Evans	James		2173
Evans	Jeanette		2173
Evans	John		2173
Evans	Kathy		2173
Evans	Leslye		2173
Evans	Martin		2000
Evans	Mary		2173
Evans	Michael		2000
Evans	Pam		2173
Evans	Patricia		2173
Evans	Rachel		2173
Evans	Ramona		2173
Evans	Staci		2173
Evans	Stefanie		2173
Evans	Steven		2131
Evans	Susan		2173
Evans	Walter		2173
Evanston	Luci		2173
Evaristo	Mark		2319
Evask	Melissa		2173
Eve	Tracy		2000, 2173
Evely	Pam		2173
Evensen	Raymond		2173
Evenson	Leslie		2173
Evenson	Marilyn		2000, 2131
Everett	John		2173
Everett	Karla		2173
Everett	Maria		2173
Everett	Rita		2131
Evergreen	Diane		2131
Eversole	April		2000, 2173
Evert	Herb		2173
Everts	Connie		2173
Evilsizer	Dale		2173
Evilsizer	Susan		2173
Evinczik	Eric		2000
Evon	Debra		2000
Evoy	Carol		2173
Ewald	Christina		2173
Ewald	Evan		2173
Ewart	Anne		2173
Ewell	Harry & Carol		2173(u)
Ewert	Jeanne		2173
Ewing	Ann		2131
Ewing	Marianne		2173

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Ewing	Tania		2131
Excell	Tim		2000
Exstrom	Gail		2173
Eye	Candice		2173
Eyres	Melody		2131, 2173
Eysenbach	Tom		2173
Eza	Tonya		2000, 2173
Ezernack	Vanessa		2173

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Last Name	First Name	Org	CIN
F	Annette		2173
F	E		2173
F	Ed		2000
F	Vicki		2000
F.	Amy		2131
F.	R.		2173
Faas	R.		2173
Fabbri	Patrica		2173
Faber	Erika		2173
Faber	Heather		2173
Faber	Megan		2131, 2173
Fabis	Anna		2173
Faccioni	Donna		2173
Face	Valerie		2000(u)
Fachko	D		2173
Faegre	Dirk		2173(u)
Faes	Stephen		2173
Fagan	Karen		2131
Fahlman	Cheryl		2000, 2173
Fahmy	Natalie		2173
Fahrenwald	Gill		2173
Fahy	Elizabeth		2173
Faia	Don		2173
Faia	Steven		2000
Faich	Ron		2000
Fain	Glenn		2173
Fain	R.		2173
Fair	Jeanine		2173
Fair	Linda		2000
Fairbank	Donn		2131
Fairbanks	Bruce		2173
Fairburn	Dave		2173
Fairfield	Hal	USFWS volunteer Ash Meadow NWR	0006, 0116
Fairless	Judy		2197
Fairley	Peter		2000, 2031, 2173
Faison	Sandy		2173
Faith-Smith	Bonnie		2000, 2131(1)
Fakharzadeh	Gaynell		2131
Falacara	Linda		2173
Falcon	Maria		2173
Falcone	Janet		2131
Falcone	Susan		2000
Falconer	Jay		2000
Faler	Nelson		2173
Falk	Karen		2173
Falkowitz	Daniel		2173
Falkowitz	Nicole		2173
Fall	Fred		2000
Fallander	Susan		2131
Fallenbach	Susan		2173
Faller	Gael		2000
Faller	Lisa		2173
Falley	Nanci		2173
Fallini	Joe		3067
Fallis	Jane		2173
Fallon	A		2131
Fallon	Ellen		2173
Fallon	John		2173
Falsetta	Jennifer		2173
Falsetto/F.	Rita/R.		2000, 2131(1), 2173
Falvai	Gigi		2173
Family	Baty		2173
Famorca	Sharon		2173
Fanari	Marco		2131
Fancher	Mary Kathryn		2173
Fanciullo	Christina		2173
Fanelli	Lynn		2173
Fannin	Beverly		2173
Fanto	Joseph		2173
Farabaugh	Clare		2173
Faraci	Joseph		2173
Farago	Melissa		2173

Last Name	First Name	Org	CIN
Farajollahi	Laylee		2173
Faramelli	Jo		2131
Farber	Carol		2173
Farber	Erin		2173
Farber	Joyce		2131
Fardoulis	Emmanuel		2173(u)
Farenkopf	Hannah		2173
Farino	Jo Anne		2131
Faris	Aaron		2173
Farkas	Elizabeth		2131
Farley	Barry		2000, 2173
Farley	Chanda		2173
Farley	Danny		2173
Farlow	Susan		2173
Farm	Louise		2031(u)
Farmer	Bonnie		2173
Farmer	Lynne		2000, 2173
Farnell	Liz		2131
Farneth	Sara		2173
Farnsworth	Adrian		2173
Farnsworth	Lori		2173(u)
Farnsworth	Ruth		2000
Faron	Mary		2173
Farone	Martha		2173
Farquhar	Sandra		2173
Farr	Cary		2173
Farr	Daniel		2173
Farr	Leonard		2173
Farr	Sarah		2131

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Farrand-Bernardin	Shannon		2173
Farrar	Carole		2173(u)
Farrar	Elizabeth		2131
Farrar	Jennifer		2131
Farrell	Dorrie		2173
Farrell	Jim		2173
Farrell	Kate		2000, 2173
Farrell	Kelleen		2173
Farrell	Margaret		2173
Farrell	Roberta		2131
Farrelly	Val		2131
Farren	Michael		2173
Farreny	Ashley		2173
Farrimond	Joanne		2131
Farrington	Quinn		2173
Farris	Dawn		2173
Farris	Jean		2173(u)
Farris	Kristy		2173
Farris	Nona		2173
Farry-Menke	Janice		2173
Farwell	Geralyn		2131(1), 2173
Fasano	Richard		2173
Faso	Linda		2000, 2173
Fass	Arline		2000, 2131, 2173
Fassbender	Jennifer		2000
Fassler	Kathryn		2131, 2173

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Fassman	D.		2173
Fast	Yvonne		2000, 2173
Fastuca	Meagan		2173
Fatzinger	Donald		2173
Faucher	Dan		2000
Faucher	Sandra		2000
Faughnan	Brian		2173
Faul	Tim		2173
Faulkner	Anita		2173
Faulkner	Susan		2173
Faunce	Sherrill		2173(u)
Faunce	Tracy		2173
Faust	Liza		2173
Faust	Marjorie		2000
Fausty	Joshua		2173
Favela	Kelli		2031(u)
Favia	Gianna		2173
Favinger	Tonya		2131
Favorite	Charles		2000
Favreau	Crisanna		2173
Fay	Alicia		2173
Fay	John		2173(u)
Fay	John		2173
Fayyad	Tareq		2000
Fe	Rober		2173
Feagin	Norma		2173
Fear	Michael		2000
Fearnow	Justine		2173
Fears	Michael		2131
Featherstone	Diane		2173

Last Name	First Name	Org	CIN
Fechner	Joann		2173
Feck	Charlotte		2131(u), 2173(u)
Fecko	Albert		2173
Fedell	Nancy		2173
Federico/F	Kellie/K		2131, 2173
Federman	Steven		2000, 2173
Fedorov	Kristina		2173
Fedorow	Dinah		2173
Fee	Audrey		2173
Fee;ey	Marie		2173
Feehily	Miriam		2000(1)
Feeney	John		2000(u)
Feerick	Chuck		2031(u)
Fegan	Mike		2173
Fegette	Kathrine		2173
Feichtinger	Dennis		2173
Feichtinger	Ralph		2173
Feierabend	Marla		2173
Feig	Andrea		2131
Feiler	Karen		2173
Feilmeyer	K		2173
Feinberg	Tenley		2173
Feiner	Eliane		2031(u)
Feinfeld	Daryl		2173
Feinman	Lori		2173
Feintuch	Ze'v		2173
Feirtag	Donna		2173
Feissel	John		2000
Feist	Bobbi		2173
Feit	Rich		2173
Fejes	Suzanne		2173
Fekete	Dezso		2173
Felber	Michael		2173
Feld	Helen		2000
Feldberg	Sharon		2000, 2173(u)
Felder	Maggie		2173
Feldman	Beth		2173
Feldman	Joel		2173
Feldman	Mark		2000, 2173(u)
Feldman	Tracy		2173(u)
Feldmann	Heike		2000
Felice	Patricia L D.		2173
Felix	Jon		2173
Felix	Robert		2173
Felker	Mary		0225, 2131
Felker	Taylor		2173
Fellows	Leslie		2173
Fellows	Leslie		2000
Felnagle	Deborah		2131
Felsinger	Art		2131
Felsner	Susan		2173
Felte	Sandra		2131
Felton	Adam		2173
Felty	Anne		2173
Fendell	Susan		2173(u)
Feng	Anna		2173
Feng	JingYu		2319
Fennell	Shirley		2000
Fenske	Marlene		2173
Fenske	Tammy		2173
Fenster	Remy		2173
Fenster	Steven		2000, 2173
Fenter	Evelyn		2173(u)
Fenter	Evelyn		2000
Fenton	Reed		2173
Ferber	Yvonne		2173
Fergeson	Cheryl		2000, 2131, 2173, 2312
Fergus	Peggy		2173
Ferguson	Alan		2173
Ferguson	Brian		2000
Ferguson	Charlene		2173
Ferguson	Cory		2173 (1)
Ferguson	Cynthia		2312
Ferguson	Cynthia		2173
Ferguson	Deb		2312
Ferguson	Donna		2131, 2173
Ferguson	Erin		2173
Ferguson	Erin		2173
Ferguson	Joanie		2131
Ferguson	Ken		2173
Ferguson	Lisa		2173
Ferguson	Lloyd		2131
Ferguson	Lorna		2173(u)
Ferguson	Marcia		2173
Ferguson	Ray		2173

Last Name	First Name	Org	CIN
Ferguson	Roxanne		2131
Ferguson	Roy		2131
Ferguson	Susan		2173
Ferguson	Susan		2173
Ferguson	ZJudith		2312
Ferioli	Gayle		2173
Ferland	Emily		2173
Ferland	Linda		2173
Ferlito	Alissa		2000, 2173
Ferman	Pam		2131, 2173
Fermoile	Christy		2121
Fernald	Annie		2173
Fernald	Kirk		2173
Fernande	Fournier		2000
Fernandes	Claudia		2173
Fernandez	Jeffrey		2173
Fernandez	Juana Valenti		2173
Fernandez	Karen		2131
Fernandez	Kathleen		2000
Fernandez	Sam		2131
Fernandez	Terry		2173
Fernando	Tilak		2173
Ferner	John		2131
Ferneyhough	Richard		2173
Ferrando	Caroline		2173
Ferrante	Anna		2173
Ferrante	Marie		2000
Ferrante	Traci		2131
Ferranti	Heather		2173

Last Name	First Name	Org	CIN
Ferrara	Diane		2173
Ferrara	Robert		2000(2)
Ferrara	Salvator		2173
Ferrari	Alessandra		2000
Ferrari	Andrea		2131
Ferraro	Fabrizio		2000
Ferraro	Lara		2173
Ferraro	Mary		2173
Ferreira	Ronald		2173
Ferreiro	Carmen		2173
Ferrell	Arleen		2173
Ferrell	Judith		2173
Ferrer	Nuria		2173
Ferreria	Nicole		2173
Ferri	Jessie		2000
Ferrio	Chris		2173
Ferris	Deborah		2173
Ferris	Gail		2131
Ferris	Ken		2173
Ferris	Robbyn		2131
Ferro	Andre		2000(1)
Ferry	Gwen		2000(1)
Ferry	Richard		2173
Ferry	Steve		2000
Fersch	Linda		2173(u)
Fertig	Asano		2173
Fesi	Annemarie		2173
Fest	Bek		2000
Fetter	Sharon		2173
Fetterly	Ila		2173
Fettig	Julia		2173

Last Name	First Name	Org	CIN
Fetzek	Eve		2173
Feu	Sam		2173
Feuchter	Robert H		2173
Feuerbacher	Nancy		2031(u), 2131, 2173
Feuereisova	Anandi		2173
Feuerle	Lois		2173
Feuerman	Neal		2173
Feuerstein	Laura		2173
Feuille	Leslie		2000
Fexis	Deborah		2000, 2173
Feyh	Sara		2173
Feyhl	Jo		2000
Feyk	Craig		2173
Fickling	Karl		2173
Fidel	Bela		2131
Fidler	Gabriel		2000
Fieber	A		2131
Fiedler	David		2173(u)
Fiedler	Ed		2000, 2173
Fiedler	Mark		2173
Fiedler	Rhona		2173
Fiedor	Jillian		2000
Field	Ashley		2173
Field	Brian		2173
Field	David		2173
Field	Dawn		2173
Field	Liz		2000, 2131
Field	Patricia		2173

Last Name	First Name	Org	CIN
Field	R D		2131
Field	Tanya		2131
Fielden	Kelli		2131
Fielder	Aixa		2173
Fields	Ann		2131
Fields	Becky		2173
Fields	Jo		2195
Fields	Jon		2173
Fields	Joslin		2000(u), 2173
Fields	Mark J		2173
Fields-Barclay	Kristal		2131
Fifer	Dolores		2173
Fifer	Emily		2131
Fifer	Nancy		2173
Fighera	Linda		2173
Figtree	Craig		2173
Figueiredo	Marcus		2173
Figueroa	Argelia		2173
Figueroa	Daniel		2131, 2173
Filas	Tamara		2173
Filauri	Joyce		2173
File	Jessica		2173
Filer	Lee		2173
Filip	Thomas		2173
Filipek	Jaime		2173
Filipic	Randy		2131
Filippi	Janet		2000
Filipski	A. R.		2173
Filkins	Joanne		2173
Filler	Stephen		2131
Fillion	Dana		2173
Fillmore	Frederick		2131
Fillmore	Jamie		2000
Filocamo	Kevin		2173
Filozof	Jeff		2000
Filozof	Ruth		2000, 2173
Filter	Dane		2031(u)
Finamore	Scott		2173
Finch	Sondra		2131
Findeisen	Rosamunda		2173
Findlay	Robert		2173
Findley	Gail		2131
Findley	Helen		2173
Fine	Cindy		2000, 2173
Fine	Jonathan		2173
Fine	Michael		2000, 2260
Fine	Peter		2173
Finegan	Rowena		2173
Finelli	Mary		2000
Finger	Dorothy		2173
Fingerhut	Barry		2173
Fingerman	Robert		2173
Fink	Bill		2173
Fink	Brian		2000
Fink	Patti		2173
Finke	Maryann		2173
Finkel	Dwight		2131
Finlay	Eleanor		2131
Finlay	Susan		2173
Finlay-Kochanowski	Jeannie		2131(1), 2173
Finley	Joel		2173
Finley	Margaret		2173
Finley	Susan		2173
Finn	Jim		2000
Finn	Julie		2173
Finn	Kelly		2173
Finn	Michael		2173
Finnegan	Cheryl		2173
Finnegan	Cynthia		2173
Finnegan	Pamela		2000, 2131, 2173
Finnell	Adria		2131
Finnell	Teresa		2244
Finnerty	Margaret		2158
Finney	Sandra		2173
Finocchiaro	Lolly		2173
Fins	Eddie		2173
Finsness	Paul		2000
Finsterwalder	Mary Jo		2131(u)
Finucan	Dayna		2131
Finzer	Chris		2131(1)
Fiodorow	Sabrina		2173
Fioramonte	Giovanni		2131
Fiore	Melody		2000, 2173
Fiorella	Pat		2173
Fiorello	Brian		2173
Fiorillo	Joseph		2173

Last Name	First Name	Org	CIN
Firebaugh	Bunny		2173
Firestine	Brad		2173
Firestone	Lynne		2173
Firlit	Dawn		2173
Firmage	Gertrud		2173
Firmin	Richard		2173
Firneno	John		0251
Firth	Richard		2173
Firth	Walter		2000
Fischbach	James		2131
Fische	Joei		2173
Fischer	Carl		2173
Fischer	Dave		2131
Fischer	Donald		2131
Fischer	Elaine		2000
Fischer	Jamie		2173
Fischer	Karin		2173
Fischer	Kit	National Wildlife Federation	0323
Fischer	Lise		2173
Fischer	Lynn		2173
Fischer	Martha		2131
Fischer	Phil		2173
Fischer	Quentin		2131, 2173
Fischer	Todd		2173
Fischer	Wendy/Dan		2000
Fischer-Bixler	Simona		2173
Fischman	Lawrence		2173
Fish	Jason		2173
Fish	Mhope		2173
Fish	Vivian		2173
Fisher	Amy		2000
Fisher	Andrew		2173
Fisher	Andrew		2000
Fisher	Avis & Jeff		2173
Fisher	C		2000
Fisher	Denise		2173
Fisher	Geoffrey		2173
Fisher	Gloria		2131
Fisher	John		2173
Fisher	Juels		2173
Fisher	Keith		2173
Fisher	Kimberly		2173
Fisher	Kristina		2131(u)
Fisher	Laurie		2000(1)
Fisher	Nada		2173
Fisher	Ray		0205
Fisher	Robyn		2173
Fisher	Russell		2173
Fisher	Sandra		2173
Fisher	Sarah		2173
Fisher	Sharon		2173
Fisher	T		2173
Fisher	Tammy		2173
Fishgold	James		2000
Fishman	Ted		2173
Fisk	Anne		2173
Fisk	Michele		2173
Fisk	Miranda		2173
Fiske	Constance		2173
Fiske	Kelly		2173
Fissinger	Julie		2173
Fister	John		2173
Fister	Lee		2312
Fitch	Denise		2173
Fitch	Margaret		2173
Fite	Barbara		2173
Fite	Gregory		2173
Fite	Katie		2000
Fitton	Michelle		2173
Fitzgerald	Allie		2173
FitzGerald	Gail		2173
Fitzgerald	John		2173
Fitzgerald	Karen		2173
Fitzgerald	Kathleen		2173
Fitzgerald	Kay		2000(u)
Fitzgerald	Kaylee		2031(u)
Fitzgerald	Kelsey		2031(u)
Fitzgerald	Stacy		2031(u)
Fitz-Gerald	Christine		2173
Fitzke	Marion		2000
FitzPatrick	Alison		2000, 2173
Fitzpatrick	Emma		2131(u)
Fitzpatrick	John		2173
Fitzpatrick	Kimberly		2131
Fitzpatrick	Melody		2173
Fitzpatrick	Paul		2173
Fitzsimmons	Mary		2173
Fitzwilliam	Jane		2173
Fix	Peggy		2173
Fizer	Judie		2173

Last Name	First Name	Org	CIN
Flach	Bärbel		2000
Flach	Melanie		2000
Fladger	Robert		2173
Flaherty	Kathleen		2131
Flaherty	Ruth		2000
Flake-Bunz	Colette		2173
Flanagan	James		2173
Flanagan	Marianne		2173
Flanagan	Tamara		2131
Flanders	Gail		2173
Flannery	Marcia		2000, 2173
Flanz	Anne		2173
Flasch	John		2173
Flater	John		2173
Flater	Tracey		2173
Flather	Cortney		2173
FlattHoma	Robin		2173
Flax	Joyce		2173
Fleck	Olivia		2173
Fleck	Richard		2131
Fleckenstine	Debbie		2173
Fleener	Roger		2173
Fleischer	Kim		2173
Fleischer	Tim		2173
Fleming	Barbara		2173
Fleming	Christopher		2031(u)
Fleming	Cindy		2131
Fleming	David		2000
Fleming	Jennifer		2131

Last Name	First Name	Org	CIN
Fleming	John and Jean		2173
Fleming	Kelly		2039
Fleming	Lauren		2173
Fleming	Lis		2173
Fleming	Michael		2173
Fleming	Nancy		2173
Fletcher	Barbara		2131, 2173
Fletcher	Bonnie		2000, 2173
Fletcher	Brooke		2173
Fletcher	Carole		2241
Fletcher	Cassie		2000
Fletcher	Claudia		2173
Fletcher	Elaine		2173
Fletcher	Janet		2173(u)
Fletcher	Jeanne		2000
Fletcher	Melissa		2031
Fletcher	Paddy		2173
Fletcher	Rebecca		2173
Fletcher	Russell		2131, 2173
Fletcher	Todd		2173
Fletcher iv	Robert J.		2000
Flick	Jean		2312
Flick	Wayne		2131
Flinchbaugh	Betty		2173
Flogel	Adam		2173
Flohrs	Kyle		2312
Flood	Carole		2173(u)
Flood	Janice		2173

Last Name	First Name	Org	CIN
Floran-Bernier	Susan Elvira		2131
Florenzen	Cynthia		2173
Florer	Tessa		2173
Flores	Denise		2000
Flores	Gilbert		2131, 2173
Flores	Marissa		2173
Flores, Esq	Nancy Oliver		2173
Florin	Krista		2173
Florio	Frank		2173
Florio	Kathyrn		2173
Florio	Kelly		2173
Flory	Coleen		2173
Flower	Gregory		2173
Flowers	Bobbie		2131(1), 2173(u)
Flowers	Curtis		2131
Floyd	Bradley		2173
Floyd	Corrin		2031(u)
Floyd	Debra		2173
Floyd	Rachael		2173
Floyd	Roxann Carmean		2000
Flueckiger	Mahalia		2173
Fluet	Christine		2173
Fluor	Christine		2173
Flury	Leigh		2173
Fly	Monica		2173
Flyer	Lizabeth		2173
Flyer	Susan		2173
Flynn	Charles		2173(u)

Last Name	First Name	Org	CIN
Flynn	Christopher		2173
Flynn	Cynthia		2173
Flynn	Fred		2173
Flynn	Jane		2173
Flynn	Kevin		2131
Flynn	Michael		2173
Flynn-Williams	Patricia		2173
Fobes	Deborah		2173
Fogarassy	Carol		2173
Fogarty	Dan		2131
Fogel	Martin		2173
Fogel	Mindy		2173
Fogel	Richard		2131
Fogel	Shira		2173
Fogg	Jill		2173
Foggi	Judith		2173
Fohn	Nancy		2131
Foist	Eve		2173
Fok	Kiana		2173
Foley	Carol		2131
Foley	Gretchen		2131(1)
Foley	Irene		2000, 2173
Foley	Marti		2173
Foley	Pat		2173
Foley	Patricia		2173
Foley	Steve		2173
Folkner	Louise		2173
Folks	Mike		2173
Follan	Ronnie		2173
Follan	Veronica		2000

Last Name	First Name	Org	CIN
Follett	Bonnie M.		2173
Follingstad	Gretel		2131
Folmer	A		2173
Folse	Kim		2173
Foltz	James		2173
Foltz	Kaye		2173
Fomenko	Nancy		2000
Fong	Dona		2031
Fong	Susan		2173
Fonken	Miryam		2131, 2173
Fonseca	Vincent		2173(u)
Fontain	Shawn		2000
Fontain	Shawn		2173
Fontaine	Jeffrey	Lincoln County Regional Develop-ment Authority	6027
Fontaine	Vincent		2173
Fontanarosa	Lisa		2173
Fontanazza	Catherine		2131
Fontenot	Brandy		2173
Fontenot	Dawne		2000, 2173
Fontes	Jodi		2173
Fooks	Gloria		2131
Foot	Susie		2000
Foran	Carolyn		2173
Forbes	David		2173
Forbes	Janet		2173
Forbes	Sharon		2131

Last Name	First Name	Org	CIN
Forcier	Dawn		2173
Ford	A		2173
Ford	Amber		2131
Ford	Becky		2031
Ford	Betty		2000
Ford	Chris		2131
Ford	Claudia		2173
Ford	Diana		2173
Ford	Elaine		2131
Ford	Frances		2173
Ford	Georgeanne		2173
Ford	J.C.		2131
Ford	Joan		2173
Ford	Jodi		2000, 2173
Ford	Lee		2031
Ford	Matthew		2173
Ford	Patricia		2173(u)
Ford	Robert		2173
Ford	Shirley		2312
Ford	Sylvia		2173
Ford/Marks	Michael C. and Richard B.		2173
Forde	Eve		2173
Fordham	Mal/Malcom		2131, 2173
Foreman	Edwina		2131
Foren	Brittney		2173
Forest	Melinda		2173
Foret	Erin		2173
Forman	Fay		2000, 2173

Last Name	First Name	Org	CIN
Forman	Janet		2000, 2173
Forman	Lois		2173
Forman	Sandra		2173
Formo	Nathan		2173
Fornagiel	Valeri		2173
Fornataro	Maria		2000
Forney	Kathy		2173
Forrest	Larry		2131, 2173
Forrest	Patricia		2173
Forristal	Joann		2131
Forschner	Jillian		2000
Forsman	Monica		2173
Forson	Amy		2173
Forsse	Elizabeth		2173
Forsten	Marilyn		2173
Forster	Lynne		2173
Forsyth	Barbara		2173(u)
Forsyth	Mark		2131
Forsyth	Thomas		2173
Fort	Joseph		2173
Forte-Escamilla	Kleya		2173
Fortenberry	Andrews		2131
Fortgang	Mindye		2131
Forth	Justin		2031(u)
Fortier	Lori		2131
Fortin	Moira		2173
Fortini	Jan		2131
Fortner	Ann		2173(u)
Fortuna	Fabiola		2000
Fortunato	Deb		2173
Fortune	Barbara		2173
Forwand	Arlene		2173
Fosburgh	Eric		2173
Foscherari	Dolores		2173
Foschi	Devin		2031
Foshay	Stanley		2131(1)
Foskett	Maryanna		2173
Foss	Diane		2173
Foss	Shelton		2173
Fossa	Wendy		2173
Fossen	Jennifer		2000
Fosso	Ann		2131
Fostel	Karen		2000
Foster	Alan		2131, 2173
Foster	Beverly		2173(u)
Foster	D.		2173
Foster	Dawn		2173
Foster	Elizabeth		2173
Foster	Gayle		2173
Foster	Ida		2173
Foster	Jacqui		2173
Foster	Jessica		2173
Foster	Judith		2173
Foster	Karen		2173
Foster	Kim		2173
Foster	Lorraine		2000, 2173
Foster	Marguerite		2173
Foster	Nicole		2000
Foster	Phyllis		2173
Foster	Richard		2173
Foster	Stephanie		2173
Foster	William		2173
Foster-Brooks	Linda		2000, 2173
Fotia	Cheryl		2173
Fountain	Michael		2000(3), 2173
Fournier	Eric		2000
Fournier	Eric		2173(u)
Fournier	Michelle		2000
Fouse	Patricia		2173
Foutz	Kristi		2131
Fowler	Amy		2173
Fowler	Ashley		2173
Fowler	Ben		2173
Fowler	Beverly		2173
Fowler	Connie		2173
Fowler	Debbie		2173
Fowler	Diana & John		2173
Fowler	Janet		2312
Fowler	Judith		2173
Fowler	Kathryne		2000
Fowler	Marcia		2173
Fowler	Robert		2312
Fowler	Russell		2173
Fowler	Yvonne		2173
Fowlkes	Lisa		2000
Fox	Candace		2173
Fox	Cathy		2173

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Fox	Charles		2131(u)
Fox	Cheryl		2131
Fox	Deborah		2173
Fox	Dorothy		2173
Fox	Erin		2131
Fox	Hannah		2000
Fox	Heather		2173
Fox	John		2131
Fox	Kathryn N.		2000
Fox	Kim		2173
Fox	Lisa		2173
Fox	Lynda		2173
Fox	Madilyn		2000
Fox	Martha		2173
Fox	Mary		2000
Fox	Patricia		2173
Fox	Rebecca		2173
Fox	Sandra		2173
Fox	Sheila		2173
Fox	Stephanie		2173
Fox	Stephanie C.		2173
Fox	Stephen		2000
Fox	Sue		2173
Fox	Zachary		2173
Fox Sr	Mark		2173
Fox-Loken	Shelley		2000
Fradenburg	L.		2173
Fradkin	Allison		2173
Fragetta	William		2173
Fraim	Camille		2131
Frakes	Matthew		2173
Fraley	Cassandra		2131(1)
Frana	Bruce		2173
Franca	Kaylan		2131
France	Catherine		2173
Franchi	Irena		2173
Francis	Casey		2131(3)
Francis	Cecilia		2131
Francis	Gwen		2173
Francis	Julia		2312
Francis	Karen		2131
Francis	Mary Lou		2000
Francis	Stacey		2173
Francisco	Buffy		2173
Francisco	Dawn		2173
Franck	Faith		2000, 2131
Franck	Mary		2173
Franck	Matthew		2173
Francke	Bernadette		2031(u)
Franco	Patricia		2173
Franco	Rita		2173
Frandson	Karla		2173
Frangione	Rocco		2000, 2173(u)
Frangiose	Marianna		2173
Frangos	Kate		2000
Frank	Andrea		2000, 2131
Frank	Barbara		2173
Frank	Christine		2000(1), 2131
Frank	Cynthia		2173
Frank	Jeannie		2173
Frank	Mitzi		2173
Frank	Patti		2131
Frank	Rachel		2173
Frank	Rebecca		2173
Frank	Robert		2000, 2173
Frank	Sandy		2000
Frank	Sharon		2173
Franke	BJ		2173
Frankel	Leroy		2131
Frankel	Linda		2173
Franki	Donna		2173
Franklin	Audrey		2173
Franklin	Barbara		2173
Franklin	Doug		2131
Franklin	Jill		2173
Franklin	John		2131
Franklin	Laurie		2173
Franklin	Louise		2173
Franklin	Margaret		2173
Franklin	Nancy		2173
Franklin	Nick		2131(1), 2173
Franklin	Rosemary		2173
Franklin	Sandra		2173
Franko	Glenn		2131
Frantz	Glenn		2173
Frantz	Jane		2173
Frantz-Crafton	Candy		2000(u)
Franz	Elizabeth		2000

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Franz	Peggy		2173
Franz	Sandra		2173
Franz	William		2173
Franzetta	Audrey		2173
Franzis	Irene		2173
Franzmann	Paul		2173(u)
Frary	Jennifer		2131, 2173
Frascone	Joe		2173
Fraser	Joseph		2173
Fraser	Kathy		2131
Fraser	Meredith		2000, 2173
Fraser	Rose		2173
Frate	Carlo		2173
Frates	Tony		2000
Frattarola	James		2173
Frattini	Geoffrey		2173
Frausto	Myriam		2173
Fray	Antje		2000, 2173
Fraysse	Mike		2173
Frazee	Marcia		2173
Frazer	Barbara		2173
Frazer	Holly		2131
Frazer	Linda		2173
Frazier	Cece		2173
Frazier	Debra		2131
Frazier	Kim		2173
Frazier	Maggie		0120
Frazier	Shelley		2000, 2173
Frech	Elaine		2173
Fredenburg	Frank		2173
Frederick	Brian		2173
Frederick	David		2031(u)
Frederick	Heather		2173
Frederick	Jean		2000
Frederick	Yulee		2173
Fredericks	Kevin		2031(u)
Frederickson	Bonnie		2000, 2131, 2173
Frederickson	Bryn		2173
Frederiksen	Chris		2000
Frediani	Jodi		2173
Fredricks	Katherine		2000
Fredsti	Lisa		2173
Freeborn	Robert		2173
Freeborn	Sherry		2173
Freed	Curt		2131
Freedland	Nancy		2173
Freedlund	Janine		2173
Freedman	Amy		2173
Freedman	Steve		2173
Freedman	Wendy		2000
Freeland	Malisa		2000
Freelove	Rachelle		2173
Freels	Lorna		2173
Freeman	Alyssa		2173
Freeman	Amy		2000
Freeman	Antoinette		2173
Freeman	Beth		2173
Freeman	Carlin		2131
Freeman	Carma		2173
Freeman	Clare		2173
Freeman	Deborah		2173
Freeman	Diane		2131
Freeman	Edward		2173
Freeman	Gregory		2131
Freeman	Gregory C.		2000
Freeman	Heather		2173
Freeman	Isabel		2173
Freeman	Joe		2131
Freeman	Karen		2000
Freeman	Kyri		2000(u)
Freeman	Linda		2312
Freeman	Linda		2000, 2173
Freeman	Myrna		2000, 2173
Freeman	Sherry		2131
Freeman	Teri		2131
Freeman/F	Angie		2000, 2173
Freestone	Mack		2131
Freestone	Tait		2131
Fregin	N		2000(1), 2173
Freiberg	Edward		2173
Freiberg	Harry		2173
Freiberg	M		2000, 2173
Freiberg	Matthew		2173
Freilich	Jeffrey		2173
Freitag	Linda		2173

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Freitag	Nora		2173
Fremon	Suzanne		2173
French	Connie		2173
French	Harvey		2173
French	James		2173
French	Julia		2173
French	Ken		2173
French	Larry		2173
French	Nina		2173
French	Pamela		2087
French	Rosemary		2031(u)
French	Shirley		2173
Frensko	Mary		2000
Freson	Neil		2173
Fresques	Margie		2173
Frethem	Gail		2173(u)
Frettim	Sissel		2173
Freund	Barbara		2173
Freund	Julia		2173, 2312
Frewin	Terry		2131
Frey	Adrienne		2173
Frey	Erika		2173
Frey	Erin		2131
Frey	John		2173
Frey	Julie		2173
Frey	Kimberly		2173
Freyburgher	Jan		2173(u)
Freyenhagen	Katherine		2173
Freyer	Nancy		2173
Frick	V.		2173

Last Name	First Name	Org	CIN
Fricke	Angela		2000
Friedberg	Lionel		2173
Friedenberg	Sarah		2173
Friedenfels	Roxanne		2173
Friedlander	Ellen		2173
Friedman	Alan		2173
Friedman	Barry		2170
Friedman	David		2173
Friedman	Esther		2173
Friedman	Marya		2173
Friedman	Maurice		3052
Friedman	Maurice B.	Sierra Club	0013
Friedman	Michele		2173
Friedman	Rachel		2131
Friedman	Roni		2173
Friedman	Tamara		2173
Friedman	Terry		2000
Friedman/Friedmann	Michael		2131, 2173
Friedman-Schroit	Ilana		2173
Friedrich	Shiva		2173
Friedson	Bs		2173
Friel	Jan		2173
Friend	David		2131
Friend of Defenders	Anonymous		2173
Friend of Defenders	Bob		2173
Friend of Defenders	Bonnie		2173
Friend of Defenders	Colleen		2173

Last Name	First Name	Org	CIN
Friend of Defenders	Denise		2173
Friend of Defenders	Gina		2173
Friend of Defenders	J.		2173
Friend of Defenders	James		2173
Friend of Defenders	Jane		2173
Friend of Defenders	Jeanne		2173
Friend of Defenders	Jeffrey		2173
Friend of Defenders	Joseph		2173
Friend of Defenders	Linda		2173
Friend of Defenders	M.		2173
Friend of Defenders	Mark		2173
Friend of Defenders	Mary		2173
Friend of Defenders	Mary		2173
Friend of Defenders	Matthew		2173
Friend of Defenders	Melody		2173(u)
Friend of Defenders	Nicola		2173
Friend of Defenders	Ruth		2173
Friend of Defenders	Samuel		2173
Friend of Defenders	Sheila		2173

Last Name	First Name	Org	CIN
Friend of Defenders	Sidney		2173
Friend of Defenders	Susan		2173
Friend of Defenders	Tania		2173
Friend of Defenders	Tomlin		2173
Friend of Defenders	V		2173
Fries	Ginger		2173
Fries	Jeb		2173
Fries	Karen		2173
Friesen	Debbie		2131
Friesner	Lynn		2173
Friess	Helga		2173
Friest	Robert		2173
Frighetti	Paula		2131
Frignani	Paola		2173
Frisbey	Phyllis		2173
Frisch	George		2173
Frisella	Michele		2000
Frishman	Andrew J.		0283
Frisk	Crystal		2000
Fristoe	Amy		2131
Fritchell	Norma		2131
Fritchman	Joel		2173
Fritsch	Robert		2173
Fritts	Dave		2131
Fritz	Andrea		2173
Fritz	Bert		2173
Fritz	Margaret		2000, 2173
Fritz	Michelle		2173
Fritzler	Cyndi		2173
Frobe	Marian		2173
Froeschle	Jeffery		2173
Frohardt	Valana		2131
Frohloff	Maxi		2000
Frohn	Joyce		2173
Frolova	Inga		2173
Fromaigeat	Therese		2000
Fromberg	Jeff		2000, 2173
Fromm	Lenny		2131
Fröschl	Doris		2000
Frost	Anita		2173
Frost	Gail		2173
Frost	Kathy		2173
Frost	Mary Ann		2173
Frost	Meghan		2173
Frost	Merrie		2173
Frost	Stephanie		2173
Frothingham	Sara		2131
Frucht	Michael		2131
Frullo	Denise		2000, 2173
Frusteri	Marianne		2173
Fruth	Jessica		2173
Fruth	Roman		2000
Frutiger	Christina		2173
Fry	Alexis		2173
Fry	Barbara		2173
Fry	Barbara		2173
Fry	John		2131
Fry	Judith		2173
Fry	Meridith		2000
Fryar	Phy		2173
Fryberger	Jeremy		2173
Frye	Donna		2173
Frye	Ellen		2173
Fryer	Kathy		2131
Fryer	Sherri		2173
Fryers	Lana		2173
Fryke	Adrienne		2173
Fuchilla	Lisa		2173
Fuchs	Eric		2173
Fuchs	Eva		2173
Fuchs	Robert		2173(u)
Fuchs	Wendy		2000, 2173
Fuelling	Kelli		2000
Fuentes	Luis		2173
Fuentes	Susana		2173
Fues	Lisa		2173
Fugate	Karl		2173
Fugate	Peggy		2173
Fugel	Wayne		2173
Fuhrer	Corey		2173
Fujikawa	Lea		2031(u)
Fujimoto	Kathy		2000, 2173
Fujimoto	Kimie		2000
Fujita	Satoko		2173
Fukuda	Kristina		2000

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Fukunaga	Judy		2000, 2173
Fularczyk	Margaret		2000, 2131, 2173
Fulbright	Carl		2173
Fulcher	Diane		2173
Fulgham	Kirsten		2000, 2131(1)
Fulk	Graham		2000
Fulkerson	Bob	PCAN	0003
Fulkerson	Katherine		2173
Fullaway	Arlene		2173
Fuller	Jared		2000
Fuller	JK		2000
Fuller	Kim		2131
Fuller	Leanne		2173
Fuller	Lori		2131
Fuller	Marilyn		2000
Fuller	Michelle		2131
Fuller	Nancy		2173
Fuller	Reed		2173
Fuller	Tom		2000
Fuller	Tony		2173
Fuller	Trish		2000
Fuller	Victoria		2173
Fulton	Craig		2173
Fulton Jr	Ronald		2031(u)
Fulwider	Carolyn		2000
Fulwiler	Fran		2131
Funaoka	Miho		2173
Fundling	Abigail		2173
Fung	Donna		2131
Funk	Kathryn		2173
Funk	Luanne H		2000
Funk	Nancy		2173
Funk	William		2000
Funkhouser	Betty		2000
Funtanilla	Anthony		2097
Fuqua	Chad		2000, 2173
Furgang	Ilene		2312
Furlong	Angie		2173
Furman	Beryl		2173
Furman	Richard		0310
Furminger-Haist	Peggy		2000, 2173
Fursich	Rob		2173
Furtek	Robert		0220, 2131, 2312
Furutate	Midori		2173
Fusco	Carol		2173
Fusco	Karen		2173
Fusilier	Gilda		2173
Futrell	Sherrill		2173
Futterer	Joe		2173
Futterman	Sanja		2173

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Last Name	First Name	Org	CIN
G	A		2173
G	Chris		2173
G	H		2000
G	R		2173
G	Sandy		2173
G	Shana		2173
G	Stephanie		2173
G.	Chris		2092
Gaarden	Al		2173
Gabanski	Eugene		2173
Gabbard	Bill		2173
Gabbard	Nanci		2173
Gabi	Gabi		2173
Gaboury	Denise		2173
Gabow	Patricia		2131
Gabriel	Carolyn		2173
Gabriel	Judith		2000, 2173(u)
Gabriel	Maegen		2131
Gabriel	Michael		2173
Gabrisko	Tracie		2173
Gacha	Cindy		2173
Gacs	Tibor		2000, 2173
Gaczynski	Cecile		2173
Gad	Glo		2173
Gadbois	Armand		2173
Gadeck	Marcy		2173
Gadouas	Teresa		2173
Gadziala	Susan		2173
Gaegler	Jennifer		2173
Gaertner	Diane		2131
Gaeth	Katelin		2131
Gaffey	Patrick		2131(u)
Gaffield	Barbara		2173
Gaffney	Edward		2031(u)

Last Name	First Name	Org	CIN
Gaffney	Robin		2173
Gage	Carol		2000
Gage	Kyle		2000, 2173
Gage	Rebecca		2227
Gagliani	Rita		2173
Gagliano	Debra		2000, 2131
Gagliardi	Phillip		2131
Gaglione	Patricia		2131
Gagnon	Barbara		2173
Gagnon	Karen		2173
Gagnon	Kelly		2173
Gahm	Carla		2131(1), 2173
Gahm	Ruthellen		2173
Gaia	Naomi		2173
Gaiefsky	Cheryl		2173
Gailitis	Peter		2173
Gainer	Beverly		2173
Gaines	Ann		2173
Gaines	Sanford and Cassandra		2131, 2131(u)
Gaio	Cindy		2173
Gaiser	Jörg		2000
Gaiser	Stephen		2131(1)
Gajda	Jack		2173
Gajda	Mary Ann		2173
Gal	Lil		2173
Galaif	Martha		2173
Galanis	Helen		2000
Galante	Theresa		2173
Galanter	Sandi		2131
Galaz	Vanessa Tobar		2173
Galbraith	Mark		2173
Galbreath	Bob		2173
Galbreath	Debbie		2131, 2173
Galbreath	Robert		2131
Galdo	Querido		2000, 2173
Gale	Allison		2173
Gale	Amber		2173
Galecki	Karen		2173
Galetto	Molly		2131
Galgocz-Deak	Angela		2173
Gall	Callie		2173
Gallagher	Andrew		2173
Gallagher	Brendan		2173(u)
Gallagher	Ella		2173
Gallagher	Frances		2173
Gallagher	Julie		2173
Gallagher	Kevin		2000
Gallagher	Margaret		2173
Gallagher	Maureen		2173
Gallagher	Sarah		2173
Gallagher	Theresa		2173
Gallanosa	Kristin		2000, 2131, 2173
Gallant	Kara		2000
Gallante	Fran		2173
Gallardo	David		2173
Gallardo	Nina		2173
Gallart	Francine		2000
Gallegos	Geoffrey		2173
Gallegos	Lena		2131
Gallegos	Nancy		2173
Gallen	Hadley		2131
Gallier	Tina Devon		2173
Galligan	Cathy		2173
Galligar	Vincent		2131(u)
Gallik	Bonnie		2131
Gallimore	Pat		2173
Gallina	Jacqueline		2173
Gallion	Derek		2000
Gallo	Carmen		2173
Gallo	Patricia		2173
Gallo	Susan		2173
Galloupe	Joshua		2000
Galloway	Katherine		2173
Galm	Patricia		2173
Galou	Amber		2173
Galt	Jan		2173
Galvan	Marcela		2173
Galvin	Marilyn		2173
Galvis	Lori		2173
Gambardella	Stella		2000
Gambill	Niechele		2131
Gambino	Sarah		2173
Gamble	Albert		2173
Gamble	Fairlee		2000, 2173
Gamble	Marilyn		2312
Gamblin	Steve		2131
Gambriel	John		2173
Gamelin	Norman		2173
Gammage	Frances		2131

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Gammon	John		2173
Gamroth	Joyce		2173
Ganahl	Vickie		2173
Gancarz	W Julian		2173 (u)
Ganczak	Kimberly		2173
Gandee	Niki		2173
Gandolfo	Deborah		2000, 2173
Gangemi	Mara		2173
Ganjali	Hamid		2131
Ganley	Andria		2131
Ganley	Kathleen		2173
Ganley	Roxanne		2173
Gannon	Michael		2173
Gannon	Sarah		2173
Gannon	Thomas		2173(u)
Gannon	Vicki		2173
Ganska	Lilli		2131
Gantenbein	Eric		2173
Gappe	Heinz		2173
Garagozloo	Ben		2131
Garavuso	Nancy		2173
Garbarino	Lisa		2173
Garber	Geoffrey		2131
Garber	Peter		2000, 2173
Garber	Sandra		2000(u)
Garbett	Mary		2000
Garbin	Carla		2312
Garbrick	Kathe		2173
Garcia	Angelica		2173
Garcia	Anne		2173
Garcia	Ben F		2131(1)
Garcia	Carly		2173
Garcia	Dolores		2131
Garcia	Douglas		2173
Garcia	Dulce		2131
Garcia	Edwina		2173
Garcia	Edy Soto		2173
Garcia	Erin		2173
Garcia	Gloria		2173
Garcia	Gudrun		2173
Garcia	Jane		2173
Garcia	Jessica		2000
Garcia	John		2173
Garcia	Juanita		2173
Garcia	Leah		2000
Garcia	Leticia		2131, 2173
Garcia	Linda		2173
Garcia	Lita		2173
Garcia	Manny		2131, 2173
Garcia	Maria		2000
Garcia	Maria		2131
Garcia	Michelle		2000
Garcia	Paula		2173
Garcia	Sara		2173
Garcia	Sarah		2000
Garcia	Sherry		2131, 2173
Garcia	Sonia		2173
Garcia	Stéphane		2000
Garcia	Thomas A.		2131
Garcia	Trina		2173
Garcia	Vanessa		2131
Garcia	Vickie		2131
Garcia	Wanda		2173
Garcia-Barrio	Constance		2131(1)
Garcin	Mary		2000, 2173
Gard	Alice		2173
Garden	Linda		2131
Gardiner	Connie		2173
Gardiner	Laura		2173
Gardiner	Trish		2000
Gardner	Bill		2104, 2131, 2173
Gardner	Cynthia		2173
Gardner	Dick	Beatty Town Advisory Board	5012(1)
Gardner	Elaine		2173
Gardner	Elayne		2131
Gardner	Helen		2131
Gardner	Janet		2000
Gardner	Kyle		2131
Gardner	Linda		2131
Gardner	Maureen		2173
Gardner	Murphy		2031(u)
Gardner	Susan		2173
Garen	Jan		2000
Garescher	Marie		2173
Garfield	Faith		2131
Garfield	Linda		2000
Gargiulo	Peter		2000, 2173
Garitty	Michael		2173

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Garland	Ellen		2031(u)
Garland	Pete		2173
Garland, PhD DD	K R		2131(1), 2173(u)
Garlit	Donald		2000
Garman	Ian		2173
Garmany	M.		2173
Garmon	Toni		2173(1)
Garmony	Susan		2131
Garmus	Diana		2173
Garner	Jeff		2173
Garner	Pamela		2173
Garner	Randle		2173
Garner	Rod		2173
Garofalo	Rori		2173
Garofalo	Stephanie		2173
Garofolo	Alyssa		2031(u)
Garone	Marissa		2173
Garoutte	Claudia		2000
Garratt	Liz		2173
Garratt	Sandra		2173
Garrett	Jane		2173
Garrett	Jo		2173
Garrett	Marilyn		2173
Garrett	Ramara		2173
Garrett	Rebecca		2173
Garrett	Robert		2173
Garrett	Seronica		2173
Garrett	Steve		2173
Garrett	Wendy		2173
Garriel	Barbara		2173
Garriott	Dan		2000
Garrison	Lynda		2173
Gartner	Daniel		0186
Garton	Katie		2000
Gartrell	Dona		2173(u)
Garttmeier	Mary Kay		2131
Garvett	Esther		2131
Garvey	Jenna		2173
Garvey	Lisa		2173
Garvey	Lydia		2173
Garvey	M.S.		2173(u)
Garvey	Nina		2173
Gary	J		2173
Gary	Michael		2131
Garza	Blanca		2173
Garza	Rolando		2173
Garza González	Stefany		2173
Gasco	Christine		2173
Gascoyne	Tracy		2173
Gasen	Nancy		2312
Gashlin	Patricia		2173
Gaskey	Laura		2131
Gaskill	Sharon		2000
Gaskins	Melissa		2173, 2312
Gasner	Anna		2173
Gaspar	Stephanie		2173
Gasparini	Alicia		2173
Gasparovic	John		2131
Gasperi	Patrizia		2173
Gasperoni	John		2173
Gassaway	Stephen		2173
Gasse	Daniel		2173
Gast	Rainer		2000
Gaston	Cherie		2131
Gatcomb	George		2173
Gatell	Dagmar		2173
Gately	Sara		2173
Gates	Alan		2173
Gates	Angelita		2173
Gates	Ellen		2173
Gates	Jan		2173
Gates	Nancy		2173
Gathman	Mary		2000, 2173
Gatlin	John and Mary		2173
Gatov	Philip		2173
Gatsios	Rosalind		2173
Gatto	Dana		2000
Gatz	John		2173
Gatz-Kagel	Bonnie		2173
Gaude	Robert		0213, 2031
Gaudet	Robert		2000, 2131
Gaudet	Robert Paul	Nevada Wildlife Federation, Inc	3001, 3005, 3012, 6001, 6002, 6003
Gaudette	Lynn		2131, 2173
Gaudreau	Janick		2173
Gauer	Ingeborg		2173
Gauger	Jane		2173
Gaul	Mary		2173

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Gauntt	Linda		2000
Gause	Jacqueline		2173
Gauthier	Luce		2173
Gautieri	Elizabeth		2173
Gautreaux	Jaleh		2173
Gautsche	Eunice		2173
Gavaras	George		2173
Gaver	Joanna		2131
Gavin	Timothy		2131
Gavison	Sarah		2131
Gavurnik	Martin		2131
Gawlik	Jessica		2173
Gawne	Arlene		2031(u)
Gay	Mary		2173
Gaya	Alexander		2000
Gayan	Eric		2173(u)
Gayden	Jim		2173
Gayken	Aaron		2173
Gayler	Anne		2173
Gaylor	Jason		2173
Gaylord	Tyra		2173
Gaynor	Pamela		2173
Gaynor	Robert		2173
Gaz	Dawn		2173
Gazick	Lynn		2173
Gazzola	Linda		2131, 2173
Gdaniec	Michelle		2173
Gear	Denise		2173
Geary	Brent		2131
Gebhart	Leroy		2173
Gebin	Gertrude		2173
Gedlinske	Lauren		2173
Gee	Vanyoska		2173
Geer	Linda		2173
Geerings	Marie		2173
Geest	Astrid V/D		2173
Geffert	Annemarie		2000
Gefter	Marcy		2173
Gefvert, P.G.	Cynthia		2131
Gehlhausen	Nancy		2312
Gehri-Bergman	Sandra		2173
Gehrke	Jay		2173
Gehrke	Rita		2173
Gehrs	Mindy		2131
Geiger	John		2000
Geiger	Lori		2173
Geiger	Theresa		2173
Geigerwooten	Nancy		2173
Geiget	Eileen		2173
Geiler	Janet		2000, 2131
Geis	Christopher		3035
Geiser	Jeanie		2089
Geiser	John		2131
Geisert	Matthew		2173
Geist	Caitlyn		2173
Geist	Sandra		2173
Gelbart	Susannah R.		0285, 2123, 2131(1), 2173, 2314
Gelder	Linda		2131
Geldert	Janet		2131
Geldien	Wendy		2173
Geldner	Ryann		2173
Gelhard	Kate		2173
Geller	Hillary		2173
Geller	Laurie		2173
Gelsomino	Rene'		2000, 2173
Gemelli	Carmen		2173
Gemmill	Susan		2131
Genandt	Judy		2173
Genasci	James		2131
Genasci	Jean and James		2131
Genaski	Elaine		2000
Genaze	Matthew		2000(u)
Genden	Susan		2000
Gendron	Bob		2173
Gendvil	Derek		2000, 2131(3), 2173
Genest	Karen		2000
Genet	Roberta		2131(1)
Genevieve	Marshalle		2131
Gengo	Julie		2173
Gengo	Lisa		2173
Gennarelli	Jesse		2173
Genou	Lea		2173
Genovese	Eva Maria		2000
Genovese	Mike		2173(u)
Gensler	Donna		2173
Gent	Valli		2173
Gentes	Amy		2000, 2173
Gentes	Mija		2173

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Gentile	Dawn		2031(u)
Gentile	Karin		2173
Gentili-Lloyd	Mika		2000, 2173
Gentis	Nancy		2031(u)
Gentry	Catherine		2131
Gentry	Eve		2000
Gentry	Jeannie		2173
Gentry	Mary		2131
Gentry	Rita		2000(u), 2131(u)
Georganta	Angela		2173
George	C		2000
George	Clyde		2173
George	G. G.		2173(u)
George	Haley		2031(u)
George	Janelle		2131
George	Kent		2173
George	Kevin		2173
George	Pat		2131
George	Sharon		2131
Georges	Ericka		2173
Geraci	Paul		2173
Geraci-Benson	Arlene		2173
Geraghty	Debbie		2178
Gerard	Bryan		2173
Gerard-Dibenedetto/Benedetto	Ira		2000, 2173
Gerber	Hera		2000
Gere	Elaine		2131
Geremia	Robert		2173
Gerhard	Delia		2173
Gerhardson	Gail		2173
Gerhardt	Barbara		2131
Gerhart	Barbara		2173
Gerke	Susan and David		2131
Gerke	Timothy		2131
Gerlach	Christian		2131
Gerlach	Christian F	Sierra Club's Our Wild America Campaign	3034, 4006, 6013
Gerlach	Randy		2173
Gerlitz	Lucinda		2173
Gerlock	Judy		2173
Germain	Debra		2173
Germain	Mary		2131
Germain	Raymond		2131
Germano	Katherine		2173
Gero	Bernadette		2173
Gerosa	Robert		2173
Gerow	Tina		2131
Gerrard	Ron "G" Man"		2000, 2131
Gerrish	Marion		2173
Gerry	Susan		2173
Gershanoff	MaryDana		2173
Gershgorin	Aleksey		2173
Gershten MD	Mitchel/Mitchell		2000, 2131
Gersten	Sherri		2131
Gertz	Robert		2173
Gervais	Lisa		2131
Gerz	Dani		2173
Gese	Sandy		2173
Gestro	Patrizia		2173
Getchell	Kathy		2131
Getchell	Kimberly		2173
Gettes	Chuck		2173
Getts	Dan		2131
Getts	Thomas		2131
Getts	Virginia		2173
Getzlaff	Craig		2173
Gevitz-Georges	Gaye		2173
Geyer	Barb		2131
Geyer	Bradley		2131
Geyer	Monica		2173
Gfrorer	John		2173(u)
Ghandour	Wala		2173
Gharavi	Roya		2173
Ghastone	George		2173(u)
Ghazi	Chantale		2000
Ghenoiu	Paul		2173
Gherardi	Lisa		2173
Ghidoni	Don		2181
Ghiggia	Michelle		2173
Ghini	Abbie		2131(u)
Ghiorso	Janelle		2173
Ghosh	Angelika		2173
Ghosh	Pritha		2173
Ghosh	Sudeshna		2131
Giacchino	Sylvan		2000
Giacinto-Renner	Cate		2000, 2131, 2173
Giacomini	Barb		0101

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Gialuco	Amy		2131
Giambruno	Robert		2131
Giammarco	Karen		2173
Gianas	Philip		2131
Gianfrancesco	Rosanna		2131
Giannetti	Debra		2173
Giannone	Robert		2131, 2173
Giannotti-Breig	Christina		2173
Giantomasi	David		2173
Giaquinto	John		2173
Giarratano	Becky		2173
Gibb	Ken/Kenneth		2000, 2131, 2173
Gibbons	Cat		2131
Gibbons	Catherine		2000
Gibbons	David		2131
Gibbons	Frances		2000
Gibbons	James		2173
Gibbons	Joe		2131
Gibbons	Richard		2131
Gibbons	Sasha		2173
Gibbs	Amanda		2031(u)
Gibbs	Denise		2000
Gibbs	Julie		2173
Gibbs	Keri		2173
Gibbs	Michelle		2173
Gibbs	Pat		2173
Gibbs	Stefanie		2312
Gibbs	Yvonne		2173
Gibertini	Anna		2173
Gibhard	Shirlee		2173

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Giblin	Raymond		2173
Giblin	Roberta		2173
Gibson	Dan		2173
Gibson	Daniel		2173
Gibson	Jason		2173
Gibson	Jody		2000, 2131, 2173
Gibson	John		2131
Gibson	Jonathan		2173
Gibson	Juanita		2031
Gibson	Julia		2173
Gibson	Karen		2131
Gibson	Kimberly		2173
Gibson	Mary Jane		2000, 2312, 2173
Gibson	Maureen		2173
Gibson	Robert		2173
Gibson	Scott		2000
Gibson	Wade		2173
Giddings	Linda Schoen		2131
Giddings	Robin		2173
Gieber	Donna Mulvey		2173
Gieder	Erin		2173
Gieg	Laura		2173
Giencke	Jill		2173
Giere	Linda		2173
Gieringer	Zoe		2000
Gierut	Stan		2173
Gies	William		2173(u)
Gieser	John		2173

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Gieskieng	Janice		2131
Gifford	Brenda		2173
Gifford	Elizabeth		2173
Gifford	Martha		2173
Gifford	Richard		2173
Gifford-Gonzalez	Diane		2173
Gifoli	Deborah		2173
Gigel	Jessica		2173
Gigel	Steven		2173
Giguiere	Jey		2131
Gijsbers van Wijk	Helena		2173
Gil	Melissa		2173
Gilbert	Amanda		2173
Gilbert	Ames		2000
Gilbert	Bill		2173
Gilbert	Brad		2000
Gilbert	Camille		2000
Gilbert	Elizabeth		2173
Gilbert	Gary		2000, 2173(u)
Gilbert	Karen		2173
Gilbert	Larry		2131
Gilbert	Nancy		2000
Gilbert	Pat		2000
Gilbert	Rosemary		2173
Gilbert	Sarah		2173
Gilbert	Stephen		2131, 2173
Gilbert	Tracy		2173
Gilchrist	Amber		2131
Gilchrist	Cheryl		2000, 2173

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Gildea	Bonnie L.		2173
Giles	Dominic		2173
Giles	James		2173
Giletto	Lizbeth		2005
Gilkyson	Nancy		2131
Gill	Amber		2173
Gill	Barbara		2173
Gill	Benjamin		2131
Gill	Brenda		2173
Gill	Cassie		2173
Gill	Diana		2173
Gill	Elizabeth		2173
Gill	Helen		2173
Gill	Lynnette		2173(u)
Gill	Raymond		2000
Gill	Samantha		2173
Gill	Susan		2173
Gill	Valli		2173
Gill	Vickie		2031(u)
Gillard	Charles		2131
Gillaspie	Richard		2173
Gillaspy	Linda		2000, 2131, 2173
Gilleran	Martha		2173
Gillespie	Fred		2173
Gillespie	Gail		2173
Gillespie	Jane		2131, 2173
Gillespie	Judith		2173
Gillespie	Kathleen		2000(1)
Gillespie	Melody		2173
Gillett	Julia		2131
Gillette	Cheryl		2173
Gillette	J		2131, 2173
Gillette	Vanessa		2173
Gillette	William		2173
Gillham	Pauline		2173
Gilliam	Vicki		2173
Gillick	Bernadette		2173
Gilligan	Laurel		2000
Gilligan	Laurel		2173
Gilligan	Nanette		2173
Gillin	Allen		2173
Gillin	Kathi		2173
Gillis	Diana		2173
Gillis	Jennifer		2173
Gillis	Patricia		2131
Gillis	Sue		2173
Gilllespie	Sheryl		2131
Gilloon	Karen		2000
Gilman	Robert		2131
Gilmore	Cameron		2173
Gilmore	Joyce		2173
Gilmore	Lorraine		2173
Gilmore	Sally		2000
Gilmour	Pattie		2173
Gilpin	Lynne		2173
Gilruth	Jean		2000
Gilva	Stephen		2173
Gilyeart	Beverly		2173
Gimbrone	Nicholas		2312
Gina	Romy		2000
Gindele	Abigail		2173
Gindt	Jennifer		2173
Giner	Germain		2173
Gingles	Holly		2131
Gingras	Brian		2173(u)
Gingras	Richard		2173
Ginsberg	Barbara		2173
Ginsberg	Gordon		2173
Ginsburg	Joe		2000
Ginther	John		2173
Gioannini	Larry		2131
Gioia	Linda		2000(1), 2173
Gioielli	Lawrence		2173
Gioni	Kathy		2031(u)
Giordano	Harolyn		2000, 2173
Giordano	Michelle		2173
Giorgi	Kathleen		2173
Giorgio	Barbara		2173
Giovannini	Aldo		2173
Giovengo	Patrick		2173
Giovino	Joan		2131
Gipson	Andrea		2173
Girnus	Victor		2031(u)
Girshick	Lori		2173
Girvan	Diane		2173
Gislason	Jeremy		2173
Gisler	Carol		2173
Gisnnotti	Maureen		2173
Gissing	Margaret		2173
Gitlin	Leslie		2173
Gitschier	Jennifer		2173
Gittinger	Mildred		2173

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Giuliani	Lynda		2173
Giuliano	Bradley		2173
Giuliano	Stephanie		2173
Given	Ashley		2131
Glaccum	Ellen		2031(u)
Gladfelter	Barbara		2000, 2173
Glaeser	Micha		2173
Glaeser	Wolfgang		2000, 2131
Glaeske	Lynne		2131, 2173
Glandon	Clarice		2173
Glascock	Alison		2173
Glascock	Christopher		2131
Glaser	Donna		2173
Glaser	Jean		2131
Glass	Debra		2173
Glass	Elizabeth		2000
Glass	Jennifer		2000
Glass	Judith		2173
Glass	Kathy		2173
Glass	Margo		2173
Glass	Perri		2173
Glass	Shane		2173
Glasscock	Rita		2173
Glasser	Joan/ Joanghan		2131(1), 2173
Glasser	Mark		2173
Glasser	Melissa		2131
Glasser	Tanya		2131
Glassett	Chris		2173
Glassman	Jean		2173

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Glatter	Katherine		2000
Glatz	Anita		2173(u)
Glavina	Vesna		2000, 2173
Glaze	Susanna		2131
Glazer	Tania		2173
Glazier	Greg		2131
Gleason	Allan		2173
Gleason	Leona		2173
Gleason	Mardi		2173
Gleason	Sandra		2173
Glebs	John		2173
Gledhill	Doug/ Douglas		2000, 2173
Glenn	Benjamin		2131
Glenn	Lisa		2173
Glenn	Rebecca		2131
Glenn	Susan		2173
Glessing	Kathryn		2173
Glick	Ruth		2173
Glickel	Richard		2173
Glickfield	Adam		2173
Glider	Richard		2173
Gliem	Deke		2173
Glier	Ingeborg		2000, 2131, 2173
Glinn	Matthew		2173
Glinski	Richard		2000
Glisson	Candie		2173
Glixman	Diana		2173
Glogovsky	Rachael		2173
Glogowski	Patricia		2131

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Gloman	Nancy		2312
Glover	Harry		2173
Glover	Stephanie		2082
Glowacki	Emily		2173
Gloyd	Jan		2131
Gluck	David		2173
Gluck	Erma		2173
Gluck	Gregory		2131
Gluck	Jacki		2131
Gluth	John		2312
Glyde	Jacqueline		2131
Glynn	Aileen		2173
Glynn	Nancy		2173
Gmeiner	Kjersten		2173
Gnagey	Marcia		2173
Gnat	Michael		2173
Gnemi	Irene		2173
Goade	Jennifer		2131
Gobely	Michelle		2000
Gochnauer	Sharen		2173
Gockowski	Marilyn		2131
Goday	Dale		2173
Godbold	Anne		2173
Goddard	Simon		2131
Goden	Gay		2000, 2173
Godfrey	Sharla		2173
Godfrey	Teresa		2173
Godich	Marcia		2173
Godley	AD		2000
Godon	Payton		2173
Godsey	Phillip		2173

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Godwin	Nadine		2173(u)
Godwin	Nancy		2131
Goebel	Shayla		2173
Goecke	Sheree		2131
Goeckeler-Fried	Jennifer		2173
Goehring	Stefan		2064
Goeman	Halie		2031
Goemmer	Cheryl		2173
Goerger	Carolyn		2173
Goes In Center	Kate		2131
Goetinck	Glenys		2173
Goetinck	Jean		2131
Goetschius	Lascinda		2000
Goettel	Thomas		2312
Goettling	Sandra		2173
Goetz	Gary		2000(1), 2173
Goetz	Irene		2173
Goetz	Kate		2173
Goetze	Daniel		2173
Goetze	Kari		2173
Goff	Donald		2173
Goff	Frances		2173
Goff	Gene		2131
Goff	Karyn		2173
Goforth	Kathleen Martyn	U.S. Environ-mental Protection Agency, Region 9	5001
Goforth	Larry		2173
Goga	Susan		2173
Gogel	Germaine		2173
Gogert	Toni		0167
Goggin	Rachel		2173
Goggin	Richard		2173
Goglio	Remy		2131
Goheen	Bob		2131
Gohl	Joy		2173(u)
Goin	Cody		2173
Goin	Wayne		2160
Goins	Joseph		2000, 2131
Goins	Kiele		2131
Goins	Natasha		2173
Goins	Valerie		2173
Gokce	Stephanie		2173
Gokool	Ruth		2173
Golbey	Julia		2173
Gold	David and Judy		2173(u)
Gold	Ellen		2000, 2173
Gold	Emily		2000
Gold	JJ		2173
Gold	Leslie		2173
Gold	Sandy		2173
Gold	Stacy		2000
Goldansky	Robin		2173
Goldbach	Stephanie Johanna		2000(2)
Goldberg	Daniel		2173
Goldberg	Daniel		2312
Goldberg	Ellison		2173
Goldberg	Marianne		2131
Goldberg	Ronald		2173
Goldberg	Susan		2000, 2173
Goldberg	Valerie		2173
Goldblatt	Joel		2131
Golden	Beverley		2000(1)
Golden	Catherine		2173
Golden	Francis		0081
Golden-Collier	Malvina		2173
Goldfaden	Marissa		2173(u)
Goldfarb	Georgia		2173
Goldfeder	Nancy		2173
Goldflies	Barrett		2173
Goldhammer	Jacki		2131
Goldin	Bobbi		2173
Goldin	Pamela		2173
Goldin	Stephanie		2131
Golding	Amanda		2173
Goldin-Perschbacher	Shana		2000
Goldman	Alvin		2173(u)
Goldman	Brenda		2173
Goldman	Bruce		2173
Goldman	Christine		2173
Goldman	Debby		2131, 2173
Goldman	Jill		2173
Goldman	Lisa		2000, 2173
Goldman	Luanne		2173
Goldman	Mark		2000
Goldman	Michele		2173
Goldman	Ron		2000
Goldman	Susan		2173

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Goldman-Hull	Sergi		2173
Goldsby/G.	Tamara		2000, 2173
Goldschmidt	Lisa		0155
Goldsmith	Charles		2173
Goldsmith	Ken		2031
Goldsmith	Leslie		2173
Goldsmith	Lynne		2173
Goldsmith	Sherrie		2173
Goldstein	Colin		2173(u)
Goldstein	Freya		2173
Goldstein	Jody		2000
Goldstein	Laura R.		2000(u)
Goldstein	Leah		2131
Goldstein	Marin		2173
Goldstein	Stu		0017
Goldstone	Linda		2173
Goldwater	Nancee		2131
Golembiewski	Deborah		2173
Goller	Betty		2173
Goller	Syzi		2131
Golphin	Rick		2031(u)
Golter	Lindsay		2173
Gomer	Wes		2000
Gomes	Holly		2173
Gomez	Carol		2131
Gomez	Daniel		2312
Gomez	Jessica		2173
Gomez	Joseph A.		2319
Gomez	Maria		2173
Gomez	Maria		2173
Gomez	Sarah		2131

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Gomolka	John		2173
Gomoll	Terry		2131
Goncarovs	Sandy		2173
Gonce	Lauren		2031(u)
Gonce	Samuel		2000
Gondos	Nina		2173
Gondwe	Sara		2131
Gong	Marilyn		2000
Gong	Sharon		2173
Gongaware	Denielle		2173
Gonis	Patricia		2173
Gonsman	James		2000
Gonsor	Gail Ruth		2173
Gonsorek	Timothy		2173
Gonstad	Salome		2173
Gonyea	Lucille		2000, 2173(u)
Gonzaga	Jarred		2031(u)
Gonzales	Antoinette		2000
Gonzales	Antoinette		2131
Gonzales	Mary Ellen		2131
Gonzales	Rob		2000
Gonzales	Shaun		0172, 2000
Gonzales	Susie		2131
Gonzalez	Alan		2173
Gonzalez	Diane		2173
Gonzalez	Elimaris		2173
Gonzalez	Jasmine		2031
Gonzalez	Jeannie		2173
Gonzalez	Juan		2173
Gonzalez	Juanita		2173
Gonzalez	Karyll		2131

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Gonzalez	Maria		2173
Gonzalez	Mattie		2173
Gonzalez	Miriam		2173
Gonzalez	Myrthala		2000
Gonzalez	Perla		2173
Gonzalez	Richard		2131
Gonzalez	Rosemary		2173
Gonzalez	Stephanie		2131
Gonzalez	Thania		2173
Gonzalez	Yazmin		2173
Gonzalez Corvalan	Roxana		2173
Gonzalez-Hayes	Louisa		2173
Good	Albert		2173
Good	Charles		2173
Good	Chris		2131
Good	Diane		2173
Good	Rob		2173
Goodall	Doug		2031(u)
Goode	Beth		2173
Goode-deblanc	Emma		2173
Goodfellow	Joan		2131
Goodheart	Ava B		2131
Goodin	Ben		2173
Goodin	Dale		2131, 2173
Gooding	Sharon		2000
Goodlander	Lisa		2173
Goodlin	Dave		2000
Goodman	Arifa		2131
Goodman	Beverly		2131
Goodman	Carma		2173
Goodman	Margaret		2173

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Goodman	Pamela		2173
Goodman	Ronald		2131
Goodnight	Matthew		2031(u)
Goodrich	D'Arcy		2000
Goodrich	Lisa		2173
Goodson	Elizabeth		2173
Goodstein	Karen		2173
Goodstein	Veronica		2173
Goodwin	Charles		2173
Goodwin	Crystal		2173
Goodwin	Donna		2173
Goodwin	Paul		2173
Goodwin	Samuel		2173
Goodwin	Shaun		2000, 2131(1)
Goodyear	Sherry		2173
Goot	Yvette		2173
Gootz	Thomas		2131
Gopinathan	Narayan		2173
Goppert	Donald		2000(u), 2173(u)
Gorak	Martha		2000, 2173
Gorby	Krista		2173
Gordin	Patricia		2173
Gordineer	Karine		2173
Gordon	Billie		2173
Gordon	Bruce		2173
Gordon	Candee		2173
Gordon	Carol		2173
Gordon	Chris		2173
Gordon	Cynthia		2173
Gordon	Helen		2173
Gordon	Kerstin		2173
Gordon	Melissa		2173
Gordon	Michael		2173
Gordon	Patricia		2000
Gordon	Paula		2173
Gordon	Russell		2173
Gordon	Sandra		2173
Gordon	Suzanne		2173(u)
Gordon	Terry		2173
Gordon	TJ		2131
Gordon	Tracy		2173
Gordon-Pike	Cherie		2173
Gore	Donna		2173(u)
Gore	Robert		2173
Gorey	Mark		2173
Gorman	Catherine		2131(1)
Gorman	Holly		2173
Gorman	Julie		2173(u)
Gorman	Laura		2312
Gorman	Steve		2173
Gorman	Tom/ Thomas		2131, 2173
Gorman	Tresa		2173
Gorn	Scott		2173
Gorner	Edward		2173
Gorney	Deann		2131
Gorsetman	Mark		2000
Gorss	James		2312
Gort	Grant		2173
Gort	Sue		2173
Gorth	Chuck		2173
Gortney	Kathy		2131
Gorton	Michelle		2173
Goscilo	Margaret		2173
Gosier	John		2131
Goslant	Carol		2173
Gosnell	Rebecca		2173
Gosney	W & K		2173
Goss	Cyndi		2173(u)
Goss	Kathy		2173
Gossett	Trish		2000
Gostel	Felix		2173
Gosz	Alyssa		2319
Goth	Delia		2173
Gothold	Jane		2173
Gothreau	Kathleen		2173
Gottesman	Judith		2173
Gottfried	Susan		2000
Gottis	Rebecca		2173
Gottlieb	Beth		2173
Gottlieb	Hannah		2173
Gottlieb	Olga		2173
Gottowski	Becky		2173
Gotvald	Mark		2173(u)
Gotz	Lynne		2131
Goudey	Mary		2173
Gough	Jyrica		2173
Gould	Amy		2173
Gould	Andrew		2131
Gould	Anita		2173(u)
Gould	Burnham		2000, 2131
Gould	Doug		2173
Gould	Janet		2131

Last Name	First Name	Org	CIN
Gould	Leslie		2173
Gould	R.		2173
Goulden	Margie		2131(1)
Gould-Martin	Katherine		2000
Goulet	Dan		2131
Goulet	Phyllis		2131
Gounaris	Stacy		2000
Gouveia	Isabel		2173
Govar	Rose		2173
Gove	George		2173
Govreau	Kathy		2000
Gowe	Jane		2131
Gowins	Lisa		2131
Goyette	Roland		2000, 2173
Graae	Linda		2131(1)
Grabo	Karen		2173
Graboske	Frederick		2173
Grabowski	Joseph		2173
Grabowski	Steve		2131
Grabowski	Susan Minialga		2173
Grabowski,uwcsi	Ty		2173
Grace	Ahsha		2173
Grace	Shantara		2000
Graci	Gina		2173
Gradus	Diana		2173
Grady	Fran		2173
Grady	Kevin		2173
Grady	Polly		2173
Graeff	Chris		2131(1)
Graf	Amy		2173
Graf	Nic		2173
Grafakou	Kalliopi		2000
Graff	Luise		2310
Graff	Stephen		2173(1)
Graff	Wanda		2173
Graffagnino	Mary Ann and Frank		2131(u)(1), 2173(u)
Graffeo	Mary		2173
Grafton Jr	Ward		2173
Gragowski-Cornwell	Sondra		2173
Graham	Allan		2173
Graham	Annie		2173
Graham	Barbara		2173
Graham	Charlie		2173
Graham	Constance		2173
Graham	Danielle		2000(1), 2173
Graham	Guy		2131
Graham	Howard		2000
Graham	Jeniffer		2173
Graham	Jennifer		2173
Graham	Jim/James		2131, 2173
Graham	Judy		2173
Graham	Laura		2109
Graham	Lisa		2173
Graham	Lynn		2173
Graham	Lynn		2173
Graham	Sharon		2173
Graham	Susan		2173
Grajczyk	J		2173
Grambauer	Macaire		2173
Grames	Patricia		2173
Grams	Jon		2131, 2173
Grandjean	Aniko		2173
Grandle	Lb		2173
Graney	Tonya		2173
Grange	Sue		2173
Granger	James		2173
Granlund	Fred		2173
Grannell	William		2131, 2173
Granofsky	Gabrielle		2173
Grant	Barvara		2173
Grant	Candice		2173(u)
Grant	Doug		2131
Grant	Elizabeth		2173
Grant	Jan		2173
Grant	Kathryn		2173
Grant	Kyle		2173
Grant	Randy		2173
Grant	Robert		2173
Granzow	Barbara		2173
Grass	Lori		2173
Grass	Tobias		2173
Grassi	Daniel		2173
Grassia	F S		2000
Grassman	Mark		2173(u)
Grasso	Elizabeth		2173
Grasso	T		2173
Grathwohl	Marya		2173(u)
Gratop	Madelyn		2173
Gratton	Colleen		2173
Grauf	Michaelene		2173

Last Name	First Name	Org	CIN
Grause	J		2173
Gravance	Rochelle		2173
Graver	Charles		2173
Graver	Chuck		2000
Graves	Amy		2173
Graves	Ann		2173
Graves	Caryn		2000
Graves	Daimhin		2000
Graves	Donna		2000
Graves	Iryna		2173
Graves	Joan		2131
Graves	Michelle		2173
Graves	Royal		2131
Graves	Thomas		2173
Graves	Viv		2173
Gravette	Kristina		2000
Gravlin	Edward S.		2173
Gray	Carol		2173(u)
Gray	Cheryl		2173
Gray	D		2173
Gray	Douglas		2173
Gray	Hannah		2031(u)
Gray	Jan		2173
Gray	Jasmyn		2173
Gray	Jennifer		2173
Gray	Karen		2173
Gray	Kristin		2173
Gray	L		2131
Gray	Lisa		2000(1), 2173(u)
Gray	Lorraine		2000, 2173
Gray	Louise		2173(u)
Gray	Marge		2173
Gray	Matthew		2131
Gray	Melody		2131, 2173
Gray	Parti		2173
Gray	Richard		2173
Gray	Robert		2173
Gray	Roxy		2000, 2173
Gray	Skeeter		2031(u)
Gray	Sylvia Ruth		2000, 2131
Graybill	Sara		2000(u)
Grayson	Cynthia		2131
Graziani	Ernest		2173
Graziano	Kristin		2131
Graziano	Marilyn		2000(2)
Greaver	Holly		2000, 2173
Grech	Rhyan		2000, 2173
Greco	Joanne		2173
Greco	Sandra		2173
Green	Alex		2000
Green	Andrea		2173
Green	Anthony		2059
Green	Arden		2173
Green	Arlee		2173
Green	Brian		2031(u)
Green	Carol		2131
Green	Deanna		2131, 2173
Green	Deborah		2131
Green	Eartha		2173
Green	Egan		2173
Green	Elaine		2173
Green	Forrest		2173
Green	Ian		2173
Green	Jamie		2173
Green	Janis		2173
Green	Jean		2173
Green	Juliana		2173
Green	Kathleen		2173
Green	Kerstin		2173
Green	Kristin		2173
Green	Larry		2173
Green	Lawrence K		2173
Green	Linda		2173
Green	Linda		2173
Green	Lisa		2000
Green	Louann		2173
Green	Marla		2173
Green	Mary		2131
Green	Mary		2173
Green	Melissa		2131
Green	Meredith		2173
Green	Nicole		2173
Green	Parker		2131
Green	Rebecca		2173
Green	Scott		2173
Green	Shelley		2173
Green	Sirena		2173
Green	Steve		2173
Green	Susan		2173
Green	Suzanne		2000
Green	Tarley		2131

Last Name	First Name	Org	CIN
Green	Tyler		2131
Greenberg	Barbara		2173
Greenberg	Corinne		2000
Greenberg	Ginger		2173
Greenbie	Marnie		2173
Greenblatt	Harmon		2173
Greenboam	Robert		2173
Greene	B.		2000
Greene	Christine		2173
Greene	Dani		2319
Greene	Danny		2173
Greene	David		2173
Greene	Debi		2173
Greene	Edward		2173
Greene	Elke		2131
Greene	Jack		2173
Greene	Kelly		2131
Greene	Lynn M		0222
Greene	Margaret		2131
Greene	Marty-Ann		2000
Greene	Scott		2173
Greene	Solo		2173
Greene	Steven		2173
Greene	Susan		2173
Greene	Terri		2000, 2173(u)
Greener	Lane		2173
Greenfield	Judy		2131
Greenfield	Lori		2173
Greenleaf	Susan		0201
Greenlee	Victoria		2173
Greenlese	Andrew		2031
Green-Metzler	Linda		2173
Greensfield	Zvika		2173
Greenwell	Donna		2173
Greenwell	Linda		2173
Greenwell	Thomas		2173
Greenwood	Barbara		2131
Greenwood	Gary		2173
Greenwood	Jennifer		2173
Greenwood	Peggy		2173
Greer	Amy		2173
Greer	Cindy		2131, 2173
Greer	George		2131
Greer	Helen		2131, 2173
Greer	Jamie		2000, 2173
Greer	Jill		2131(u), 2173
Greeson	Kathryn		2131
Greff	Jacqueline		2173
Greger	Sabine		2173
Gregg	K./K. R.		0208, 2000
Gregg	Lauren		2031(u)
Gregorich	Cheryl		2173
Gregory	Amy		2131, 2173
Gregory	Anne		2000
Gregory	Barbara		2173
Gregory	Chilton		2000, 2131, 2173
Gregory	Eric		2031(u)
Gregory	Faye		2173
Gregory	Fiona		2131
Gregory	Linda		2173(u)
Gregory	Melissa		2173
Gregory	Nancy		2131, 2173(u)
Gregory	Paul		2173
Gregory	Sharon		2048
Gregory	Valerie		2173
Gregston	Debra		2173
Greider	Laurey		2000
Greil	Judith		2173
Greiner	Ellie		2000
Greiner	Michael		2173
Greiner	Tony		2173(u)
Greinke	Pamylle		2173
Greist	Kim		2173
Grenard	Mark		2131, 2173
Grenier	Christine		2173
Grenko	Ronald		2131
Greshik	Steve (Adolph		2173
Gress	Laurel		2000, 2173(u)
Gretchen	Stephanie		2131
Grether	Gregory		2173
Grewal	Tejbir		2173
Grewe	Rhonda		2131
Greytak	Taylor		2131
Grgurich Jr	William L		2173
Gribbin	Judith		2173
Gribble	Corine		2173
Grice	Gary		2173

Last Name	First Name	Org	CIN
Gricevich	Anne		2173
Gricus	Elizabeth		2131
Grider	Tina		2312
Grier	JadeLynn		2000(u)
Grier	Michelle		2173
Gries	Diana		2131
Griesar	Katie		2173(u)
Griesd	Jane		2312
Griesemer	Erika		2173
Grieser	Greg		2312
Grieves	Kathy		2131
Griffeth	Jackie		2000, 2131(1)
Griffin	Andrea		2173
Griffin	Brenda		2173
Griffin	Byron		2131
Griffin	Carolyn		2131
Griffin	Chas		2173
Griffin	Colleen		2173
Griffin	Conn		2000
Griffin	Erica		2173
Griffin	Fredric		2131
Griffin	Georgia		2173
Griffin	Ginny/ Virginia		2131, 2173
Griffin	Katherine		2173
Griffin	Linda		2173
Griffin	Nancy		2131
Griffin	Ronald		2115
Griffin	Sandra and Glenn		2131(u)
Griffin	Shannon		2173
Griffin	Susan		2173

Last Name	First Name	Org	CIN
Griffin	William		2131
Griffin-Lewin	Anne		2173
Griffith	Ann		2173
Griffith	Dalton		2131
Griffith	Darren		2173
Griffith	Eric		2000
Griffith	Julie		2000, 2173
Griffith	Mary		2131
Griffith	Nancy R.		2173
Griffith	Rose		2173
Griffith	Tasha		2131(u)
Griffiths	Ruth		2000
Griffy	Timothy		2131
Griggs	Carol		2173
Griggs	Heather		2173
Grignon	Eugenia		2173
Grigoriou	Vasileios		2000
Grigoryev	Laura Hill		2173
Grigsby	S.		2173
Griguts	Shaun		2131
Grilli	Melissa		2031
Grimaldi	Dennis		2173
Grimaldo	Mary		2173
Grime	Anne		2173
Grimes	Catherine		2131
Grimes	Cindy		2000
Grimm	Brad		2031(u)
Grimm	Janet		2173
Grimm	Linda		2173
Grimshaw	David		2173
Grimwood	Susan		2173

Last Name	First Name	Org	CIN
Grinage	Ronald		2131
Grinmanis	Stephanie		2173
Grinnell	Ed		2131
Griswold	Dave		2173
Griswold	Philip		2131(u)
Griswold	William		2173
Groat	Judy		2000
Grobler	Mariette		2000
Groce	Kay		2173
Groeneweg	Nora		2173
Groff	Linda		2173
Grogan	Norma		2131
Groh	Paul		2173
Grohman	Paul		2131
Gromer	Tracy		2131
Gromulat	Martin		2131(1)
Groncki	Kimberly		2173
Grondin	Melissa		2173
Grondona	Francesca		2173
Grone	Alexis		2173
Gronemeyer	Kimberly		2173
Groom	Joan		2173
Gros	Michelle		2131
Grosch	Judy		2173
Gross	Barbara		2173
Gross	Barbara		2173
Gross	David		2173
Gross	Eileen		2173
Gross	Emily		2173
Gross	Justin		2173
Gross	Kade		2173
Gross	Natalie		2173

Last Name	First Name	Org	CIN
Gross	Russell		2173
Gross	Sabina		2000
Gross	Stefanie		2000
Gross	Stephen		2173
Gross	Steve		2173
Gross	Todd		2000, 2131, 2173
Grossenbacher	John		2173
Grosshans	Lois		2173
Grossman	Adam E.		2031
Grossman	Deborah		2312
Grossman	Laura		2173
Grossman	Shirley		2131
Grosso	John		2173
Groth	Craig		2173(1)
Grothe	Sage		2173
Grother	Susan		2173
Grouci	Djamila		2000
Groundwater	Neil		2131
Grove	Earl		2173
Grove	Jane		2131, 2173
Grove	Maya		2220
Grove	Paul		0129
Grove	Shel		2000
Grover	Cindy		2173
Grover	Justin		2000, 2131, 2173
Groves	C		2131
Groves	Ls		2173
Groves	Michelle		2173
Grozenski	Robert		2031(u)
Grubb	Harold		2000
Grubb	Ruth		2173
Grubb	Scott		2173
Grubbs	Donna		2131, 2173
Grubbs	Jessica		2131
Gruber	Kathy		2173
Grubere	Karen		2131
Gruchawka	Doreen		2173
Gruen	Pamela		2173
Gruetter	Claudia		2173
Gruling	Justina		2173
Gruman	Vicki		2173
Grundfest	Jill		2000
Grunicke	Ingrid		2173
Gruninger	Chris		2173
Grunspan	Larry		2000
Gruver	Chere		2131, 2173
Gryk	Dg		2173
Grzeskowiak	Richard		2173
Grzyb	Agnes		2173
Guadalupe	Kevin	Nevada Depart-ment of Wildlife	3059
Guala	Dimitri		2000
Guan	Chris		2173
Guard	Macie		2131
Guard	Mary		2173
Guardascione	Marissa		2173
Guariglia	Joseph		2173
Guarino	Barbara		2131
Guarino	Julie		2173
Guarnaccia	Chantelle		2173
Guarnieri	Tony and Cindy		2000
Gubrud	Robert		2131
Guckenburg	Klis		2173
Guenther	Eric		2173
Guenther	Karin		2000
Guerin	Karen		2200
Guern	Jeannine		2173
Guerra	Felix		2173
Guerra	Wellyem		2131
Guerrero	Alan		2173
Guerrero	Christine		2173
Guerrero	Mario		2173
Guest	Colin		2173
Guest	Jesse		2031(u)
Guest	Suzanne		2173
Guest	Tammy		2173
Guevara	Alicia		2000
Guevara	Denise		2173
Guevara	Richard		2131, 2173
Guevara	Roberto		2031(u)
Guevel	Lauren		2031
Guh	H./Hsiao-Huei		2000, 2173
Guhanick	Kelly		2173
Guiang	Chona		2173
Guichard	Oliver		2173
Guichonnet	Alain		2173

Last Name	First Name	Org	CIN
Guidi	Rita		2131, 2173
Guido	Julie		2173
Guido	Tara		2000, 2173
Guidry	Gayle		2173
Guidry	Marcie		2173
Guier	Richard		2173
Guilbault	Aubrey		2173
Guilfoyle	Maureen		2131
Guillaume	Maxime		2000
Guillen	Bertha		2173
Guillet	Mary		2173
Guillory	Chris		2000
Guillot	Sandra		2173
Guilmette	Judee		2173
Guimarey	Serena		2031(u)
Guinn	Rod		2131
Guinnup	David R.		2173
Guion	William		2312
Guise	Cynthia		2173
Gullen	Elizabeth		2173
Gullerud	Lois		2173
Gullett	Orva M		2000
Gullett	Rachel		2131
Gullickson	Anna		2173
Gullixson	Christopher		2131
Gulvanessian	Jeanine		2173
Gumble	Maggie		2131
Gumienny	Jill		2173
Gumlock	Robert		2173
Gummel	Janis		2173
Gump	Thomas		2131
Gunder	Gary		2173
Gunderson	Tazman		2031(u)
Gunn	Jenny		2000
Gunning	John		2173
Gunter	David		2031(u)
Gunter	Deborah		2131
Gunter	Karlene		2173
Gunter	Sheila		2173
Gunter	Stephanie		2173
Gunther	Ken		2173
Gunther	Mary		2000
Gunther	Peter		2173
Gunther	Susan		2173
Guon	Bonnie		2173
Gupta	Richa		2173
Guptill	Lloyd		2173
Gurarie	David		2131(1)
Gurdin	J Barry		2173
Gurdziel	Gabriela		2000
Gurganus	Bert		2173
Gurney	Hugh		2173
Gurtman	Audrey		2173
Guss	Elisa		2000(1), 2131
Guss	Kristin		2173
Gustafson	Dee		2173
Gustafson	Duane		2173
Gustafson	Greta		2173
Gustafson	Owen		2173
Gustafson	Rae Ann		2173
Gustavson	Patricia		2131
Gut	Sheila		2000
Gutekunst	Bill		2173
Gutelius	Danielle		2000
Gutersohn	Irmgard		2000
Gutfleisch	Ellen		2173
Guthrie	Barrett		2131, 2173
Guthrie	Bill		2173
Guthrie	Ellen		2173
Guthrie	Nora		2173
Guthrie	Stacy		2131
Guthrie	William		2173
Gutierres	Sara		2173
Gutierrez	Bertha		2031(u)
Gutierrez	Lourdes		2173
Gutierrez	Oscar		2173
Gutierrez	Sofia		2173
Gutin-Hassett	Reba		2173
Gutirrez-Bundy	Allyson		2173
Gutman	Andrea & James		2173(u)
Gutshall	Jeff		2173
Gutstadt	Ayala		2131
Guttridge	Laura		2173
Guy	Jonathan		2173
Guyette	Lee		2131
Guyonvarch	Nathalie		2000
Guzick-Shoemaker	Tina		2173
Guzman	Ernest		2173
Guzman	Karin		2173
Guzman	Lourdes		2000
Gwinn	Anita		2173
Gwynn	Maureen		2173

Last Name	First Name	Org	CIN
Gx	Perry		2131
Gyetko	Nora		2173
Gynane	Kathy		2000

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Last Name	First Name	Org	CIN
H	C		2131
H	Janet		2000
H	Kathleen		2173
H	Liz		2173
H	N		2000, 2173
H	Reem		2000
H	Sarah		2173
H	Thomas		2173
H	Vijay		2173
H.	Fritz		2173
Haag	James		2173
Haag	Rebecca		2131
Haanstad	Mark		2173
Haarer	Joel		2131
Haas	Alan		2000(1)
Haas	Claudia		2173
Haas	Rosemary		2173
Haasbroek	Simone		2000, 2173
Haase	Lorraine		2131
Habecker	Susan		2173
Habenicht	Brian		2173
Haberstroh	Sarah		2173
Habick	William		2173
Hachadorian	David		2131
Hacker	Gloria		2131, 2173
Hackett	Marcia		2173
Hackett	Sherry		2173
Hackler	Laura		2173
Hackler	Teri		2131
Hackney	Jean		2173
Hackos	Joann		2131
Hacon	Tamala		2173
Haddad	Nadia		2000
Haddad	Natalie		2000, 2173
Haddadin	Helena		2131
Hadden	Marion		2173
Hadden-Martinez	Theresa		2131, 2173
Haddock	Brenda		2173(u)
Hadiah	Mariama		2173
Hadjsalem	Jamila		2000, 2173
Hadland	Gwen		2173
Hadley	Diana		2312
Hadley	Marlyne		2173
Hadley	Shela		2173
Haebig	Sue		2173
Haeffner	Dan		2173
Haereiti	Tekanawa		2319
Haerr	Trish		2173
Haertel	Melissa		2173
Hafdahl	Roxwell		2131
Hafer	Sarah		2173
Haferkamp	Kelly		2173
Hafkey	Kara		2173
Haflich	Anne		2000, 2173
Hafner	Nancy		2000
Hagan	Dawn		2131
Hagel	Crystal		2173
Hagelberg	Dominica		2131
Hagele	Carol		2131(1)
Hageman	Kelly		2173
Hagemeyer	Susan		2173
Hagen	Alice		2173
Hagen	Nina		2173
Hagenbuch	Wayne & Kelly		2173
Hagens	Dave		2131
Hager	Jon		2131, 2173
Haggard	Alan		2173
Haggard	Paul		2173
Haggard	Wendi		2173
Haggblom	Candy		2173
Haggerty	Emily		2173
Haggerty	Kathryn		2173
Haggin	Lindell		2312
Haggins	Helen		2173
Hagiwara	Stephanie		2173
Hagopian	Robert		2173
Haguewood	James		2173
Hahn	Deborah		2173
Hahn	Jessica		2131
Hahn	Laura		2000, 2173
Hahn	Monique		2173
Hahn	Nancy		2131

Last Name	First Name	Org	CIN
Hahn	Richard		2173
Hahn	Todd		2000
Haider	David		2173
Haig	Brenda		2173
Haines	Carolyn		2274
Haines	Kyle		2173
Hair	Caroline		2173
Hair	Karla		2173
Hair	Penny F		2173
Haith	Ellen D		2173
Halay	Elaine		2173
Halbeisen	Michele		2173
Halbert	Ellen		2173(u)
Halbert	Jeffry		2173
Halbisen	Karen		2131, 2173
Halbreich	Adele		2173
Halbritter	Christopher		2000(1)
Haldemon-Mossholder	Lori		2173
Hale	Debra		2173
Hale	Dorothy		2173
Hale	Nancy		2173
Hale	Robert		2173
Hale	Valli		2173
Halegua	Mike		2173
Haley	Michael		2173
Haley	Patricia		2173
Haley	Stacia		2173
Halfen	DeWayne		2131, 2173
Halin	Deborah		2173
Haling	Kim		2000
Hall	Alyssa		2173
Hall	Angela		2000
Hall	Ashley		2173
Hall	Beth		2000, 2173
Hall	Brian		2131
Hall	Carla		2312
Hall	Carol		2173
Hall	Carol		2173
Hall	Chris		2131, 2173
Hall	Chris		2173
Hall	Colleen		2173
Hall	Cyntha		2031(u)
Hall	Cynthia		2173
Hall	D		2000
Hall	Dawn		2000
Hall	Debbie		2131
Hall	Dennis		2173
Hall	Dinorah		2173
Hall	Dinorah		2131
Hall	Edward		2131
Hall	Emily		2173(1)
Hall	Gordon		2131
Hall	Grace		2000
Hall	Heather		2173
Hall	Holly		2173
Hall	Jackie		2131
Hall	Jan		2173
Hall	Jean		2173
Hall	Jeff		2173
Hall	Jerilyn		2173
Hall	Judy		2173
Hall	Julie		2173
Hall	Karen		2173
Hall	Katy/Kathryn		2131, 2173
Hall	Kelly		2173
Hall	Kim		2173
Hall	Leland		2173
Hall	Margrit		2173
Hall	Mary		2000
Hall	Megahn		2173
Hall	Michele		2131
Hall	Molly		2000
Hall	Nancy		2131
Hall	Nancy		2173(u)
Hall	Patricia		2173
Hall	Rebecca		2173(u)
Hall	Reggie		2173
Hall	Rene		2173
Hall	Robert		2173
Hall	Russel		2138
Hall	Ryan		2000
Hall	Sally		2173
Hall	Shirley		2173
Hall	Silvia		2312
Hall	Silvia		2000
Hall	Stacy		2173
Hall	Sue		2000, 2173
Hall	Sue		2000
Hall	Susan		2173
Hall	Susan		2173
Hall	Suzanne		2173
Hall	Vicki		2173

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Hall	Walter		2131
Hall	Wendy		2131
Halladay	Annita		2173
Halladay	Karen		2173
Hallam	Kent		2131
Hallboth	K		2000
Hallead	Jerry		2173
Halleman	Cl		2173
Hallen	Vikki		2173
Haller	Tammy		2173
Hallermeier	Nancy		2173
Hallett	Mark		2173
Halliday	Paul		2173
Halligan	David		2031(u)
Halligan	Everett		2000
Halligan	Maureen		2173
Halligan	Michele		2173
Halligan	Sue		2000, 2173
Halloran	Michael		2131, 2173
Hallquist	Jeanne		2131
Hallquist	Kevin		2131
Hallquist	Rhonda		2131
Hallstrom	Kristie		2173
Halm	Michael		2173
Halpen	Pat		2173
Halperin	Hagit		2173
Halpern	Harvey		2173
Halpern	Lisa		2173
Halpin	Gabrielle		2000
Halsell	Claudia		2131
Halstead	Amy		2173
Halstead	Paula		2173
Halter	Patricia		2173
Halverson	Roy		2173
Halverson	Yancette		2131, 2173
Halvorsen	Maryellen		2173
Halvorson	Judith		2173
Ham	Michele		2173
Hamann	Karl		2131
Hamann	Susanne		2173
Hambrick	William		2173
Hambridge	Yvonne		2173
Hambrock	Geri		2173
Hamel	Catherine		2173
Hamel	Sheri		2173
Hamel-Brown	Kimberly D		2131
Hamelink	Jerry		2173
Hamer	Cheryl		2031(u)
Hamer	Geoff		2000
Hamer	Lee		2043
Hamer	Suzanne		2173
Hamidian	Mariam		2000
Hamilton	Carol		2000
Hamilton	Christopher		2000(u), 2173
Hamilton	Debbie		2173
Hamilton	Don		2173
Hamilton	Frederick		2000, 2131
Hamilton	Hazel		2173
Hamilton	Jerry		2000
Hamilton	Keith		2173
Hamilton	Nina		2173
Hamilton	Pamela		2173
Hamilton	Rochelle		2173
Hamilton	Roy		2173
Hamilton	Sarah		2173
Hamilton	Sharon		2173
Hamilton	Stella		2173
Hamilton	Susa		2131
Hamilton	Susan		2173
Hamilton	Toni		2173
Hamilton	Xandra		2173
Hamiter	Jennifer		2000
Hamlin	Cindy Edgers		2173
Hamlin	Robin		2131, 2173
Hamm	Bill		2173
Hamm	Sharon		2131
Hammel	Arrie		2173
Hammel	John		2000
Hammell	Harriet		2173
Hammen	Karen		2173
Hammer	F		2018
Hammer	Linda		2173
Hammer	Randy		2173
Hammerli	Nathaniel		2131
Hammermeister	Lisa		2173
Hammett	Hank		2173
Hammock	Uriah		2173
Hammond	Cynthia		2312
Hammond	Frederick		2173
Hammond	Gretchen		2173
Hammond	Mary		2173

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Hammond	Teresa		2131, 2173
Hammond	Todd		2173
Hammonds	Erin		2173
Hammons	Glenn		2131, 2173
Hamorova	Adriana		2000, 2173
Hamoy	Liza		2173
Hampe	Georgina Morales		2173
Hampel	Clarice		2173
Hampel	Susan		2173
Hampu	Michael K.		2173
Hamrick	Laila		2000(1)
Hamson	Nancy		2173
Han	Dennis		2000
Han	Holly		2173
Han	Richard		2173
Han	Susanna		2173
Hanan	Melanie		2173
Hanas	George		2173
Hanaway	Shannon		2173
Hanbury	Pat		2000, 2131
Hance	Emilie		2173
Hanck	Nancy		2131
Hancock	Catherine		2131
Hancock	Heath		2000, 2173
Hancock	Marjorie		2173
Hancock	Susan		2173
Hand	David		2173
Hand	Ronald		2173

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Handa-Flipse	Sharon		2000, 2173
Handelsman	Sharon		2173
Handforth	Michael		2173
Handler	George		2000(1)
Handler	Natalie		2031(u)
Handley	Darlene		2173
Handrick	Donald		2173
Hands	Barbara		2173
Handsaker	Larry		2173
Haner	Heidi		2173
Haner	Lu		2173
Haney	Christina		2031(u)
Haney	Tom		2173
Hanfman	Jane		2173
Hanford	Gail		2000, 2173
Hang	Khai		2173
Hanger	Mark		2131
Hanifan	Anastasia		2000, 2173
Hanifen	Mandy		2131
Hanisee	Mark		2173
Hankins	Judith		2000
Hankins	Nehemiah		2173
Hanks	Laura		2000, 2173
Hanley	Elise		2173
Hanley	Mary Lynn		2173
Hanlon	Emily		2173
Hanlon	Stephen		2173
Hanlon	Susan		2131, 2173
Hanmer	Melissa		2173

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Hanna	Christopher		2173
Hanna	David		2173
Hanna	Lisa		2173
Hannah	Angelia		2173
Hannah	Kay		2131
Hannah	Lori		2131
Hannah	Shonda		2173
Hannam	Angie		2173
Hannon	David		2131
Hannon	Dennis		2131
Hannon	Ian		2173
Hannon	Loretta		2173
Hannum	Lisa		2131
Hanrahan	Patsy		2173
Hansberry	Robert		2173
Hansel	Steven		2173
Hansell	Connor		2031, 2131, 2173
Hansell	Jessa		2131
Hansell	Warwick		2173
Hansell	Warwick		2131
Hansen	Amy		2000
Hansen	Angela		2173
Hansen	Ann		2173
Hansen	Bev		2312
Hansen	Donna		2173
Hansen	Jessica		2131
Hansen	Karin		2173
Hansen	Laulette		2173
Hansen	Marilyn		2173
Hansen	Mike		2131

Last Name	First Name	Org	CIN
Hansen	Neil		2173
Hansen	Paul		2131
Hansen	Paula		2000
Hansen	Robin		2131
Hansen	Sarah		2173
Hansen	Steve		2173
Hansen	Susan		0203
Hansen	Suzanne		2131
Hansen	Yvonne		2000(u), 2294
Hansler	Susan		2173
Hanson	Annette		2173
Hanson	Art		2131
Hanson	Barbara		0260
Hanson	Beth		2173
Hanson	Carol		2173
Hanson	Craig		2173
Hanson	Cynthia		2173
Hanson	Delene		2173
Hanson	Edward		2131
Hanson	Jody		2173
Hanson	John		2173
Hanson	Kathy		2312
Hanson	Kenne		2173
Hanson	Kenric		2173
Hanson	Marilyn		200, 2131
Hanson	Pam		2173
Hanson	Ryan		2173
Hanson	Sam		2173
Hanson	Sue		2000
Hanson	Timothy		2173
Hanson	Vicki		2131
Hanson Velloo	Samara		2173
Hanta	Hashi		2173
Hantel	Johanna		2173
Hantelman	John		2173
Ha'o	Nalani		2000
Haque	Sabina		2131
Harabadji	Andrei		2173
Haraczka	Nicole		2173
Haram	Cheri		2173
Harbert	Tanya		2173
Harbeson	Charlotte		2000
Harbour	Teri		0093
Harcksen	Kathleen		2000
Harclerode	Bert		2131
Harde	Rish		2000
Hardee	Alex		2131
Hardee	April		2000
Hardee	David		2000, 2173
Harden	Katharina		2173
Harden	Ronald		2173(u)
Harder	Kate		2173
Hardester	Kathie		2173
Hardie	Jim		2131
Hardie	Wallis M.		2173
Hardin	Diane		2000
Harding	Karen		2173
Harding	Lisa		2173(u)
Hardt	Bea		2173
Hardwick	Elizabeth		2173
Hardwick	Rachel		2173
Hardwicke	Charlotte		2000
Hardy	Isabeth		2131
Hardy	Mark		2173
Hardy	Michael		2131
Hardy	Stephanie		2173
Hardy	Steven		2131
Hardy	Susan		2173
Hardziej	Mary		2173
Harenburg	Joanne		2131
Hargett	Lynne		2173
Hargrave	Karen		2131
Hargrave	Michelle		2173
Hargrave	Stephanie		2173
Hargraves	Mark		2131, 2173
Harish	Anavai		2173
Harissis	Lindsay		2173
Harker	Christine		2173
Harker	Jana		2000(2), 2131
Harkins	Sandra		2173
Harkness	John		2173
Harkness	Lynne		2131
Harlan	Jacqueline		2131
Harland	Donald		2173
Harlem	Joan		2173
Harley	Janet		2131(u)
Harley	Susan		2173
Harlib	Amy		2131
Harlow	Nancy		2000, 2131
Harlow	Patricia		2173
Harlow	Patricia		2173
Harman	Roger		2173

Last Name	First Name	Org	CIN
Harman	Tim		2031
Harmes	Suzanne		2173
Harmon	Heather		2173
Harmon	Kathrine		2031
Harmon	Lucy		2173(u)
Harmon	Susan		2173
Harmon	Susan		2131
Harmony	Faith		2131
Harms	Diane		2173
Harms	Maria		2173
Harned	William		2173
Harnedy	Kacy		2173
Harness	Doug		2173
Harper	Alan		2000
Harper	Barbara		2000, 2173
Harper	Jennifer		2312
Harper	Leslie		2000
Harper	Marilynn		2173
Harper	Michael		2131
Harper	Patricia		2173
Harper	Randy		2000, 2173
Harper	Vince		2173
Harr	Irene		2319
Harr	Silva		2173(u)
Harrell	Daniel		2131
Harrelson	MeLisa		2173
Harriaon	Connor		2173
Harrie	Susan		2173(u)
Harrington	Emmalia		2131
Harrington	Helen		2000, 2173
Harrington	Paula		2173
Harrington	Tyler		2173
Harris	Alex		2173
Harris	Aprille		2173
Harris	Beverly		2173
Harris	Beverly		2173(u)
Harris	Carmen		2173
Harris	Carol		2173
Harris	D./D. C.		2000, 2173
Harris	David		2131
Harris	Debra		2173
Harris	Debra		2131
Harris	Donald		2131, 2173
Harris	Doreen		2173
Harris	Freya		2000, 2131(1), 2173
Harris	Gail		2312
Harris	Hilary		2173
Harris	Jean		2131
Harris	Jeff		2131
Harris	Jenna		2131
Harris	Jennifer		2173
Harris	Joan		2173
Harris	John		2173
Harris	Julie		2173
Harris	Kathryn		2000
Harris	Kathy		2173
Harris	Kathy		2131
Harris	Kristi		2173
Harris	Kymberlee		2173
Harris	L		2173
Harris	Laura		2173(u)
Harris	Lena		2173
Harris	Leslie		2173
Harris	Leslie		2173
Harris	Martha		2173
Harris	Nathan		2031(u)
Harris	Perry		2173
Harris	Rebecca		2031(u)
Harris	Robert		2173
Harris	Robert		2031(u)
Harris	Robert		0227
Harris	Sarah		2173
Harris	Shirlee		2173
Harris	Shirlene		2000
Harris	Shirley		2131
Harris	Stacy		2173
Harris	Susan		2000
Harris	Susan		2173
Harris	Sylvie		2131
Harris	Theodore		2173
Harris	Tom		2000
Harris	William		2173
Harris Jr	J M		2000
Harrison	Amy		2173
Harrison	Chris		2131
Harrison	Dolores		2173
Harrison	Greg		2173
Harrison	Jeane		2000(1)
Harrison	Joshua		0076
Harrison	Julie		2173
Harrison	Linda		2173

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Harrison	Linda		2173
Harrison	Lynda		2173
Harrison	Lyrita		2173
Harrison	Marie		2000, 2173(1)
Harrison	Mary		2131
Harrison	Mitchell		2173
Harrison	Randy		2000, 2173
Harrison	Sarah		2173
Harrison	Shay		2173
Harrison	Shirlee		2131
Harrison	Susan		2173
Harrison	Susan		2000
Harrison	T Hamboyan		2000, 2173
Harrison/ Harrrison	Marty		2131, 2173
Harroff	Marilyn		2173
Harron	David		2173
Harrower	Robin		2173
Harry	Sherry		2000
Harsh	Merry		2131
Harshman	Christy		2173
Harston	Ronald		2173
Hart	Alan		2173
Hart	Catherine		2131
Hart	Cheryl		2312(u)
Hart	Crystal		2131
Hart	Cynthia		2173
Hart	Darren		2173
Hart	Diane		2131
Hart	Donna		2131

Last Name	First Name	Org	CIN
Hart	John		2173
Hart	Julia		2173
Hart	Julie		2312
Hart	Linda		2173
Hart	Lisa		2000
Hart	Scott		2173
Hart	Shannon		2173
Hart	Tina		2173
Hartberg	Mariah		2173
Harter	Patti		2173
Hartgraves	Paula		2131, 2173
Hartin	Antonia		2173
Hartle	Sherie		2131
Hartleb	Carole		2173
Hartle-Schutte	David		2131
Hartley	James		2000, 2173
Hartley	Jim		2031(u)
Hartlieb	Matthew		2173
Hartline	Judy		2131
Hartman	Brenda		2000(1)
Hartman	Evan		2000, 2173
Hartman	Heidi		2173
Hartman	Leotine		2173
Hartman	Linda		2173
Hartman	Nancy		2173
Hartman	Nancy		2131
Hartman	Nancy Kosnar		2173
Hartman	Pat		2173
Hartman	Paul		2131

Last Name	First Name	Org	CIN
Hartman	Robert		2000
Hartman	Stacie		2173
Hartman	Suesie		2173
Hartman III	George		2131
Hartmann	Lorraine		2173
Hartmann	Mary		2131(1)
Hartmann	Shannon		2031
Hartsell	Rebecca		2173
Hartshorne	Jonathan		2131
Hartsoe	Pat		2173
Hartt	Carolyn		2000
Hartter	Jennifer		2173
Hartung	Bridgette		2131, 2173
Hartung	Frederick		2173
Hartung	Roxanne		2173
Hartz	Donna		2173
Hartzler	Betty		2131
Hartzog	Paulette		2173
Harvell	Vanessa		2173
Harvey	Aileen		2173
Harvey	Anne		2173
Harvey	Darcy		2031(u)
Harvey	Jazmine		2131, 2173
Harvey	Jef		2000
Harvey	Kathy		2173
Harvey	M.		2173
Harvey	Mark and Judy		2173
Harvey	Tom		0114
Harvill	Penny		2173

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Harvith	Susan Edwards		2173
Harwell	Janet		2173
Hasbach	Corinna		2000, 2131, 2173
Haseltine	Amber		2000, 2173
Hashem	Diane		2173
Hashemi-Briskin	Jordan		2173
Haskamp	William		2131
Haskell	Barbara		2173
Haskell	Laura		2173
Haskell	Liz		2131
Haskell-Burghart	Barbara		2000
Haskin	Dierk		2131
Haslam	Malissa		2131
Hassan	Faith		2173
Hassell	Charles		2131
Hassin	Laura		2173
Hassler	Matthew		2131(1)
Hasted	Sarah		2173
Hastings	Grant		2173
Hastings	Jillian		2031(u)
Hastings	Kader		2131
Hastings	Kim		2173
Hastings	Melissa		2000, 2173
Hastings	Sharon		2173(u)
Hastings	Steven		2131
Hastings	Susan		2000
Hatch	Barbara		2173
Hatch	Ben		2173
Hatch	Brenda		2000
Hatcher	David		2000
Hatcher	Misty		2173
Hatcher	Nancy		2173
Hatcher	Patty		2173
Hatchet/ Hatcher	Nadine		2000(1), 2173
Hatfield	Carol		2000(u)
Hatfield	Carol		2173(u)
Hatfield	Laura		2131
Hatfield	Lisa		2173
Hatfield	Melissa		2131
Hauber	Barclay		2173
Hauck	Molly		2000
Haucke	Vicky		2000
Hauer	J		2173(u)
Hauer	Nancy		2000,2131, 2173
Haugabook	Michaela		2173
Hauge	Erik		2131, 2173
Hauge	Jennifer		2000
Hauger	Kat		2173
Haughey	Susanne		2173
Haugse	Becky		2173
Haule	Laura		2317
Haumschilt	Natalia		2173
Haunhorst	Martin		2000
Hauptman	Dan		2131
Hauptmann	Daniella		2131
Haus	Julia		2173
Hauschild	Carol		2173
Hauschild	Sarah		2173
Hauschildt	Katie		2173
Hause	Laurie		2131
Hauser	Deborah		2173
Hauser	Karen		2131, 2173
Hausman	Jonathan P.		2131
Haustowich	Donna		2131
Havan	Artineh		2000, 2173
Havazelet	Ruth		2173
Havelka	C. Shurtz		2173
Haven	Gary		2173
Havens	Keith		2173
Haverfield	Heather		2173
Haverkamp	Kathy		2000, 2173
Havlick	Ian		2131
Havlik	Hugh		2000, 2173
Hawekotte	Jay		2000
Hawes	Frank		2173
Hawk	Ann		2173
Hawk	Maggie		2000
Hawk	Spirit-Eagle		2173
Hawker	Nancy		2173
Hawkes	Melissa		2031(u)
Hawkins	Barbara		2173
Hawkins	Julie		2131
Hawkins	Kyle		2173
Hawkins	Linda		2173(u)
Hawkins	Paula		2000
Hawkins	Savannah		2173
Hawkins	Sharon		2173
Hawkins	Wendy		2173

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Hawks	Tari Shibata		0036
Hawley	Carol		2173
Hawley	Crystal		2173
Hawley	Deborah		2173
Hawley	Tom		2131
Hawn	Judy		2031(u), 2173
Haworth	Holly		2000, 2173
Haworth-Wagner	Elizabeth		2131
Haws	Deborah		2173
Hawthorn	Marilyn		2173
Hawthorn	Pat		2000, 2131
Hawver-Scott	Timothy		2173
Hay	Alys		2173
Hay	Doug		0132
Hay	Lee		2173
Hay	Ryan		2173
Hay	Victoria		2173(u)
Hay	William		2131
Haycock	Libby		2000
Hayden	Judy		2198
Hayden	Nancy		2000
Hayden	Tiffany		2131, 2173
Hayenga	Jon		2000, 2173
Hayes	Anitra		2173
Hayes	Barbara		2173
Hayes	LaVonda		2173
Hayes	Leslie		2131
Hayes	Linda		2173(u)
Hayes	Maureen		2173
Hayes	Rose Ann		2173
Hayes	Sara		2131
Hayes	Stanley		2131
Hayes	Sue		2173
Hayes	Tom		2131
Hayes	Vicki		2173
Hayes	Willaim		2173
Hayet	Rose		2173
Hayevsky	Maria		2173
Hayles	Tash		2173
Haymon	Rachel		2173
Haynes	Deb		2173
Haynes	Karin		2173
Haynes	Lynda		2173
Haynes	Polly		2000
Hays	Helen		2000
Hays	Laurel		2000
Haysley	Robert		2173(u)
Hayward	Mark		2000
Hayward	Meredith		2173
Hayward	Michelle		2173
Hayward	Tigerlily		2173
Hazard	Karil		2173
Haze	Derek		2041
Hazel	Alexandra		2173
Hazelleaf	Tom		2173(u)
Hazeltine	Janna		2173
Hazelton	Judith		2000
Hazen	Pamela		2173
Hazynski	Chris		2173
Hazzard	Sandra		2173
Head	Jim		2000, 2173
Head	Kathleen		2173
Head	Kris		2000
Head	Robert		2173
Head	Sharon		2173
Headley	Linda		2000
Heald	Wendy		2131
Healey	Justin		2173
Healey	Karen		2131
Healingline	Helgaleena		2000(1), 2131
Healy	Carol		2173
Healy	Patt		2000
Healy	Selena		2173
Heap	Francesca		2173
Heape	Kelly		2031
Heaps	Lynell		0276
Heard	Elin		2173(u)
Hearn	Donna		2000
Hearn	Mary Alice		2131
Hearon	Marlene		2173
Heart	Mari		2173(u)
Heart	Melody		2131
Heasley	John		2173
Heaslip	Maureen		2173
Heater	Sherry		2173
Heath	Christine		2173
Heath	Donna		2173
Heath	Gail		2173
Heath	Kimberly		2173
Heath	Linda		2173

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Heath	Paulette		2000, 2173
Heath	Susan		2000, 2173, 2312
Heatherly	Debra		2173
Heaton	Sam		2173
Hebberger	Jo Anna		2173
Hebel	Chris		2173
Hebert	Melinda		2173
Hecht	Brigitte		2000
Heck	Kerry		2173
Heckart	Patricia		2173
Heckathorn	Anita		2173
Hecker	Laurel		2173
Heckethorn	Sally		2000
Heckler	Jack		2131
Heckman	David		2173
Heckman	Richard		2173
Heckmann	Ross		2173
Heckscher	Kathy		2173
Heckwolf	Michael		2131
Hedberg	Jeanne		2173
Hedden	Jaclyn		2031(u)
Hedgecock	James		2173
Hedgecock	Stephen		0080
Hedgecoke	Stephanie		2173(u)
Hedgepeth	McKenna		2131
Hedger	Lloyd		2173
Hedges	Ken		2173
Hedges	Robert		2173
Hedren	Shannon		2173
Hedrick	Elizabeth		2173
Hedrick	Vicki		2131
Heermans	James		2131, 2173
Hefestay	Amy		2173
Heffernan	Dan		2173
Heffron	Joshua		2173
Heffron	Joshua		2173
Heflin	Michelle		2000
Hefner	Sandi		2173
Heft	Lucinda		2173
Heft	Tadd		2173
Hegeman	Eli		2131
Hegener	Todd		2173
Heger	Cheryl		2173
Heggarty	Nancy		2100
Hegh	Elaine		2173
Hegland	Patricia		2000
Hegwood	Kristin		2173
Hehn	Art		2131(1)
Heide	Andra		2173
Heidelberger	Ellen		2312
Heideman	Adrianna		2173
Heidemann	Chris		2031(u)
Heiden	Jessica		2131
Heiks	Krisitna		2173
Heil	Kimberly		2173
Heil	Susan		2173(u)
Heilbronner	Christi		2173
Heiler	Todd		2173
Heilman	June		2173
Heilmanryan	Regina		2031(u)
Heiman	Holly		2173(u)
Heiman	Maury		2173
Heimbach	Linda		2173
Heimbigner	Bonnie		2000(u)
Heimer	Kathy		2173
Hein	Birgit		2173
Hein	Christine		0054, 2173
Hein	Claudia		2173
Hein	Diane		2173
Hein	Joelle		2131
Hein	Laurie		2173(u)
Hein	Lisa		2131
Heinemann	Laura		2031
Heinlein	Richard		2173
Heinly	Bridgett		2000, 2173
Heinrichs	Kathleen		2173
Heinrichs	Matthew		2173
Heinrichsen	David		2173
Heinsohn	Michael		2173
Heintz	L		2000
Heintz	Nancy		2131, 2173
Heintz	Sue		2173
Heinz	Cindy		2312
Heinz	Guenter		2173
Heinz	Jenny		2173
Heinz	Lisa		2131
Heinzelman	Stephen		2173
Heirendt	Denis		2173
Heiser	Joan		2173
Heiser	Noel		2131, 2173

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Heiser	Shawn		2173
Heisey	Kathleen		2173
Heisler	S.		2173
Heist	Bryn		2173
Heiter	Silvia		2173
Heithaus	Melissa		2173
Heitman	Janice Prokop		2173
Heitz	Marcia		2000, 2173
Helaudais	Linda		2173
Held	Johanna		2173
Held-Warmkessel	Jeanne		2000, 2173, 2312
Helean	Sean		2131
Helfrecht	David		2173
Hellekson	Debra		2000
Hellemn	Bruce		2000
Heller	Jessica Garcia		2173
Heller	Michael		2000, 2173(u)
Hellgren	Annkristine		2173(u)
Hellgren	Sofia		2173
Helling	Mark		2173
Hellings	Dee		2173
Hellmuth	Amanda		2173
Hellner	Suzanne		2173
Hellweg	Janet		2173
Hellwig	Danielle		2031
Hellwig	Karen		2173
Helly	Miranda		2173
Helm	Carol		2173
Helm	Jacqueline		2173
Helm	Mary		2173
Helm	Robert		2173
Helman	Connie		2173
Helman	Terry		2131, 2173
Helmberger	Rose		2173
Helmer	Bill		0149, 0333
Helmer	Laurice		2173
Helmer	Leah		2173
Helmeste	Michael		2173
Helmick	Shamra		2173
Helms	Diane		2173
Helms	John		2173
Helms	Lee		2173
Heloskie	Lisa		2173
Helt	Diane		2131
Heltebrake	Jane		2173
Helton	Richard		2173
Helvey	Angela		2131
Helvie	Linda		2000, 2131, 2173
Helvie	Robert		2131, 2173
Helwig	Michael		2173
Hembree	Jennifer		2173
Hemingway	Carol		2173
Hemm	James		2173
Hemmingsen	Jim		2173
Hemmings-Groom	Deborah		2173
Hempel	Bettina		2000
Hemphill	Pamela		2173
Henao	Jess		2173
Henault	B		2173
Hendershot	Jessica		2173
Henderson	Candace		2031(u)
Henderson	Donald W.		2000
Henderson	Jo		2173
Henderson	Kathleen		2173
Henderson	Le Roy		2131
Henderson	Ma		2173
Henderson	Michael		2173
Henderson	Parrie		2000(u)
Henderson	Patricia		2173
Henderson	Rose		2173
Henderson	Rosemary		2173
Henderson	Shannon		2173
Henderson	Suzy		2000
Henderson	Valerie		2173
Henderson	Zach		2031(u)
Henderson-O'Keefe	Parrie		2173(u)
Hendler	Judith		2131
Hendon	Charmaine		2173
Hendon	Donald		2173
Hendon	Marie		2173
Hendra	Jay		2000
Hendricks	Cynthia		2173
Hendricks	Sarah		2031
Hendrickson	Alana		2173
Hendriks	Charles		2173
Hendrix	Deborah		2173
Hendrix	Tammalege		2000

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Hendry	Dawn		2131, 2173, 2312
Hene	Sonya		2173
Henefelt	Kirsten		2173
Hengsteler	Anders, jr		2173
Heninger	Ryann		2173
Henize	Tina		2173
Henkel	Kurt		2131
Henley	Connie		2173
Henley	Pamela		2131
Henneberg	Alice		2173
Hennen	Heide		2173
Hennequin	Robin		0217
Hennessey	Chris		2131
Hennessy	Huntley		2000, 2173
Hennessy	Nicholas		2173
Hennessy	Peter		2173
Henney	Victor		2031(u)
Hennig	Denise		2131
Hennig	Pamela		2173
Henning	Brian		2173
Henning	Charles		2173
Henning	David		2173
Henny	Anne		2031, 2131
Henrich	Alexander		2173
Henrichon	Gina		2173
Henrickson	Lori		2031(u)
Henriksen	Deborah		2131
Henriksen	James		2131
Henriques	Charmaine		2173
Henriquez	Ana		2131
Henry	Anne		2173
Henry	Anne		2031
Henry	Ashley		2173
Henry	Christopher		2173
Henry	Dan		2173
Henry	David		2173
Henry	Dorothy		2173
Henry	Elizabeth		2131
Henry	Grayson		2173
Henry	Jennifer		2031(u)
Henry	Karen		2173
Henry	Kristy		2173
Henry	Malinda		2131
Henry	Steve		2312
Hensel	Paula		2173
Henseler	James		2173
Henseval	Arnaud		2000
Hensley	Bobbie		2000, 2173
Hensley	Debra		2173
Hensley	Kim		2173
Henson	Jenny		2173
Henson	Joey		2173
Henthorne	Heather		2000, 2173
Henz	Martin		2173
Hepburn	Robert		2173
Hepler-Garofalow	A.		2173
Herb	Marilyn		2173
Herbert	Annabelle		2173
Herbine	Alyson		2131
Herbst	Tori		2173
Herbstrith	Tim		2173
Herdman	Stephen		2312
Hereford	Earl		2173
Herger	Loretta		2131, 2173
Hering	Janine		2173
Herink	Max and Mary		2173(u)
Herkert	Christine		2173
Herl	Sl		2173
Herlin	Melvin		2259
Herlinger	Nancy		2000
Herman	Jeff		2131
Herman	Joshua		2173
Herman	Michelle		2173
Herman	Rita		2173
Herman	Stephanie		2173
Herman	Tim		2173
Hermann	Lenny		2173
Hermann	Tom		2173
Hermann-Dougherty	Janet		2000, 2131, 2173
Hermann-Wu	Kate		2173
Hermanny	Theresa		2093
Hermosillo	Nicholas		2000
Hernandez	Chelsea		2173
Hernandez	Courtney		2173
Hernandez	Donna		2000, 2131
Hernandez	Gina		2173
Hernandez	Linda		2131(u)
Hernandez	Luis		2173

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Hernandez	Nancy		2131
Hernandez	Nicholas		2173
Hernandez	Ricardo		2000
Hernandez	Steve		2173
Hernandez	Taylor		2173
Hernandez L	Amanda		2173
Herndon	Rheta		2173
Hero	Laurie		2173
Herold	Diane		2131
Heron	Deborah		2173
Heron	Robert		2173
Heron	Veronica		2173
Heroux	Nancy		2031(u)
Herren	Doug		2173
Herrera	Magge		2173
Herrera	Marisa		2000
Herrera	Marylin		2173
Herrera	Sandra		2173
Herrick	Jeffrey Bryan	Costco Visa	0232
Herring	Sandra		2173
Herrington	Beverly		2000(2)
Herriott	Sue		2173
Herrli	Lynne		2173
Herrly	Sheryl		2131
Herrmann	Gretchen		2173
Herrmann	Linda		2173
Herron	Andria		2000, 2131
Herron	Carole		2173
Herschlag	Jane		2173
Hersey	Jane		2173
Hershey	Yolanda		2173
Hershman	Connie		2173
Herstein	Jennifer		2173
Hert	Diane		2173
Herten	Margaret		2131, 2173
Hertzfeld	Eric		2131
Herwig	Gary		2173
Herzog	Leslie		2173
Herzog	Tina		2173
Herzstein	Sandra		2173
Hesford	Diane		2131
Hesh	Suzanne		2131
Hesler	Gary		2173
Heslin	Rilla		2131, 2173
Hess	Aleena		2173
Hess	Brian		2131(u)
Hess	Cameron		2131
Hess	Ed		2173
Hess	Kathi/ Kathryn		2131, 2173
Hess	Rachel		2173
Hess	Raphael		2173
Hess	Regula		2000, 2173
Hess	Steve		2173
Hesse	Sharon		2173
Hesse/Dyer	Susanne & Doug		2173
Hesselink	Joanne		2173
Hesser	Yola		2173
Hester	Kathy		2173
Hester	Lori		2173
Hester	Tammy		2312
Heter	Lydia		2031(u)
Hetherington	Karen		2173
Hetrick	Nathan		2173
Hetzel	Dorn		2173(u)
Hevenor	Duncan		2173
Hewitt	Anne-Marie		2000, 2173
Hewitt	Carol		2173
Hewitt	Cheryl		2173
Hewitt	Holly		2173
Hewitt	Patricia		2173
Hewitt	Roxanne		2000
Hewitt	Sheri		2131
Hewitt	Tanya		2173
Hexon	Janese		2000
Heyden	Donald		2000
Heydon	Margaret		2173
Heydt	Michael		2173
Heyman	Errin		2173
Heyman	Jay		2173
Heyneman	Amy		2173
Heyneman	John		2173
Heywood	Susan		2173
Hiatt	Hermi		2031(u)
Hiatt	John E	Red Rock Audubon Society	6014
Hibbard	Ray		2131
Hibben	Tresa		2173
Hibbert	Joanne		2131
Hibbert	Kelly		2173
Hibbits	Jolly		2173
Hibler	Larry		2131

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Hickey	Doreen		2173
Hickey	Laura		2173
Hickey	Margaret		2173
Hickey	Shaun Marie		2031(u)
Hickling	Charles		2173
Hickman	Chris		2173
Hickman	Judi		2031(u)
Hickman	Lauren		2173
Hickman	Shirley		2173
Hickman	Tammy		2173
Hickman-Heyner	Liz		2173
Hickory	Arlene		2173
Hickox	Ann		2173
Hickox	Tori Ann		2173
Hicks	Cynthia		2000, 2131, 2173
Hicks	Garland		2173
Hicks	Hannah		2031(u)
Hicks	James		2173
Hicks	James		2173
Hicks	Jeanette		2173
Hicks	Lacey		2173
Hicks	Margaret		2173
Hicks	Mark		2131
Hicks	Robert		2173
Hicks	Tanja		2131
Hicks	Toni		2173
Hicks	Will		2131, 2173
Hicks-Severn	Percy		2173
Hidalgo	Charlene		2173
Hidy	Laurie		2173

Last Name	First Name	Org	CIN
Hieb	Laurel		2173
Hieber	Richard		2000
Hieber	Rosemary		2173
Hiester	Mary		2173
Higbee	Varlin		3011
Higbie	Lynn		2173(u)
Higgins	Gina		2173
Higgins	Jamie		2173
Higgins	Janice		2000
Higgins	Jeffrey		2173
Higgins	Kathleen		2131
Higgins	Kay		2173
Higgins	Laurie		2173
Higgins	Lindi		2173
Higgins	Lore		2173
Higgins	Mary		2131
Higgins	Mike		2131
Higgins	Scarlett		2000
Higgins	Susan		2173
Higginson	Bob		2173
High	Dana		2173
Highfill	Katherine		2173
Highley	Violet		2000
Highlove	Mark		2031
Highsmith	Debbie		2031(u)
Hight	Cynthia		2131
Hightower	Nicole		2131
Hightree	Lucy		2173
Higson	Howard		2000
Hilario	Alrey		2000, 2131
Hilario	Andrea		2173

Last Name	First Name	Org	CIN
Hilbert	Harrison		2000, 2173
Hildebrand	Eric		2173
Hildebrand	James		2173
Hildebrand	Judy		2173
Hildebrand	Karen		2173
Hildeman	Carrie		2173
Hileman	Jacki		2173
Hileman	Judy		2173
Hiles	Dustin		2131
Hilferty	Esther		2173
Hilgers	Irene		2131
Hilkovitch	Nicole		2173
Hill	Andrea		2173
Hill	Cheri		2173
Hill	D		2173
Hill	Danny		2173
Hill	Dawn		2031(u)
Hill	Deborah		2131
Hill	Derin		2173
Hill	Elizabeth		2173
Hill	Eloise		2173
Hill	George		2173
Hill	Gordon		2131
Hill	Gordon		2173
Hill	Helen		2173
Hill	J		2312
Hill	Jeffrey		2173
Hill	Jennifer		2173
Hill	JoAnn		2000
Hill	Kimberly		2173
Hill	Paige		2173

Last Name	First Name	Org	CIN
Hill	Patricia and Mark		2173(u)
Hill	Robert		2131
Hill	Rosemary		2312
Hill	Sharon		2000(1)
Hill	Sheri		2173
Hill	Steven		2173
Hill	Sue		2173
Hill	Tangerine		2173
Hill	Terry		2173
Hill	Vernon		2131
Hill	Wendolyn		2173
Hillan	Jessica		2173
Hilland	Ruthann		2173
Hillard	Ashley		2000
Hillard	Joyce		2173
Hilleary	Patricia		2173
Hillebrecht	Patsy		2173
Hillesland	Lisa		2131
Hillman	Mariah		2000
Hills	Jo		2173(u)
Hills	Mary		2000
Hills	Sally		2173
Hilly	John		2173
Hilsenhoff	Leslie		2173
Hiltner	Debbie		2000
Hiltner	Marilyn		2131
Hilton	Daniel		2131(u)
Hilty	Opal		2131
Himes	Byron		2131
Himes	Erica		2173
Himes	John		2173
Himes-Powers	Susan		2173
Hinde	D		2131
Hindman	Susan		2173
Hinds	Carolyn		2173
Hinds	Chesley		2173
Hinds	Minori		2131
Hine	Susann		2173
Hineline	Thomas		2173
Hines	Dash		2173
Hines	Michele		2131
Hingson	Dick		2131
Hink	Lani		2173
Hinke	Petra		2173
Hinkelman	Carol		2131
Hinkle	Lee		2173
Hinrichs	Pamela		2173
Hinshaw	Sally		2173
Hinshaw	Tammera		2000
Hinson	Julia		2173
Hinson	Katherine		2000, 2131
Hinton	Deborah		2173
Hinton	Sheridan		2173
Hintsa	Eric		2131
Hintz	Heather		2173
Hinwood	Melissa		2000
Hinze	Willie		2173
Hipolito	Sarah		2173
Hipp	Jane		2173
Hipps	Barbara		2173
Hipps	Kris		2131
Hipszky	Ginger		2131
Hirano	Arleen		2173
Hirose	Mary		2173
Hirsch	Barbara		2173(u)
Hirsch	Harriet		2173
Hirsch	Peter		2173
Hirsch	Robin		2173
Hirsch	Stephen		2173(1)
Hirschhorn	Valerie		2173
Hirsh	Sidney		2131, 2173
Hirshfield	Jane		0022
Hirshorn	Robert		2173
Hirt	Deborah		2173
Hirtz	Daniel		2131
Hirtzel	Chelsea		2173
Hise	Sharon		2131
Hiss	Ea		2173
Hiss	Eric		2173
Hissett	Andrew		2173
Hissom	Jill		2173
Hitchcock	Steve		2031(u)
Hitchens	Carl		2131
Hite	Carol		0269
Hite	Melissa		2173
Hitt	Jen		2131
Hix	Susan		2312(u)
Hixson	Leslie		2173
Hixson	Rosetta		2173
Hixson	Taylor		2173
H-Jones	Mike		2173
Hjortshoj	Joe		2031
Hlat	Mike		2173

Last Name	First Name	Org	CIN
Hlavacka	Melanie		2173
Hlodnicki	Bruce		2000
Ho	Sebastian		2173
Hoagfelt	Jane		2173
Hoak	Wkatherine		2173
Hoang	Lynn		2173
Hoar	Yvone		2173
Hobart	Michael		2131
Hobbs	Ann		2173(u)
Hobbs	Tracy		2173
Hobert	Jeanne		2173
Hobert	Marisa		2173
Hobert	Pennie		2173
Hobson	Kelvin		2173
Hocevar	Renee		2000, 2173
Hoch	Lisa		2173
Hoch	Manuela		2173
Hochberg	Adrienne		2312
Hochendoner	Bernard		2000
Hochendoner	Peggy		2173
Hochtritt	David		2173
Hockenbrouch	Anne		2173
Hockert	Synthia		2173
Hocking	Zora		2000
Hodder	Mary Ann		2173
Hodel	Joyce		2131
Hodges	Christina		2173
Hodges	Connie		2173
Hodges	Jackie		2173
Hodges	Julie		2131
Hodges	Karen		2173
Hodges	Sherri		2173
Hodges	Suzanne		2173
Hodgson	Susan		2000
Hodie	Jake		2002
Hodo	Bruce		2173
Hodorowich	Rick		2131, 2173
Hodovan	Francine		2000
Hodsoll	Mimi		2173
Hoeffler	Alan		2131
Hoeg	DonnaLynne		2173
Hoekstra	Debra		2179
Hoekstra	Nicole		2173
Hoekstra	S		2131
Hoelzer	Michelle		2173
Hoem	Elaine		2131
Hoenig	Irwin		2000, 2173
Hoepker	Lisa		2173
Hoerig	Keith		2131
Hoerlein	Sara		2173
Hoess	Joseph		2173
Hoevel	Laura		2173
Hofbaur	Birgit		2173
Hofberg	Eva		2173
Hofer	Rich		2173
Hoff	Ann		2173
Hoff	Beverly		2173
Hoff	Colleen		2131
Hoffer	Cindy		2131
Hoffman	Bill		2173
Hoffman	Bob		2173
Hoffman	Bruce		2173
Hoffman	Char		2131
Hoffman	Charmaine		2173
Hoffman	Gene		2131
Hoffman	Janice		2131
Hoffman	Jill		2173
Hoffman	Joseph		2131
Hoffman	Leonard		2173
Hoffman	Lisa		2173
Hoffman	Michael		2131
Hoffman	Michael & Judi		2173
Hoffman	Neal		2131
Hoffman	Robert		2131
Hoffman	Terence		2173
Hoffman	Tobi		2000
Hoffman	Tom		2173
Hoffmann	Georgia K		0272
Hoffmann	James		2173
Hoffmann	John		2173
Hoffmann	Rolanda (Randi)		2131
Hoffmaster	Debra		2173
Hofman	Peter		2173
Hofmann	Lisa		2000
Hofmann	Steve		2173
Hofmann Jr	Harold		2173
Hofmeister	Tom		2000
Hofstad	Shana		2173
Hofstetter	Mark		2173
Hogan	Jacqueline		2173
Hogan	John		2173
Hogan	Peter		2173
Hogan	Randolph		2173

Last Name	First Name	Org	CIN
Hogan	Tiffany		2173
Hoganson	M		2000
Hogarty	Ellen		2173
Hogenson	Robert		2131
Hogg	Ludmila		2173
Hoggard	Justin		2173
Hoggins	Pamela		2173
Hogle	Dick		2131
Hogsed	Robert		2173
Hogue	Gregory		2173
Hohla	Nancy		2173
Hohman	Angela		2173
Hohnbaum	Diane		2173
Hohnroth	Allen		2000
Hoitela	Robert		2173
Hoke	Jackie		2131, 2173
Hoksbergen	Michael		2173
Holaday	Vern		3007
Holahan	Theresa		2173
Holbo	Chadwick		2031(u)
Holbrook	Sonja		2000, 2173
Holburn	Jennifer		2173
Holcmannova	Dita		2173
Holcomb	Aimee		2173
Holcomb	Christina		2131
Holcomb	Gary		2131, 2173
Holcomb	Greg		2000
Holcomb	Kristi		2031(u)
Holcomb	William & Margaret		2173

Last Name	First Name	Org	CIN
Holcombe	Cassie		2173
Holden	John		2173
Holden	Lisa		2173
Holden	Megan		2000, 2131
Holden	Michele		2131(1)
Holden	Nelda		2000
Holden	Tami		2173
Holder	Cheryle		2131
Holderle	A		2131(u), 2173(u)
Holdford	Becky		2173
Holdsworth	Robert		2173
Holdsworth	Wade		2000
Holford	Sharon		2173
Holladay	Sharon		2173
Holland	Alexander		2131
Holland	Alison		2173
Holland	Amy		2173
Holland	Carol		2173
Holland	Charlie		2131
Holland	Cindy		2173
Holland	Denise		2173
Holland	Dennis		2131
Holland	Dianna		2173
Holland	Grace		2173
Holland	K		2173
Holland	Kate		2131, 2173
Holland	Maureen		2173
Holland	Michael		2131
Holland	Patricia		2173
Holland	Susan		2173

Last Name	First Name	Org	CIN
Holland	Todd		2173
Hollander	Erica		2173
Hollander	Roger		2000, 2173
Hollander	Susan		2173
Hollar	Jeffrey		2173
Hollenbeck	Rebecca		2173
Hollenberg	Norman		2173
Holliday	Carolyn		2173
Holliday	Janet		2173
Holliday	Kenneth		2173
Holliday	T		2000
Hollie	Paula		2173
Hollier	Kristy		2173
Hollinger	Janet		2000, 2131
Hollinger	Lois		2173
Hollingsworth	Veronica		2173
Hollinrake	Mark		2000, 2173
Hollis	Joanna		2173
Hollis	Kimberly		2000
Hollis	Lisa		2173
Hollis	Nancy		2173
Hollis-Franklyn	C.C.		2000
Hollish	Karen		2173
Hollman	Fredde		2173
Holloran	Heidi		2131
Holloway	David		2173
Holloway	Jennifer		2131
Holloway	Marshall		2131
Holloway	Maxine		2173
Holloway	Saundra		2031(u)

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Holloway	Saundra		2031(u)
Hollowell	Edwin		2173(u)
Hollowell	Heather		2173
Hollstien	Steven		2173
Holly	Lin		2131
Holm	Carol		2173
Holm	Jay		2173
Holm	Monika		2173
Holman	Alan		2131
Holman	Kathleen		2173
Holman	Laura		2173
Holmes	Allison		2031(u)
Holmes	Brad		2173
Holmes	Carolyn		2000
Holmes	Dorothy		2173
Holmes	Juliet		2173
Holmes	Kathy		2173
Holmes	Lori		2173
Holmes	Marie		2173
Holmes	Matthew		2173
Holmes	Reva		2173
Holmes	Shannon		2173
Holmes	Susan		2000
Holmeyer	Mary		2131
Holmgren	Rebecca		2173
Holmquist	Kirsten		2173
Holmquist	Wendy		2131
Holmvig-Wassen	Melissa		2173
Holomuzki	Sherie		2173
Holstein	Judith		2173(u)
Holstein	Sandra		2173
Holsten	Chandra		2131
Holston	Jennifer		2173
Holt	Alan		2173
Holt	Bill		2000
Holt	Cheryl		2131
Holt	Lori		2173
Holt	Lynne		2173
Holt	Sherry		2173
Holt	Susan		2312
Holter	Norbert		2173
Holtey	Ana		2173
Holton	Lyndsay		2173
Holtslander	Richard		2173
Holtz	Barbara		2173
Holtz	Joe		2319
Holtz	Mark		2131
Holtzapple	Greg		2173
Holtzclaw	Jackie		2173
Holtzclaw	John		2173
Holtzman	Dorothy		2173
Holtzman	Lawrence		2173
Holubeck	Thomas		2173
Holy	Dominique		2173
Holze	Kim		2173
Holzer	Thom		2131
Holzheimer	Kristin		2173
Holzmeister	Mary		2173
Homer	Frances		2173
Homer	Kimberly		2173(u)
Homer	Michael		2173
Hon	Don		2173
Hondo	Michele		2173
Honeycutt	Jackie		2173
Honig	Phyllis		2173
Honigsblum	Alexander		2173
Honkomp	Dennis		2173
Honore	Stephanie		2173
Honrath	Taylor		0270
Honsberg	Claudia		2000
Honsberger	Patricia		2173
Hoobing	Stan		2173
Hood	Dennis		2173
Hood	James		2131
Hood	Katherine		2000
Hood	Mary		2000
Hood	Nick		2000
Hood	Tim		2173
Hood-Marchig	Stacey		2173
Hoogenboom	Beecher		2173
Hooker	Yvonne		2173
Hoole	Ed		2173
Hooley	Daniel		2173(u)
Hooper	Steve		2173
Hoopes	Anne		2173
Hoopingarner	Brett		2173
Hoots	James		2000(1), 2173(1)
Hoover	Brian		2131
Hoover	Debra		2173
Hoover	J.		2173
Hoover	Madison		2173
Hoover	Steven		2131
Hoover	Thomas		2173
Hope	Holly		2173

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Hope	Phillip		2000, 2173
Hopewell	Ricky		2131
Hopkins	Amy		2312
Hopkins	Annette		2000, 2173
Hopkins	Cheryl		2000
Hopkins	David		2312
Hopkins	Jeff		2000, 2131
Hopkins	Kathy		2173
Hopkins	Melissa		2173
Hopkins	Paul		2000, 2173
Hopkins	Steve		2173
Hopkins	Susan		2173
Hopkins	Tom		2173
Hoppe	Judith		2173
Hoppenbrouwers	Elke		2173
Hopper	Chelsea		2173
Horan	Debbie		2173
Horeftis	Heidi		2173
Horenstein	Michele		2173
Horiai	Mary Beth		2131
Horie	Nancy		2173
Horine	Angela		2173
Horkley	Lisa		2173
Horn	Andrew		2173
Horn	Dane		2173
Horn	David		0191
Horn	Debbie		2173
Horn	Jennifer L		2131
Horn	Joe		2173(u)
Horn	Keith		2173
Horn	Olga		2173
Horn	Su		2173
Hornaday	Dan		2173
Hornaday	James		2131
Hornbeck	David		2031(u)
Hornby	Dorothy		2131
Horne	Alex		2031
Horne	Michael		2173
Horne	Michele		2173
Horne	Shari		2000
Horne	William		2173
Horner	Jerry		2000
Horner	Lynnette		2173(u)
Horner	Tracey		2173
Horner	Wid		2131
Hornick	Jill		2173
Hornung	Tracie		2312
Horowitz	Diana		2173
Horowitz	Laura		2173
Horowitz	Megan		2173
Horozinksi	Steve		2173
Horsch	Thomas		2173
Horseman	Stephanie		2173
Horst	Karissa		2173
Horst	Karla		2000
Horstman	Kara		2000
Hortizuela	Mili	Educator	0014
Horton	Christine		2173
Horton	Daryl		2131
Horton	Deanna		2000(3)
Horton	Francis		2173
Horton	Heather		2173
Horton	Hilary		2173
Horton	Jennifer		2131
Horton	Karen		2173
Horton	Katherine		2131
Horton	Stevie		2000
Horvath	Elizabeth		2173
Horvath	Erno		2173
Horvath	Nancy		2173
Horwitz	Jan		2173
Horwitz	Lauren		2173
Horwitz	Martin		2000, 2173
Horwood	Sue		2000
Hosek	Ruth		2173
Hoskin	Cornelia		2173
Hoskins	Lynne		2173
Hoskinson	Marjorie		2000(u)
Hosseini	Negar		2031
Hostetler	Dawn		2131
Hostetter	Peggy		2173
Hotaling	Nancy		2173(u)
Hotchkiss	Jessica		2173
Hottenstein	Tara		2173
Hottmann	Denise		2173
Houck	Faith		2000, 2173
Houck	William		2000
Houdashelt	Mark		2131
Houff	Anne		2173
Hough	Eric		2000
Hough	Harriet		2173
Houghton	Jules		2173

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Houghton Jr.	Ron		2173
Hoult-Saros	Stacy		2173
Houmes	Cleda		2000
House	Anitra		2173
House	Darrell		2173
House	Michael		2131, 2173
Houseal	Sharon		2000
Householder	Lauren		2173
Houseman	Emma		2173
Houser	Patrick		2173
Houseworth	Bradley		2173
Houston	Joy		2173
Houston	Thomas		2173
Houtsma	James		2131
Hovav	Adam		2000(1)
Hovermill	Earl		2000
Hovey	Frederick		0123
Hovey	Roseanne		2173
How	Joan		2000
Howard	Catherine		2173
Howard	Constance		2038
Howard	Dayna		2173
Howard	Erin		2000, 2173
Howard	Gary		2173
Howard	Janet		2131
Howard	Jeanne		2173
Howard	Jessica		2173
Howard	Kara		2000
Howard	Karen		2173(u)
Howard	Kristen		2131, 2173
Howard	Linda		2173
Howard	Lindsey		2131
Howard	Loretta L.		2000
Howard	Lori		2173
Howard	Marni		2173
Howard	Michael T		0256
Howard	Paul		2000
Howard	Raymond		2173
Howard	Rebecca		2000
Howard	Ronald		2000
Howard	Ryann		2173
Howard	Sarah		2131
Howard	Sherry		2173
Howard	Sully		2131
Howards	Erika		2173
Howarth	J		2173
Howe	Alex		2000
Howe	Amy		2173
Howe	Brenda		2173
Howe	Cherie		2173(u)
Howe	Dean		2173
Howe	Dian		2173
Howe	Judy		2131
Howe	Linda		2131(u)
Howe	Patricia		2173
Howe	Rebecca		0185, 2000, 2173(u)
Howel	Lisa		2173
Howell	B		2173
Howell	Cynthia		2173
Howell	Donna		2173
Howell	Jennifer		2173
Howell	Lori		2000, 2173
Howell	Marcus		2173
Howell	River		2131, 2173
Howell-Gritsch	Erin		2131
Howells	Judy		2173
Howes	Connie		2131
Howes	Wendy		2000
Howie	Linda		2173
Howish	John		2173
Howk	Amy		2000, 2173
Howlett	Debora A		2131
Hoxie	Bill		2173
Hoy	Julie		2173
Hoy	Tim		2000
Hoyer	Robert		2173
Hoyle	Diane		2000
Hoyle	Genny		2173
Hoyopatubbi	Patti		2173
Hoyt	Arthur		2173
Hoyt	Larry		2144
Hranitz	Vanessa		2173
Hristodoulou	Christina		2173
Hruby	Janis		2173
Hrynko	Marianna		2173(u)
Hsieh	Bess		2173
Hsu	Chen		2173
Hsu	S		2173
Hsu	Stacey		2173
Huang	Amy		2173

Last Name	First Name	Org	CIN
Huang	Winston		2000, 2131
Hubanks	Amanda		2173
Hubbard	Dan		2312
Hubbard	Edward		2173
Hubbard	Mary		2173
Hubbard	Polly		2000
Hubbard	Ron L.		2173
Hubbard-Reeves	Susan		2173
Hubbs	Lawrence		2173(u)
Huber	Carolyn		2173
Huber	Charles		2173
Huber	Diane		2173
Huber	Gustavo		2031(u)
Huber	Michele		2173
Huber	Rod		2173
Huber	Ron		2173
Huber	William		2173
Hubert	Ronald/Ron		2131, 2173
Hubschwerlin	William		2131
Huckaba	Lorie		2173
Huckaba-Paiz	Sharol		2131
Hudak	Lindsey		2173
Hudak-Salvat	Julie		2131
Hudas	Yvonne		2173
Huddleston	Declan		2131
Huddleston	Molly		2000, 2173
Huddlestone	Laura		2173
Huddy	Paul		2131
Hudelson	Les		2173
Hudig	Dorothy		2128
Hudsick	Bonnie		2173
Hudson	Alice		2173
Hudson	Ashley		2031(u)
Hudson	Carie		2173
Hudson	Edwin		2173
Hudson	Jon		2000
Hudson	Joseph		2312
Hudson	Kelly		2173
Hudson	Noel		2173
Hudson	Pam		2173
Hudson	Sascha		2031(u)
Hudson	William		2173
Hueber	Amy		2173
Huebner	David		2173
Huebner	Melissa		2173
Huelmann	Michelle		2173
Huerta	Fernando		2173
Huesca	Alexander		2319
Huff	Cathy		2173
Huff	Charles		2131
Huff	Constance		2312
Huff	Nancy		2173
Huff	Terry		2173
Huffman	Adam		2173
Huffman	Ann		2131
Huffman	Christopher		2131
Huffman	Linda		2173
Huffman	Melodie		2000, 2173, 2312
Huffman	Ronald		2131
Hufford	Betty		2131
Hufford	Cynthia		2131
Hufnagel	Glenn		2173
Hugel	William		2173
Hugg	Frances		2131
Huggins	Barbara		2173
Huggins	Nell		2173
Huggins	Roxana		2131
Huggins	William		2131(u)
Hughes	Andrew		2173
Hughes	Bonnie		2131, 2173
Hughes	Cassandra		2031(u)
Hughes	Denise		2173
Hughes	Denise		2000
Hughes	Donna		2173
Hughes	Dwight		2173
Hughes	Eugene		2131
Hughes	Jan		2173
Hughes	Jeff		2131
Hughes	Joan		2173
Hughes	Joseph		2000
Hughes	Julie		2173
Hughes	Ken		2131
Hughes	Kevin		2000, 2173
Hughes	Lauren		2000, 2173
Hughes	Leslie		2173
Hughes	Lindsey		2000, 2173
Hughes	Lisa		2173
Hughes	Lisa		2131

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Hughes	Mary Kay		2131
Hughes	Morgan		2173
Hughes	Rhonda		2173
Hughes	Rich		2173
Hughes	Robert		2173
Hughes	Robert M.		2173(u)
Hughes	Sandy		2131(u)
Hughes	Simon		2131
Hughes	Sue		2000
Hughes	Susan		2031(u)
Hughes	Vera		2173
Hughes	Vicki		2000, 2173
Hugi	Robert		2131
Huie	Tawndra		2173
Hukari	Lori		2173
Hukee	Julie		2173
Hulbert	Rhonda		2173
Hulek-doyle	Michele		2000
Hulett	Raela		2173
Hull	Ace		2131, 2173
Hull	Cynthia		2131
Hull	Donna		2173
Hull	Gary		2000, 2131, 2173
Hull	Juanita		2000, 2173
Hullman	Ingrid		2173
Hulme	Cody		2000
Hulse	Anna		2031
Hulsopple	Lynda		2173
Hult	Philip		2000

Last Name	First Name	Org	CIN
Hult	Philip		2173
Hultgren	Raso		2173
Humber	Karen		2000, 2173(u)
Humbert	Jennifer		2000, 2173
Humes	Kevin		2031(u)
Humes	Kevin		2031
Humes	Terry		2173
Hummel	Erica		2000, 2173
Hummon	Charlotte		2173
Humphrey	Katie		2173
Humphrey	Mary		2173
Humphrey	Matthew		2173
Humphrey	Rachel		2173
Humphrey	Seth		2173
Humphrey	Thomas		2173
Humphreys	Christine		2173
Humphreys	Kristan		2173
Humphreys	Marla		2173
Humphreys	Paige		2173
Humphreys	Robbie		2173
Hundt	Heather		2312
Huner	Leslie		2173
Hung	Patricia		2173
Hunkins	Martha		2173
Hunkler	Lisa		2173
Hunley	Steve		2173
Hunnicutt	Mary		2173
Hunrichs	Paul		2000, 2173
Hunston	Majella		2173

Last Name	First Name	Org	CIN
Hunt	Adam		2131
Hunt	Brad	STORM-OV and TRAILS-OV	3060
Hunt	Cashin		2173
Hunt	Cynthia		2173
Hunt	David		2000
Hunt	Debbie		2173
Hunt	Donald		2131
Hunt	Joan		2173
Hunt	Kristin		2131
Hunt	Linda		2312
Hunt	Margaret		2173
Hunt	Meg		2173
Hunt	Pam		2173
Hunt	Rick		2000
Hunt	Stephen		2000, 2131
Hunt	T		2173
Hunt	Vicky		2173
Hunter	Amy		2131, 2173
Hunter	Barb		2000
Hunter	Dixie		2131
Hunter	DM		2000(1), 2173(u)
Hunter	Elizabeth		2131
Hunter	John		2131
Hunter	Kathy		2131, 2173
Hunter	Kim		2173
Hunter	Kirsten		2173
Hunter	Kylara		2173

Last Name	First Name	Org	CIN
Hunter	Leah		2173
Hunter	Michael		2173
Hunter	Nancy		2173
Hunter	Patricia		2173
Hunter	S.		2173
Hunter	Sheilah		2000
Hunter	Susan		2173
Hunter-Mitchell	Deborah		2131
Huntington	Laurie		2131
Huntington	Stephanie		2131, 2173
Huntley	Michelle		2000
Huntman	Vicki		2173
Hunziker	Catherine		2131
Hunziker	Jane		2173
Hunziker	Jordan		2173
Hupkova	Jana		2173
Hupperts	Connie		2131
Hurd	David	Lincoln County Regional Develo-pment Authority	5010
Hurd	Joel		2173
Hurd	Pamela		2000
Hurd	Sarah		2173
Hurkens	Chloe		2173
Hurlburt	Stephanie		2131
Hurley	Brady		2173
Hurley	Deb		2173
Hurley	Desiree		2173
Hurley	Georgianna		2173
Hurley	June		2173
Hurley	Sharon		2173
Hurst	Elaine		2173
Hurst	George		2173
Hurst	Mark		2000
Hurt	Luc		2000
Hurt	Sarah		2173
Hurtt	Kimberly		2173
Husain	Samira		2173
Husak	Todd		2131
Husar	Michael		2173
Husbands	Robert		2173
Husby	Jason		2000, 2173
Hüsch	Boris		2173
Husfelt	Melanie		2173
Huskey	Russell		2173
Huskin	Sharon		2173
Husmann	Sabrina		2173
Husocki	Karen		2173
Huson	Kacie		2173
Huss	Nicholas		2000
Husser	Norman		2173
Huston	Rita		2173
Hut	Roelie		2000
Hutchings	William		2173
Hutchins	Tiffany		2000
Hutchinson	Julie		2173
Hutchinson	Marlene		2000
Hutchinson	Randi		2131
Hutchison	Anne Marie		2173
Hutchison	Cheryl		2173
Hutchison	John		2173
Hutchison	Patricia		2131, 2173
Hutson	Faith		2173
Hutt	Evelyn		2131
Huttenmiller	Kristen		2173
Huttner	Joseph		2173
Hutts	Paula		2131
Huybers	Kathy		2131
Huynh	Annie		2173
Huzenis	Audrey		2173
Hvoslef	Erik		2131
Hyatt	Christy		2131
Hyde	Cynthia		2173
Hyde	Francine		2173
Hyde	Gail		2173
Hyde	Shane		2173
Hydeman	Jinx		2173
Hyland	Lillian		2173
Hylton	Steve		2312
Hyman	Kayla		2173
Hynak	Barbara		2173
Hyndman	Carol		2173
Hynek	Dale		2173
Hyra	Alek		2000, 2173
Hyvari	Heather		2173

I

Last Name	First Name	Org	CIN
I	Kate		2173
Iacangelo	Margaret		2173
Iacarella	Rita		2173
Iaderosa	Andrea		2173(u)

Last Name	First Name	Org	CIN
Iafrati	Vicky		2173
Iamboliyski	Boriana		2173
Ianchiou	Peter		2131, 2173
Ianeva	Eva		2173
Iannucci	Luigi		2173
Ibur	Patty		2173
Ice	Krysta		2173
Ice	Mary Kennedy		2131
Icke	Tara		2173
Ifrah	Danielle		2173
Igard	Jodi		2000
Iglesias de Oliveira	Laura		2173
Ignich	Therese		2173
Ihne	Merle		2312
Ikeda	Ginger		2131
Ikina	Alena		2000
Ikler	Bill		2131
Iles	Hatti		2173
Illescas	Rosa		2000
Illiano	Neil		2000
Ilsen	Eve		2173
Iluna	Mana		2173
Imajo	Takeshi		2173(u)
Imblum	Glenn		2131
Imholte	Rachel		2173
Imlay, PhD	Marc	MD Chapter, Sierra Club, Natural Places Working Group Chair Chair, MAIPC Biological Control Working Group	0042
Imler	Rachel		2173
ImMasche	Sonia		2131, 2173
Imre	Denise		2173
Ince	Patti		2173
Indelicato	Linda		2173
Indermuehle	Eric		2000
Inganamort	Michael		2173
Ingelsson	Kajsa		0055, 0338
Ingenito	Donna		2173
Ingersoll	Cindy		2000
Ingesson	Lena		2173
Ingham	Lula Kay (Katie)		2211
Ingle	Debra		2173
Inglis	Joni		2031(u)
Ingliss	Robert		2131(u)
Ingraham	E.		2173
Ingram	Angelique		2173
Ingram	Stephen		2108
Ingram	Thomas		2131
Ings	Raymond		2173
Inman	Leslie		2312
Inmon	Anne		2000, 2173
Inouye	Lynn		0214
Inscoe	Di		2131(1)
Inskeep	Kate		2131
Intilli	Sharon		2173(u)
Intorcia	Karen		2000
Inwood	Sylvia		2173
Ionina	Kate		2173
Iosupovici	Miriam		2173
Iovino	Teresa		2000
Irby	Sam		2173
Ireland	Karen		2000, 2173
Ireson	Dale		2131
Ireton	Kendra		2173
Iriguchi	Deborah		2173
Irons	Angela		2173
Irons	Bridget		2000, 2131, 2173
Irvin	Yvonne		2131
Irvine-groves	Josephine		2173
Irving	Judy		2000
Irving	Mark		2173
Irving	Melissa		2173
Irving-Mills	Wendy		2173
Irwin	BJ		2131(1), 2173
Irwin	Hannah		2131
Irwin	Marion		2000, 2131(1)

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Irwin	Roger		2173
Irwin	Sam		2000
Irwin	Sarah		2173
Irwin	Shannon		2173
Irwin	Sue		2131
Isaac	Marian		2173(u)
Isaacson	Richard		2031(u)
Isenberg	Laura		2173
Iseri	Martin		2173
Ishida	Barbara		2131
Ishii	Megumi		2173
Ishii	Takako		2173
Ishmael	Elizabeth		2173
Islam	Abdullah		2173
Isley	Zephyr		2131, 2173
Ismail	Hildy		2173
Israel	Nancy		2173
Israel	Saidah		2000
Issa	Eleanor		2031(u)
Italiano	Corinne		2173
Itule	Norma		2131
Iturralde	Rachel		2173
Itzchak	David		2173
Ivaldi	Miriam		2000(1)
Ivanov	Dmitrii		2000
Ivanovsky	Milou		2173
Ivens	Rosalind		2173
Iversen	Sheryl		2173
Iverson	Cassidy		2173
Iverson	Ken		2173
Iverson	Susan		2173
Ives	Abby		2173
Ivey	Gary		2312
Iwankiw	Pilar		2173
Iyer	Rahul		2173
Izzo	Danamarie		2173
Izzo	Francesca		2131
Izzo	Laurie		2173

J

Last Name	First Name	Org	CIN
J	Danielle		2000(u)
J	J		2173
Jaason	Kaari		2000
Jablow	Lisa		2173
Jache	Elizabeth		2173
Jachimiak	James		2173
Jachlewski	Trisha		2000, 2173
Jack	Matthew		2173
Jackman	Tom		2173
Jacks	Elin		2173
Jackson	Anne		2173(u)
Jackson	Carol		2173
Jackson	Carole		2131
Jackson	Carole		2173
Jackson	Carolyn D.		2173
Jackson	Chere		2131
Jackson	Cindy		2173
Jackson	Claire		2131
Jackson	David		2173
Jackson	Debi		2000
Jackson	Denise		2173
Jackson	Diane		2173
Jackson	Doris		2173
Jackson	Frederick		2264
Jackson	Ginny		2173
Jackson	Hazel		2131
Jackson	Jamayca		2173
Jackson	James		2173
Jackson	Jared		2131
Jackson	Jean		2173
Jackson	Julie		2131, 2173
Jackson	K		2000, 2173
Jackson	Karen		2173
Jackson	Kathy		2173
Jackson	Kim		2173
Jackson	Linda		0177
Jackson	Liz		2173
Jackson	Lori		2173
Jackson	Mary Lee		2173
Jackson	N		2173
Jackson	Natalia		2173
Jackson	Noell		2173
Jackson	Pamela		2173
Jackson	Paula		2173
Jackson	Russell		2000(1)
Jackson	Ruth		2173
Jackson	Sandra		2173
Jackson	Sasha		2173
Jackson	Shawn		2173

Last Name	First Name	Org	CIN
Jackson	Suzi		2173
Jackson, Jr	Thomas		2173
Jacob	April		2173
Jacob	Elizabeth		2173
Jacob	Richard		2173
Jacob	Ronald		2173
Jacob-Hanson	Charlotte		2131
Jacobs	Darren		2173
Jacobs	Debera		2173
Jacobs	Eric		2173
Jacobs	Gerry		2173
Jacobs	James		2173
Jacobs	Kathryn		2000, 2173
Jacobs	Kathy		2000, 2173
Jacobs	Len		2173
Jacobs	Louisa		2173
Jacobs	Marilyn		2173
Jacobs	Mark		2173
Jacobs	Nancy		2173(u)
Jacobs	Nathan		2131
Jacobs	Sally		2131
Jacobs	Scott		2131
Jacobs	Shannon		2173
Jacobs	Shawnda		2173
Jacobs	Sk		2173
Jacobsen	Barbara		2131
Jacobsen	Barbara		2173
Jacobsen	Billita		0303
Jacobsen	Claire		2000, 2173
Jacobsen	Kathleen		2173
Jacobsen	Todd		2131
Jacobson	Art		2173
Jacobson	Charlotte		2131
Jacobson	Jane		2173
Jacobson	Kathleen		2131
Jacobson	Lisa		2173
Jacobson	Martin		2173
Jacobson	Robert		2173
Jacobson	Rolf		2173(u)
Jacobson	Sarah		2131
Jacobus	Carol		2173
Jacoby	Barbara		2000
Jacoby	Barry		2131
Jacoby	Ethan		2173
Jacoby	Jason		2031(u)
Jacoby	Susan		2173(1)
Jacquemin	Barbara		2173
Jacques	Karen		2022
Jaeb	Kathy		0038
Jaeger	Michelle		2173
Jaeger	Pam		2173
Jaegers	Martha		2173
Jaen	Rochelle		2031(u)
Jager	Jonathan		2173
Jaggard	Stephanie		2173
Jagiello	Carol		2000, 2173
Jagusch	Julie		2173
Jahn	Beverly		2131
Jahner	Josh		2031(u)
Jahnke	Leda		2173
Jahns	Anita		2173
Jahraus	Jenny		2131(u)
Jain	Paula		2000, 2173
Jain	Shreshtha		2000, 2173
Jakopak	Peggy		2173
Jakubanis	Jessica		2131
Jakubec	Richard		2173
Jakubiec	Josh		2173
Jakubowski	Grace		2173
Jakubowski	Kathy		2173
Jakusz	Darlene		2000, 2173
Jalbert	Susan		2173
Jaleski	Holly		2131, 2173
James	Adam		2055
James	Andrew		2183
James	Brenda		2000
James	Briony		2173
James	C.		2173
James	Corinne		2173
James	Daniel		2031(u)
James	Gordon		2173
James	Harlan		2173
James	Jordan		2319
James	Kevin		2173
James	Lori		2173
James	Lorren		2131, 2173
James	Maverick		2031(u)

Last Name	First Name	Org	CIN
James	Nancy		2131
James	Ralph		2131
James	Randal		2173
James	Randy		2173
James	Robin		2131
James	Russell		2173
James	Ruthanne		2131, 2173
James	Stacy		2000, 2131
James	Vanessa		2173
James	Vicky		2131
James	Virginia		2173
Jameson	Anne		2173
Jameson	Greg		2000, 2131, 2173
Jamil	Sana		2173
Jamison	Vanessa		2000, 2173
Jamsheed	Ghazale		2173
Janas	Frank		2131
Janczuk	Stan		2173
Janes	Karyn		2173(u)
Janes	Lola		2173
Janes	Mary		2131, 2173
Janicki	Diane		2173
Janicki	Ellaine		2131(1)
Janicki	Joyce		2173
Janis	Shelby		2319
Janiszewski	Sue		2173
Janke	Susan		2131

Last Name	First Name	Org	CIN
Jankovic	Thomas		2173
Jankowski	Rob		2131
Jannicelli	Barbara		2173
Jannu	Neha		2131
Janowitz-Price	Beverly		2131
Jansen	Audrey		2173
Jansen	Connie		2131
Jansen	Cynthia		2173
Jansen	Jamie		2173
Jansen	Jordan		2031(u)
Jansen-Alblas	Ineke		2173
Janson	Ramona		2131
Janssen	Dale		2173
Janssen	Elizabeth		2173
Jansson	Jane		2173
Jantzen	Tammy		2000
Janulewicz	Nathan		2031(u)
Janzen	Gayle		2001
Janzick	Stan		2000
Jaques	Carrolle		2173
Jaramillo	Erin		2131
Jaramillo	Rhonda		2173
Jaramillo	Richard		2173
Jareo	John		2173
Jarmillo	Heather		2173
Jarnstedt	Natalie		2173(u)
Jarosh	Dean		2173
Jarrard	Sue		2173
Jarrell	Joe		2000
Jarrett	Cynthia		2173
Jarrett	Katherine		2173

Last Name	First Name	Org	CIN
Jarrett	Melissa		2173
Jarrett	Sue		2173
Jarrett	William and Elaine		2131
Jarrott	Lonnie		2131
Jarvis	Brad		2131
Jarvis	Brian		2131
Jarvis	Linda		2000
Jarvis	Lisa Kelly		2173
Jasicki	Elizabeth		2173
Jasiewicz	Edward		2173
Jasiorkowski	C.K.		2173
Jasiukiewicz	Anna		2000, 2173
Jasper	Alan		2173
Jasper	Jessica		2031(u)
Jasper	Marilyn		2131, 2173
Jass	Darin		2173
Jastromb	Virginia		2000
Jatinen	Jane		2173
Jay	Jason		2173
Jay	Kathar		2173
Jaye	Karen		2173
Jayko	Wendy		2131
Jaymand	Avisheh		2173
Jayne	Catherine		2131
Jaynes	Terry		2131
Jean Lubonovich	Deborah		2173
JeanMarie	Gonzalez		2173
Jeanne	Rhonda		2173(u)

Last Name	First Name	Org	CIN
Jeansonne	Amber		2131
Jeaton	Faith		2000
Jeboult	Shirley		2173
Jeerings	Valerie		2131
Jeeves	Jerry		2173
Jeffers	Leslie		2173
Jefferson	Brett	Wild Sheep Foundation	3019
Jeffery	Mary Jane		2173
Jefferys	Susan		2173
Jeffrey	Edith		2000, 2173
Jeffrey	Mary		2173
Jeffrey	Walter		2173
Jeffreys	Zachary		2131
Jefko	Lisa		2000, 2173
Jegou	Julien		2173
Jehn	Robert		2173
Jelinek	Jennifer		2173
Jelonnek	Monica		2173
Jelus	Helga		2173
Jenig	Lisa		2173
Jenkins	Aaron		2312
Jenkins	Adam		2173
Jenkins	Angela		2031(u)
Jenkins	Diann		2173
Jenkins	Eugenie		2173(u)
Jenkins	Jeff		2131
Jenkins	Mark		2173
Jenkins	Susan		2131
Jenkins	Theodora		2173
Jenkins	Warren		2173
Jenkinson	Barbara		2173
Jenne	Alan	Nevada Depart-ment of Wildlife	5005(1)
Jenni	Kathie		2173(u)
Jennier	Gwen		2173
Jennings	Allie		2000
Jennings	Amanda		0086
Jennings	Denise		2173
Jennings	Gina		2173
Jennings	Linda		2173
Jennings	Makayla		2031(u)
Jennings	Mimi		2173
Jennings	Peggy		2173(u)
Jennings	Scott		2000, 2173
Jennison	Laura		2173
Jenny	Donna		2173
Jensen	Alyson		2173
Jensen	Brett		2173
Jensen	Cindy		2173
Jensen	Deborah		2000, 2131
Jensen	Donna		2173
Jensen	Eric		2173
Jensen	Gari		2131
Jensen	Jean		2173
Jensen	Jonathan		2131
Jensen	Judith		2173
Jensen	Julie		2173
Jensen	Laurie		2173
Jensen	Leslie D		2173
Jensen	Magdalena		2173
Jensen	Marcus		0229
Jensen	Mark		2173
Jensen	Patricia		2131
Jensen	Robert		2131(1)
Jensen	Stacey		2173
Jensen	Victoria		2173
Jenson	David		2131
Jenson	Sandy		2000
Jenson	Scott		2173
Jepson	Edward		2173
Jeremias	Tessa		2173
Jernigan	Charlotte		2173
Jernquist	H		2173
Jerome	Paul		2173
Jerrems	William		2173
Jes	Abigail		2173
Jesmain	Lee		2000
Jespersen	Karla		2131, 2173
Jesse	Charles		2173
Jessop	Frances		2173
Jessum	Kim		2173
Jessup	Jeffrey		2131
Jester	Susan		2173
Jett	Lara		2173
Jetter	Diana		2173
Jevne	Vicki		2173

Last Name	First Name	Org	CIN
Jewell	Leigh		2173
Jewell	Maile		2173(u)
Jewell	Nancy		2173
Jewell	Nikki		2173
Jezek	Thomas		2173
Jfoley	Catherine		2173
Jiang	Shelley		2173
Jickling	Sierra		2031(u)
Jiles	Beatrice		2131
Jimenez	Chante		2131, 2173
Jimenez	Norma		2173
Jin	Audrey		2173
Jinn	Scarlet		2173
Jio	Pati		2173
Jiranek	Pam		2173
Jirotka	Marina		2173
Jishi	Mazen		2173
Jitreun	S.		2131, 2173
Jo Volpe	Sarah		2173
Joadwine	John		2173
Joaquin	Claire		2173
Jobe	Susan		2173
Jobson	Susan		2131
Jobusch	Georgia		2173
Jocz	Ed		2000
Jody	Brenda		2173
Johanan	Julia		2173
Johannsen	Mary		2000
Johannsen	Shirley		2173

Last Name	First Name	Org	CIN
Johansen	Charlotte		2000
Johansen	Cinda		2173
Johanson	Erica		2000, 2173
Johanson	Svea		2173
Johanson	Winifred		2173(u)
Johansson	Bernt		2173
Johansson	Maija		2173
Johansson	Walt		2173(u)
John	Jennifer		2031(u)
John	Loretta St.		0267
Johns	Brian		2173
Johns	Carla		2131
Johns	Gay		2173
Johns	Mary Lee		2312
Johns	Patricia		2173
Johns	Stefania		2173
Johnsen	Harold		2131(u)
Johnson	Adam		2131
Johnson	Alan		2173
Johnson	Alexander		2031(u)
Johnson	Ana		2131
Johnson	Andrew		2173
Johnson	Anne		2173
Johnson	Anne		2131
Johnson	Aubrey		2173
Johnson	Barbara		2131
Johnson	Ben		2173
Johnson	Bettemae		2173(u)
Johnson	Billy		2131
Johnson	Brad		2131

Last Name	First Name	Org	CIN
Johnson	Brenda		2173
Johnson	Bridget		2173
Johnson	C.L.		2173
Johnson	Candice		2173
Johnson	Caren		2173
Johnson	Carmen		2131(u)
Johnson	Carol		2000
Johnson	Carol		2173
Johnson	Carolyn		2000(u)
Johnson	Caryl		2173
Johnson	Catherine		2131
Johnson	Chad		2000, 2173
Johnson	Charles		2173
Johnson	Cheryl		2173
Johnson	Chris		2173
Johnson	Christie		2131
Johnson	Christine		2173
Johnson	Cliff		2173
Johnson	Colleen		2000
Johnson	Connie		2173
Johnson	Constance		2000
Johnson	Curt		2173
Johnson	David		2131
Johnson	Debby		2131
Johnson	Debra		2131
Johnson	Don		2173
Johnson	Donna		2131
Johnson	Donna		2173
Johnson	Doreen		2173
Johnson	Elaine		2131

Last Name	First Name	Org	CIN
Johnson	Elaine		2173
Johnson	Elizabeth		2173
Johnson	Elizabeth		2173
Johnson	Erik		2173
Johnson	Erin		2031(u)
Johnson	Evan		2131
Johnson	G.G.		2173
Johnson	Gary		2173
Johnson	Gay		2173
Johnson	Georgia		2131
Johnson	Glenn		2131
Johnson	Goordon		2131, 2173
Johnson	Graham		2173
Johnson	Gregg		2000, 2131, 2173
Johnson	Heidi		2000
Johnson	Helene		2173
Johnson	Ilda		2000
Johnson	Irene		2131, 2173
Johnson	J. David		2173
Johnson	Jacqueline		2173
Johnson	Jacqueline		2173
Johnson	James		2173
Johnson	Jami		0148
Johnson	Jan		2173
Johnson	Janet		2173
Johnson	Janet		2000
Johnson	Janice		2173
Johnson	Jardin		2031

Last Name	First Name	Org	CIN
Johnson	Jenifer		2000
Johnson	Jennifer		2173
Johnson	Jerry		2131
Johnson	Jessica		2173
Johnson	Jo Ann		2131
Johnson	Joel		2000, 2173(1)
Johnson	Joel		2173
Johnson	Joshua		2173
Johnson	Karen		2131, 2173
Johnson	Karolina		2000
Johnson	Katherine		2173
Johnson	Kathleen		2131
Johnson	Kathy		2173
Johnson	Kay		2173
Johnson	Keith		2173
Johnson	Kimberly		2173
Johnson	Kristen		2173
Johnson	Kristin		2173
Johnson	Kristin		2173
Johnson	Larry	Coalition for Nevada's Wildlife	6015
Johnson	Larry		2173
Johnson	Lee		2131
Johnson	Leslie		2173
Johnson	Lin		2131
Johnson	Linda		2131
Johnson	Lindsay		2173
Johnson	Lindsey		2131, 2173

Last Name	First Name	Org	CIN
Johnson	Lizabeth		2173
Johnson	Lori		2173
Johnson	Lorraine D.		2000, 2173
Johnson	Mara		2173
Johnson	Marcia		2173
Johnson	Marcia		2173
Johnson	Margaret		2173
Johnson	Maria		2173
Johnson	Mark		2131
Johnson	Mark		2173
Johnson	Martha		2173
Johnson	Mary		2173
Johnson	Melanie		2173
Johnson	Michael		2131
Johnson	Michele		2173(u)
Johnson	Michele		2173
Johnson	Michele		2173
Johnson	Miranda		2173
Johnson	Molly		2173
Johnson	Molly		2173
Johnson	Murrell		2173
Johnson	Nancy		2173
Johnson	Nicole		2173
Johnson	Noel		2173
Johnson	Patrice		2173
Johnson	Patricia		2173
Johnson	Patti		2173
Johnson	Paul		2173
Johnson	Peggy		2173
Johnson	Penny		2173(u)

Last Name	First Name	Org	CIN
Johnson	Peter		2173
Johnson	Phyllis		2131
Johnson	Ray		2173
Johnson	Rebecca		2173
Johnson	Rebecca McGill		2173
Johnson	Rene		2131, 2173
Johnson	Rhonda		2000, 2173
Johnson	Richard		2000, 2173
Johnson	Robert		2000
Johnson	Robert		2173
Johnson	Ronald		2173
Johnson	Sandra		2131
Johnson	Sandra		2131
Johnson	Sarah		2131
Johnson	Sarah		2173
Johnson	Sharon		2173
Johnson	Shawn		2173
Johnson	Sherrill		2173
Johnson	Stefanie		2173
Johnson	Stephanie		2173
Johnson	Stephen		2131
Johnson	Susan		2131
Johnson	Susan		2173
Johnson	Suzy		2000
Johnson	Teri		2173
Johnson	Theresa		2173
Johnson	Tina		2173
Johnson	Walter		2131, 2173

Last Name	First Name	Org	CIN
Johnson	Wendy		2131
Johnson	Yvonne		2000, 2173
Johnson Pesantes	Shannon		2131(1)
Johnson-Cuff	Dona		2131
Johnson-Hamerman	Lois		2000
Johnson-Sharp	Lisa		2173
Johns-Pearson	Juliet		2173
Johnston	Alison		2000
Johnston	Allan		2000
Johnston	Dana		2131
Johnston	Edward		2173
Johnston	Gail		2173
Johnston	Jean		2173
Johnston	Jo		2173
Johnston	Judith		2000
Johnston	Kaitlyn		2173
Johnston	Kathy		2173
Johnston	Kirsten		2173
Johnston	Laurance		2131
Johnston	Lloyd		2173
Johnston	Michael		2173
Johnston	Patti		2173
Johnston	Ruth		2173
Johnston	Sue		2131
Johnston	Susan		2131
Johnston	Todd		2173
Johnston	Virginia		2000
Johnstone	Barbara		2173
Johnstone	Lizette		2173

Last Name	First Name	Org	CIN
Jokelson	Paul		2173
Jolley	Lisa		2173
Jollie	Phyllis		2173
Joly	Frederique		2173
Joncusc	Andrew		2000
Jones	Alison		2000
Jones	Allen		2312
Jones	Amelia		2173
Jones	Amelia		2131(u)
Jones	Amy		2173
Jones	Angela		2000
Jones	Angela		2173
Jones	Angela		2131
Jones	Angie Grosland		2000
Jones	Anna		2173
Jones	Barbara		2173
Jones	Beth		2173(u)
Jones	Beth		2131
Jones	Brian		2173
Jones	Brian		2131
Jones	Brittany		2031
Jones	Bruce		2131
Jones	Buckie		2173
Jones	Byron		2173
Jones	Clayton		2173
Jones	David		2173
Jones	David		2173
Jones	Deb		2173(u)
Jones	Debz		2173

Last Name	First Name	Org	CIN
Jones	Donna		2000, 2173
Jones	Dylan		2173
Jones	Eleanor		2173
Jones	Elliot		2173
Jones	Emilie		2173
Jones	Eric		2000
Jones	Eugene		2000
Jones	Eve		2173
Jones	Gaeble		0106
Jones	Garry		2173
Jones	Gary		2173
Jones	Gary		2131
Jones	Gary		2173
Jones	Heather		2173
Jones	Henry		2173
Jones	Henry		2173
Jones	Hodge		2131, 2173
Jones	Jackie		2173
Jones	James		2173
Jones	James		2131
Jones	Jane		2000, 2173
Jones	Janice		2173
Jones	Janice		2131
Jones	Jared		2031
Jones	Jeff		2173
Jones	Jo		2131
Jones	Joyce		2131
Jones	Kaija		2000, 2173
Jones	Karen		2131
Jones	Kelly		2173
Jones	Kurtis		2173
Jones	Kyle		2000, 2173
Jones	Larry		2173(u)
Jones	Lauren		2031(u)
Jones	Lauren		2031(u)
Jones	Linda		2000, 2131, 2173(1)
Jones	Lindsay		2031(u)
Jones	Lisa		2173
Jones	Michael		2131
Jones	Michelle		2173
Jones	Michelle		2173
Jones	Michiele		2173
Jones	Mike		2173
Jones	Mike		0235
Jones	Ola		2173
Jones	Pat		2131, 2173
Jones	Rae		2173
Jones	Rita		2173
Jones	Robert		2131
Jones	Robert		2131, 2173
Jones	Robert		2173
Jones	Scott		2173
Jones	Shannon		2312
Jones	Shannon		2173
Jones	Sherry		2173
Jones	Sj		2131
Jones	Stephanie		2173
Jones	Stephanie		2173
Jones	Stephanie		2173
Jones	Sue		2000
Jones	Sulin		2031(u)
Jones	Susan		2131
Jones	Susie		2000
Jones	Terry		2319
Jones	Tony		2173
Jones	Tristan		2131(u)
Jones	Truman		2173
Jones	Virginia		2173
Jones	Virginia		2000
Jones	Wendy		2000
Jones	Wyldecat		2173
Jones	Zenda		2173, 2312
Jones III	Jesse		2173
Jones-Bedel	Laura		2173(u)
Jones-Stahnke	Pat		2173
Jong	Ethan		2131
Jongejan	Anthony		2173
Jonsson	Carina		2173
Jonynas	Yola		2052
Joos	Sandra		2173
Jordahl	Maxine		2131
Jordan	Anthony		2173
Jordan	Corinne		2173
Jordan	Dorothy		2173
Jordan	Haywood		2173

Last Name	First Name	Org	CIN
Jordan	Joseph		2000, 2131, 2173(1)
Jordan	Katie		2173
Jordan	Kimberly		2173
Jordan	Lois		2131, 2173
Jordan	Marian R.		2173
Jordan	Pamela		2173
Jordan	Robert		2173
Jordan	Susan		2173
Jordan	Theresa		2173
Jorgensen	Alena		2173
Jorgensen	Ashlie		2131, 2173
Jorgensen	Diana		2173
Jorgensen	Lesley		2131, 2173
Jorgenson	Mike		2173
Jorgenson	Rhodie		2173
Jory	Susan		2131
Joseph	Anthony		2173
Joseph	Bob		2173
Joseph	James		2131
Joseph	Suzanne		2173
Joseph	Thomas		2173
Joseph	Tim		2131
Josephs	Bob		2131
Josephs	William		2248
Josephson	Debbie		2173
Joshi	Jai		0175
Joslin	Karen		2173
Josling	Anthea		2173
Josselin	Christine		2173
Jostad	Kelly		2000, 2131
Jouppi	Diane		2131
Jourdan	Vivian		2173
Jovero	Rudolf		2319
Joy	Darrel		2000
Joy	Sandra		2173
Joyce	Carol		2173
Joyce	Elizabeth		2173
Joyce	Heather		2173
Joyce	Maryanne		2173
Joyce	Nancy		2173
Joyce	Shannon		2173
Joye	Tytson		2131
Joyner	Jerry		2173
Joyner	M		2173
Juarez	Julie		2173
Juarez	Kassandra		2031
Juarez	Sharon		2173
Juba	Anne		2173
Juchert	Walter		2131
Judah	Debe		2173
Judd	Sheila		2173
Judd	Whitney		2131
Judge	Carla		2173
Judge	Cathy		2173
Judge	Mary		2131, 2173
Judith	Zischke		2173
Judson	Jean		2173
Judson	Josh		2173
Judy	Karol		2000
Judy	Paul		2173
Judy	Tammy		2173
Jue	Arianna		2173
Jueds	Katherine		2173
Jukniewicz	Denise		2173
Julian	Kathie		2171
Julian	Tim		2131
Juliana	Jeanne		2173
Juliano	Linda		2173
Juliusson	Marguerite		2173
Jumonville	John		2173
Junek	Mary		2173(u)
Jung	Joerg		2173
Jung	Laurianna		2173
Jupp	Philip		2173
Juracka	Bern		2131
Juracka	Robert & Louise		2000
Juran	Cristina		2173
Jurczewski	Carol		2030(1), 2173
Jurgens	Joyce		2131
Jurgensen	Amber		2173
Jurgensen	Catherine		2173
Juric	Eileen		2000(1), 2173
Jurkowski	Melissa		2000, 2173
Juroff	Daniel		2131
Jursa	Rob		2000, 2173

Last Name	First Name	Org	CIN
Jury	Aaron		2173
Jury	Angela		2173
Jusek	Lauren		2173
Just	Leslie		2173
Just	Lin/Linda		2173, 2312(1)
Justan	Joahnna		2000
Justice	Jolayne		2131(1)
Justis	Robert		2131, 2173
Justl	Barbara		2173

K

Last Name	First Name	Org	CIN
K	Amanda		2173
K	Anna		2173
K	Charlie		2173
K	E		2000
K	Jo		2000
K	Jolanda		2131
K	Kate		2173
K	Kathy		2173
K	Melissa		2000(1)
K	Micky and Dave		2131
K	Miriam		2000
K	S		2173
K.	C.		2000, 2173
K.	Hitomi		2173
K.	Robin		2173
K?h?nen	Kaisa		2173
Kaar	Susan		2173
Kaback	Keith		2131
Kabani	Fayaz		2173
Kabat	Ellen		2173
Kach	Anna		2173
Kachel	Susan		2131
Kachik	Maria		2173
Kachmar	Lori		2173
Kacir	Douglas		2173
Kadhikhaye	Sameer		2000
Kadomoto	Diane		2173
Kaehn	S.		2173
Kaelin	Richard		2173
Kafer	Norma		2173
Kaffer	Kathryn		2173
Kagan	David		2000(u), 2131
Kagan	Lisa		2173
Kage	Maryann		2173
Kahakalau	Nalei		2173
Kahigian	Peter		2173
Kahill	Suzanne		2173
Kahl	Kim		2206
Kahl	Robert		2173
Kahle	Amy		2131
Kahle	Melissa		2173
Kahler	Tom		2173
Kahmann	Brent		2031(u)
Kahn	Bryan		2173
Kahn	Jenette		2173
Kahn	Mariko		2173
Kahn	Richard		2173
Kahn	Sheila		2173
Kahr	Helga		2173(u)
Kahrs	Mel Richard		2173
Kahsen	Lawrence		2173
Kaili	Luke		2131
Kain	Carol		2131
Kain	Rita		2173
Kaintz	Linda		2173
Kaiser	John		2173
Kaiser	Robert		2000
Kaiser	Sam		2131
Kaiser	Susan		2031(u)
Kaiserman	Patricia		2131
Kakas	Donald		2036
Kaku	Stefanie		2173
Kakuda	Hitomi		2173
Kalabakas	Maggie		2000
Kalamatas	Kristin		2000, 2173
Kalashian	Kat		2173
Kale	Nivedeeta		2000, 2173
Kalebaugh	Shannon		2173
Kaleh	Judi		2131
Kalen	Susan		2131
Kaley	Linda		2131
Kalfsbeek	Teresa		2000
Kalichevsky-dong	Monica		2173
Kalil	Donna		2173
Kalimian	Brian		2173
Kalinay	Sarah		2173

Last Name	First Name	Org	CIN
Kalinowski	Jared		2173
Kalinowski	Mary		2173
Kalish	Lois		2173
Kalish	Mia		2131
Kalkhoff	Lorraine		2173
Kallel	Denise		2173
Kallenbach	Cheryl		2000, 2173
Kallick	Melissa		2131(u)
Kallmann	Gary		2131(u)
Kalman	Sherri		2173
Kalmbach	Robert		2173
Kalmouki	Antiope		2000
Kalmus	Carolyn		2173
Kalodukas	Astra		2173
Kaluza	N		2173
Kam	Gina		2173
Kaman	Tammie		2173
Kamas	Catherine		2173
Kamen	Gary		2173
Kamil	Elaine		2173
Kamins	Lisa		2173
Kaminski	Kathleen		2173
Kaminski	Marcia		2000
Kaminsky	Carol		2173
Kaminsky	Kim B		2000
Kammer	Barbara		2131
Kammerud	Lance		2131, 2173
Kammiller	Susan		2173
Kammrath	Ashley		2173

Last Name	First Name	Org	CIN
Kamp	Lucy		2131
Kamper	Barbara		2173
Kampwirth	Gregory		2173
Kamrath	Henry		2173
Kamzelski	Debra		2131
Kanarek	Judy		2173
Kanarish	Lisa		2173
Kanashiro	Toshinori		2000
Kandz	Dave		2000
Kane	Caitilin		2173
Kane	Elaine		2131
Kane	Janice		2173
Kane	Linda		2131
Kane	Louise		2173
Kane	Misti		2173
Kane	Pamela		2000
Kane	Regina		2173
Kane	Zoe		2131, 2173
Kania	Terry		2173
Kanistanaux	Nancy		2173
Kanka	Dennis		2131
Kankaansivu	Laila		2173
Kant	Natalia		2173
Kanter	Fredrica		2173
Kanter	Ira & Barbara		2173
Kanter	Linda		2173
Kanter	Louis		2000, 2173
Kantola	Angela		2131
Kantor	Lori		2173

Last Name	First Name	Org	CIN
kanz	Isabelle		2000
Kanzler	Deborah		2173
Kapeluk	Sharon		2173
Kaplan	Davene		2031
Kaplan	David		2173
Kaplan	Dennis		2000
Kaplan	Karen		2173(u)
Kaplan	Sarah		2173
Kaplan	Stephanie		2000
Kaploe	Carol and Burt		2131
Kapo	Elizabeth		2173
Kapono	Chono		2173
Kapoor	Rajat		2173, 2312
Kappas	James		2173
Kappy	Glen		2131
Kapson	Bruce		2173
Karabadzhak-yan	Lusine		2000
Karaczun	Alex		2173
Karadima	Konstantina		2173
Karaffa	Meaghan		2131
Karanen	Terry		2173
Karas	David		2000
Karas	George And Shirley		2131
Karash	Rachel		2173
Karasinski	Janet		2173
Karbhari	Corinne		2000
Karcz Sr.	Donald C.		2173
Kardell	Gregory		2173(1)

Last Name	First Name	Org	CIN
Kardell	Mary		2173
Kardiak	Jennifer		2312
Kardos	Theresa		2173(u)
Karen	Sanford		2173
Karendys	Pawel		2173(u)
Karges	Robert		2312
Karges	Steven		2131
Karimova	Regina		2173
Karl	Sharon		2131
Karlsen	Bonnie		2173
Karlson	Fred		2173
Karlson	Heather		2131
Karmin	Tony		2173
Karnauskas	Leslie		2131
Karnia	Judy		2131
Karnos	Kris		0239
Karol	Horne		2173
Karolik	Adele		2131
Karp	Erin		2173
Karpick	Ronald		2173
Karpov	Clarinda		2173
Karr	Crystal		2131
Karson	Sharon		2131
Karst	Cynthia		2173
Karten	David		2173
Kartman	Sue		2173
Kasch	Barbara		2000
Kaselle	Marion		2000
Kaserman	John		2131
Kasey	C.		2173
Kashickey-dimasso	Kari		2173
Kashleva	Helena		2173, 2312
Kashmark	Darcel		2173
Kashner	John		2173
Kashubara	Janet		2173
Kaslander	Carol		2000
Kasman-Schlosser	Lisa		2131
Kasnicka	Cindy		2173
Kasper	Joan		2000(1)
Kasper	Sandy		2173
Kasperek	Paul		2119
Kass	Laura		2173
Kassa	Louise		2173
Kassan	Eric		2046
Kassera	Marca		2131
Kassler	Celeste		2173
Kast	Michael		2173
Kastel	Diane		2025, 2173(u), 2251
Kaster	Sydney		2173
Kastner	Denise		2173
Kastner	Mike		2000
Kastrati	Lilly		2173
Kasvinsky	Robert		2173
Kataoka	Lucy		2173
Kates	April		2173
Kates	Daisy		0119, 0182
Kates	Julie		2312
Katirai/K	Elizabeth/Eli		2000, 2173
Katrak	Karen A		2173
Katrosits	Therese		2173
Katsarou	Litsa		2000
Katsigiannis	Miriam		2173
Katsouros	Tracey		2000
Katsuda	Suzy		2173
Kattan	Ida		2173
Kattell	Camilla		2131
Katten	DC		2131
Katz	Cynthia		2173
Katz	Dean		2173
Katz	Heather		2000
Katz	Jill		2173(u)
Katz	Paula		2173
Katz	Pucznik		2173
Katz	Sara		2131, 2173
Katz	William		2173
Katzen	James		2131
Katzenbarger	Kim		2207
Kaub	Steve		2173
Kauffman	Kimberly		2173
Kaufman	Andrea		2000, 2173
Kaufman	Barbara		2173
Kaufman	Elizzabeth		2131
Kaufman	Margaret		2131(1)
Kaufman	Marilee		2173
Kaufman	Michele		2173
Kaufman	Michelle		2173

Last Name	First Name	Org	CIN
Kaufman	Sara		2031(u)
Kaufman	Thomas		2173
Kaufmann	Debi		2000
Kaufmann	Nora		0075
Kauhl	Lisa		2173
Kaulbach	Katharine		2000
Kaup	Maya		2173
Kaur	Sawarn		2173
Kautner	Varida and Steven		2173
Kavan	Philip		2000
Kavanagh	Laura		2173
Kavanaugh	Susan		2173
Kavos	Brigitte		2173
Kawecki	Kathryn		2000
Kawlewski	Angela		2173
Kawszan	Karen		2000, 2173
Kay	Adam		2173
Kay	Jennifer		2173
Kay	Joel		2173
Kay	Kathie		2173
Kay	Lorraine		2173
Kay	Sasha		2000
Kaye	Carole		2173
Kaye	Rosalie		2131, 2173(1)
Kaye	Susan		2173
Kaylor	Carol		2173
Kayne	Abraham		2173(u)
Kayser	John		2131
Kayser	Sarah		2131

Last Name	First Name	Org	CIN
Kazak	Ilene		2173
Kazandjian	Helena		2173
Kazanjian	Rosanna		2173
Kazantza	Christina		2000
Kazelskis	Elizabeth		2131
Kazen	Ivan & Judith		2173
Kazmer	Gail		2000
Kea	Ruth		2131
Kean	Nancy		2173
Kearney	Daniel		2173
Kearney	Dee		2173
Kearney	Marsha		2131
Kearney	Mary		2131
Kearns	Kathy		2173
Kearns	Megan		2000
Kearns	Patric		2173
Kearns	Susan		2173
Kearns	Tamsin		2173
Kearse	Jennette		2173
Keast	Alix		2173(u)
Keating	Carol		2173
Keating	Denise		2173
Keating	Kathy		2173
Keating	Katie		2173
Keating	Nancy		2173
Keating-Secular	Karen		2173
Keaton	Alexandria		0188
Keator	Inger		2000
Keats	James		2173
Keck	Carol		2000
Keckler	Mary		2173

Last Name	First Name	Org	CIN
Kedmenec	Jason		2131
Kee	John		2312
Kee	Robert		2131
Keedy	Judy		2173
Keefe	Chris		2173(u)
Keefer	Carol		2173
Keefer	Kelly		2173
Keefer	Keri		2173
Keegan	Alicia		2131
Keegan	Colleen		2173
Keel	Alexis		2173
Keeley	Danise		2173
Keeley	Teresa		2131
Keem	Donna		2173
Keen	Barbara		2173
Keen	Jaye		2131
Keen	John		2173
Keen	Lael		2173
Keenan	Concepcion		2173
Keenan-Evans	Ruth		2173
Keene	Leslie		2173
Keene	Margaret		2000, 2173
Keener	Barry		2173
Keepper	Michael		2173
Keeshen	Rebecca		2173
Keeton	Denise		2173
Kefelian	Louise		2173
Kefi	Kailey		2173
Kegler	Lori		2000, 2173

Last Name	First Name	Org	CIN
Kegley	Roger		2173
Keglowich	Helga		2000
Kehew	Linda		2173
Kehmna	Lois		2173
Kehoe	Jeffrey		2131
Keil	Kirk		2000
Keil	Terry		2173
Keilers	Lindsay		2173
Keilty	Lisa		2173(u)
Keim	Lisa		2000
Keim	Steven		2131
Keiser	John		2000
Keiser	Peter J.		2173
Keiser	Robert		2000
Keiserman	Janice		2000
Keith	Kristine		2173
Keith	Lindsay		2173
Keith	Susan		2173
Keith	Wayne		2173
Keithler	Bill		2131
Keithler	Mary		2000, 2131, 2173
Kelce	Marcia		2173
Kelcher	Patricia		2131
Kelemen	Clare		2173
Keljik	Susan		2173
Kell	Elena		2173
Kellam	Marcia		2131, 2214
Kellams	Elaine		2131
Kelleher	Dale		2173
Kelleher	Karen		2000
Kellenbeck	William		2173
Keller	Belen		2173
Keller	Catherine		2173
Keller	JoAnn		2131
Keller	Michelle		2000
Keller	Peggy		2173
Keller	Thomas		2131
Keller	Wendy		2173
Kellerman	Joe		2173
Kellermann	Thomasin		2173
Keller-Santiago	Suzanna		2000
Kelley	Catherane		2173
Kelley	Dorinda		2173
Kelley	John		2173
Kelley	Joseph		2173
Kelley	Karen		2131
Kelley	Rachel		2173
Kelley	Sandra		2173
Kelley	Sheila		2173
Kelley	Tiana		2131
Kelley	Tom		2173
Kellie	Cindy		2131
Kellie	Susan		2131
Kellman	Lisa		2173
Kellogg	Anne		2131
Kellogg	Barbara		2173
Kellogg	Nancy		2173
Kellogg	Sheila		2173
Kelly	Allen		2173
Kelly	Allison		2131
Kelly	Ann		2173
Kelly	Brian		2173
Kelly	Cindy		2173
Kelly	Eleanor		2131
Kelly	Elizabeth		2173
Kelly	Gerald		2173
Kelly	Jennifer		2031(u)
Kelly	John		2173
Kelly	Katherine		0057
Kelly	Kathy		2173
Kelly	Kim		2173
Kelly	Lisa Ann		2173
Kelly	Mary		2173
Kelly	Michelle		2131
Kelly	Miracle		2173
Kelly	Monica		2131
Kelly	Nancy		2173
Kelly	Patrick		2173
Kelly	Phyllis		2173
Kelly	Rebekah		2173
Kelly	Teri		2173
Kelly	Wayne		2173
Kelm	Amy		2173
Kelman	Barry		2173
Kelman	Candice Carr		2131
Kelsberg	Jane		2173
Kelsey	Emma		0060
Kelsey	Jo		2173
Kelso	Carolyn		2173
Kelson	Elizabeth		2131

Last Name	First Name	Org	CIN
Kemish	Arthur		2131, 2173
Kemmerling	Deb		2173
Kemmet	Jane		2173
Kemnitz	Kristine		2131
Kemp	Barbara		2312
Kemp	Donna		2173
Kemp	Justice		2031(u)
Kemp	Michael		2173
Kempa	Sandra		2173
Kempe	Laurel		2173
Kemper	Erik		2173
Kemper	Jessica		2031(u)
Kemper	Ken		2173
Kemper	Thomas		2173
Kemple	Jason		2000
Kemple	Linda		2173
Kenady	Cheryl		2131
Kenakin	Deborah		2173
Kendall	Jennifer		2000
Kendall	Nancy		2131, 2173
Kendall	Patricia		2173
Kendall	Trish		2131
Kenders	Kara		2131
Kendler	Ady		2173(u)
Kenion	Lisa		2173
Kenlon	Daniel		2173
Kenmore	Christine		2031(u)
Kenn	Sophie		2031(u)
Kenna	Peggy		2173

Last Name	First Name	Org	CIN
Kennard	Mary		2000
Kennedy	Charles		2173
Kennedy	Chuck		2131
Kennedy	Colleen		2173
Kennedy	David		2131
Kennedy	Debbie		2173
Kennedy	Diane		2173
Kennedy	Erin		2000, 2173
Kennedy	Hannelore		2173
Kennedy	Heather		2173(u)
Kennedy	Joyce		2173
Kennedy	Karynne		2173
Kennedy	Kelli		2131
Kennedy	Mary		2173
Kennedy	Paul		2131
Kennedy	Robert		2173
Kennedy	Robert		2173
Kennedy	Sara		2000
Kennedy	Scott		2173
Kennedy	Steve		2173
Kennedy	Yolanda		2173
Kennedy-Gibbens	Gabriel		2131
Kennedy-Nolle	Sinclair		2173
Kenner	Kate		2000(2)
Kennerson	Jean		2000
Kenney	Eric		2131
Kenney	Mike		2173
Kenney	Sherrie		2173
Kennie	Julie		2173

Last Name	First Name	Org	CIN
Kenny	Aiden		2173
Kenny	Bonnie		2131
Kensicki	Marybeth		2173
Kent	Debbie		2173
Kent	Diane		2000
Kent	Don		2173
Kent	Gwendolyn		2173
Kent	Hildegard		2173
Kent	Jan		2131
Kent	Robin		2000
Kent	Rosemary		2173
Kenworthy	Jane		2173
Keogh	Faye		2173
Keough	Paul		2173
Keown	Joy		2173
Kepler	Shelly		2173
Kepner	Major Dennis & Susan		2173(u)
Kerby	Anne		2173
Kerchner	Beth		2173
Kerchner	Carol		2173
Kerins	Mary		2173
Kerkhoff	Susan 'PsychicSuesie'		2173
Kermiet	Chris		2131
Kern	Patti		2319
Kern	Will		2173
Kerns	Kelly		2173
Kero	Bernadette		2173
Kerr	Edward		2173

Last Name	First Name	Org	CIN
Kerr	Gayle		2000
Kerr	James		2000
Kerr	Janet		2131
Kerr	Laurie		2131
Kerr	Sandra		2173
Kerr	Sylvia		2131
Kerr	Tara		2173
Kersey	Donna		2173
Kerstner	Patricia		2000
Kerstner	Patricia		2131
Kerttula	Mary		2131
Kerwell	Cherrie		2173
Kerwin	Kathleen		2173
Kerwin	Kevin		2173
Kerzner	Richard		2173
Keske	Kathleen		2173
Kesselman	Barry		2173
Kessler	Ellen		2312
Kessler	Gale		2173
Kessler	Jesse		2173
Kessler	Jim		2173(u)
Kessler	Randy		2173
Kessler	Robert		2173
Kessler	Roberta		2000, 2173
Kester	Lenore		2131
Ketcherside	Sharon		2173
Kethler	Dorothy		2173
Kettelhut	H. Kurt		2173
Kettering	G		2000(1)
Ketz-Robinson	Elizabeth		2173
Keup	Astrid		2000
Key	Nancy		2173
Key	Ted		2173
Keyes	Alice		2173
Keyes	Sherri		2031(u)
Keylin	Margaret		2000
Keys	Jennifer		2173
Keys	William		2173
Keyser	Barbara		2173
Keyser	Diana		2173
Keyser	MaryAnn		2173
Kezar	Tara		2000
Khadra	Noor		2173
Khajavi	Barbara		2000
Khalsa	Cindy		2173
Khalsa	Gurudaya		2131
Khalsa	Kulwant		2131
Khalsa	Siri Kar Kaur		2131
Khambholja	Ann		2131
Khan	Maryann		2173
Khan	Rani		2173
Khan	Ray		2131
Khanlian	Richard		2131, 2173
Khazai	Carol		2131
Khlyabich	Petr		2173
Kibler	Mark		2131
Kidd	Judi		2173
Kidder	Jeffrey		2131
Kiderlen	Erik		2000
Kieckhaefer	Cindy		2173
Kiefer	Andrew		2000
Kiefer	Marjorie		2000
Kieffer	Ramsay		2000
Kieft	Gordon		2131
Kiel	Judy		2131(u)
Kielblock	Shannon		2173
Kielnecker	Rolf and Hega		2131
Kiely	Amanda		0209
Kiely	Kathleen		2173
Kiely	Molly		2000
Kiely	Nancy		2131
Kiene	Beth		2173
Kiene	Kay		2173
Kiernan	Barbara		2173
Kiernan	Maria		2312
Kiernan	Pat		2131
Kierstead-Waibel	Lori		2173
Kiesel	Constance		2173
Kiesel	Tabitha		2173
Kieslich	Brett		2173
Kiesling	Jon/Jonathan		2000, 2173
Kight	Sandra		2131
Kiholm	Laura		2131, 2173
Kijak	Regina		2173
Kilber	Kelcy		2131
Kilbon	Shelley		2131, 2173
Kilgore	Catherine		2173

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Kilgore	Jennifer		2000, 2173
Kilgore	Pamela		2173
Kilgour	Annie		2131
Killean	Rita		2173
Killeen	Denise		2173
Killeen	Leah Raechel		2173
Killen	Cricket		2173
Killen	Lesley		2173
Kilpatrick	Gail		2173
Kilpatrick	W./Wilma		2131(1), 2173
Kimatian	George		2173
Kimball	Cynthia		2131(u)
Kimball	Marsha		2173
Kimball	Susan		2131
Kimball	Yvette		2131
Kimbauer	Elli		2000
Kimbell	Henry		2173
Kimber	Greg		2173
Kimmel	Toni		2173
Kimsel	Robert		2173
Kimura	Joanna		2173
Kimzey	Jacqueline		2173
Kincer	Christina		2173
Kincer	M		2173
Kinch	Elaine M		2000
Kindel	Karen		2173
Kinderlehrer	Hannah		2131
Kindig	Norman		2173
Kindschuh	Tyler		2131, 2173
Kindsfater	Monica		2173(u)
King	Alex		2173
King	Bob		2173
King	Carol		2000, 2173
King	Chenoa		2131
King	Christine		2173
King	Christine		2173
King	Connie		2173
King	Dale		2173
King	Dawn		2000(u), 2173
King	Deborah		2173
King	Deborah		2173
King	Faith		2173
King	Fawn		2173
King	Hannah		2173
King	Jane		2173
King	Janis		2131
King	Jean		2173
King	Judy		2173
King	Julia		2000
King	Katharine		2131(1)
King	Kathleen		2173
King	Kathy		2131
King	Kevin		2173
King	Kimberly		2173
King	Kristy		2173
King	Lori		2173
King	M		2000
King	Mary		2297
King	Michael		2000, 2173
King	Ruth		2173
King	Sean		2173
King	Serina		2173
King	Shelley		2173
King	Sherrie		2173
King	Stephanie		2000
King	Susan		2000, 2173
King	Susan		2173
King	Tina		2173
King	Travis		2173
King	Tricia		2000
King	Virginia		2000
King-Chuparkoff	Cathy		2173
Kingery	Erin		2173
Kingins	Valerie		2173
Kingma	Kevin		2031(u)
Kingsbury	Debra		2173
Kingsley	Mary Lee		2173
Kingsolver	Caroline		2131
Kinna	Kevin		2173
Kinnamon	Song		2173
Kinney	Douglas		2312
Kinney	Elizabeth		2131
Kinney	Nancy		2131
Kinney-Dobbins	Donna		2173
Kinninger	Mary		2131, 2173
Kinnings	Laurie		2131

Last Name	First Name	Org	CIN
Kinsel	Linda		2173
Kinsey	Angel		2173
Kinshella	Michele		2131
Kinslow	Paul		2173
Kinsman	Judy		2173
Kinzie	Susan		2131
Kipers	Lisa		2131
Kipling	Caroline		2173
Kipnes	Linda		2173
Kiraksosyan	Vordan		2319
Kiran	Jade		2000
Kirby	Leslie		2173
Kirby	M		2173(u)
Kirchner	John		2173
Kirchner	Vicki		2173
Kirchwey	Christopher		2000
Kirgiss	Renae		2173
Kiriakos	Elizabeth		2000
Kiriella	Kavi		2000
Kirk	Brian		2000
Kirk	Deanna Pena		2173
Kirk	Faith		2131
Kirk	Gale		2173
Kirk	Holly		2173
Kirk	John		2173
Kirk	Mark		2312
Kirk	Susan		2131
Kirk	Thomas		2173
Kirk	Tim		2173
Kirkenslager	Tammy		2000

Last Name	First Name	Org	CIN
Kirkpatrick	Isabel		2000
Kirkpatrick	Jody		2173
Kirkpatrick	Marian		2131
Kirkwood	Anne		2131
Kirsch	Linda		2173
Kirschbaum/K.	Saran		2023, 2173
Kirschling	Cynthia		2173
Kirsh	Julie		2173
Kirshbaum	Ellen		2173
Kirshon	Bryan		2131
Kirsten	Dona		2173
Kirtley	Chelsea		2173
Kirwan	Kevin		2000
Kiser	Mike		2173
Kiser-Topinka	Cass		2173
Kisieleski	Sandra		2173
Kisner	Al		2173
Kissel	Natalie		2173
Kissell	Emilie		2131
Kisselstein	Jennifer		2173
Kistler	Andrew		2173
Kistler	Rosemarie		2173
Kistler	Sheila		2131
Kitchen	Brittany		2173
Kitchen	Michael		2173
Kitchen	Sharon		2131
Kitchener	Kody		2131
Kite	Carol		2173
Kite	Helen		2173
Kite	MF		2173(u)

Last Name	First Name	Org	CIN
Kite	Richard		2000
Kitonosskaya	Dana		2173
Kitson	Jamie		2000
Kittell	Koko		2173
Kittell-Queller	Emily		2131
Kittelsen	Sonja Marie		2173
Kittelson	Paul		2173
Kitter	Sharon		2173
Kittredge	Dan		2131
Kitz	Tracy		2173
Kitz, P.E.	Kevin		0061
Kitzinger	Jana		2173
Kiver	Eugene		2000
Kivi	Lee		2173
Kiwak-Turner	Kris		2173
Kiziria	Dodona		2173
Kjaerulff	Maria		2173
Kjono	Pamela		2173
Klacansky	Gabriela		2173
Klacik	John		2000(1)
Klade	Kent		2173
Kladis	Catherine		2131
Kladis	Douglas		2131
Kladke	Robin		2173(u)
Klafta	Judy		2000
Klafta	Kevin		2173
Klammer	Jennifer		2173
Klass	Naomi		2173
Klassen	David		2173
Klaus	Marion		2131(1)
Klausing	Michael		2000

Last Name	First Name	Org	CIN
Kleban	Victoria		2173
Kleber	Tracey		2173
Kleiman	Christine		2173
Klein	Andi		2173
Klein	Angela		2173
Klein	Cindy		2173
Klein	Deb		2173
Klein	James		2173
Klein	Jessica		2173
Klein	Jillaine		2173
Klein	Joanne		2131
Klein	Joe		0071
Klein	Jordan		2173
Klein	Lawrence		2173
Klein	Leslie		2000
Klein	Linda		2000, 2173
Klein	Linda		2000
Klein	Lisa		2000(u), 2173(u)
Klein	Liz		2131
Klein	Luke		2000
Klein	Melody		2173
Klein	Renee		2173
Klein	Ruth		2173
Kleinberg	Evan		2000
Kleinert	Donna		2000
Kleinhenz	Nicole		2173
Kleinlein	Jeff		2173
Kleinrichert	Jennifer		2000
Kleinschmidt	James		2191

Last Name	First Name	Org	CIN
Kleinsmith	Catherine		2131
Kleis	Angela		2000
Klemic	Priscilla		2173
Klemke	Ken		2173
Klempin	Serena		2173
Klessig	Young		2173
Kleuser	Judith		2173
Kleven	Jennifer		2031(u)
Kleymeyer	Charles		2173
Kliche	Diana		2000, 2173
Kliegman	Morris		2173
Kliempt	Andreas		2173
Klimas	Julie		2173
Klimas	Pamela		2000
Klimova	Natalia		2173
Klimova	Yana		2131
Klimovich	Roberta		2173(u)
Klimp	Elizabeth		2173
Klimpel	Julie		2000
Kline	Brooks		2173
Kline	Gerald		2173
Kline	Norma		2173, 2312
Kline	Solana		2031, 2131
Kling	Matthew		2131
Klingel	David		2173
Klingel	Jon		2131
Klingenberg	Darlene		2173
Klingenberg	Doug		2173
Klingman	Lauren		2173

Last Name	First Name	Org	CIN
Klingston	Muriel		2131
Klinke	Sally		2173
Klinkel	Jason		2173
Klipfel II, CLS, MT(ASCP)	George		2173
Klisch	Norma		2131
klitz	karen		0233
Klocek	Donald		2173
Klock	Billy		2000, 2173
Klocke	Angie		2173
Kloenne	Callie		2131
Kloepper	Ben		2173(u)
Kloos	Bonnie		2173
Kloss	Carol		2173
Klosterman	Pete		2173
Klueger	Sandra		2173
Klueter	Diana		2173
Kluever	Kathy		2131
Klugiewicz	Mark		2173
Klumb	Carole		2173
Klumb	Kay		2173
Klunder	Christine		2173
Klusaritz	Thomas		2000, 2131(1), 2173
Knable	Angela		2173
Knaisch	Ellen		2173
Knanishu	Nina		2173(u)
Knapp	Alison		2031
Knapp	Christina		2000, 2173
Knapp	Debra		2173

Last Name	First Name	Org	CIN
Knapp	Harry		2131(1)
Knapp	Michael		2131
Knapp	Norma		2173
Knapp	Russell		2173
Knapp	Theresa		2173
Knauber	Terri		2173
Knauber, Jr.	Robert		2173
Knauer	Roger		2173
Knecht	Jill		2173
Knecht	Lauren		2173
Kneer	Kathleen		2173
Knehans	Douglas		2173
Knepp	Elizabeth		2150
Knieps	Karla		2173
Kniffin	Margaret		2173
Knight	Bobbie		2131
Knight	Chetana		2173
Knight	Haven		2173
Knight	Heather		2173
Knight	JonAnn		2173
Knight	Julia		2173
Knight	Lisa		2173
Knight	Mary		2173
Knight	Maryann		2131
Knight	Pamela		2000
Knight	Susan		2131
Knight	Ted		2173
Knights	Lindsay		2131
Kniola	Laura		2050
Knoben	Dianne		2173
Knoepfler	Andrea		2000
Knoeppel	Kathy		2173
Knoll	Julie		2173
Knoll	Kris		2000
Knop	Charlene		2173
Knopp	Kristeene		2000
Knoppers	Sherry		2000
Knott	Ann		2131
Knott	Daniel		2131
Knott	James		2000, 2173
Knowles	Cybele		2000(1)
Knowles	Derek		2173
Knowles	Linda		2173
Knowles	Mary		2173
Knowlton	Margaret		2173
Knowlton	Rachel		2173
Knox	Elaine		2173(u)
Knox	Elena		2000, 2173
Knox	Elena		2173
Knox	Gary		2173
Knox	Karen		2000
Knox	Oliver		2173
Knudsen	Mark		2131
Knudson	Claudia		2173
Knuth	Lilly		2173
Knuth	Margaret		2173
Knutsen	Maureen		2173
Knutsen	Susan		2173
Knutson	Terri		2173
Ko	Caroline		2173
Ko	Caroline		2000
Kob	Tricia		2173
Kobayashi	Anne		2000, 2173
Kobos	Michael		2131
Koch	Carl		2173
Koch	Cindy		2173
Koch	Douglas		2000
Koch	Francisco		2000(1)
Koch	Joann		2173
Koch	Kathleen		2173
Koch	Lance		2000, 2131
Koch	Matthew		2131
Koch	Victoria		2173
Kocher	Sharon		2173
Kochis	Liz		2000
Kocoras	Peggy		2173
Kocsis	Joan		2173
Kodaratou	Maria		2000
Kodet	Stefan		2173
Kodner	Damien		2173
Koechner	Donna		2000, 2173
Koehl	Lisa		2000
Koehler	Dennis		2131
Koehrsen	Glenn		2173
Koel	Leonard		2131
Koenig	John		2131
Koenig	Karen		2173
Koenig	Kathy		2173
Koenig	Norma		2173

Last Name	First Name	Org	CIN
Koeninger	Laura		2000
Koeppe	Roberta		2131
Koepsel	Heidi		2173
Koerner	Chris		2000
Koerner	John		2173
Koessel	Karl		2173
Koester-Radmann	Tanya		2000, 2173
Koether	Pam		2173
Koff	M.		2173
Koff	Marilyn		2000, 2131
Koffman	Bennett		2173
Kofler	Michelle		2173
Kofler	Roger		2173(u)
Kofman	Marina		2173
Kogan	Kathryn		2173
Kogan	Richelle		2131, 2173
Kohanek	Maggie		2173
Koharchick	Mark		2173
Kohl	Barbara		2131
Kohl	Diane		2173
Kohler	Alana		2173
Kohler	Bodhi		2173
Kohler	Sibylle		2173(1)
Kohler	William		2173
Kohles	April		2173
Kohn	Angela		2000
Kohn	Laura		2173
Kohn	Robin		2173
Kohnke	Angela		2000
Kohnman	Angela		0255
Koiv	Ulle		2131
Kok	Richard		2000
Kokal	Kristin		2173, 2312
Kokesch	Tara		2173
Kokol	Edward		2173
Kokolis	Constantine		2173
Kokolis	John		2173
Kokolis	Katerina		2173
Kolakosky	Linda		2173
Kolar	Marge	National Wildlife Refuge Assocation	2312, 3023
Kolar	Rebecca		2131
Kolasa	Joyce		2173
Kolb	Erik		2173
Kolb	Gary		2173
Kolb	Lee		2173
Kolbe	Carol		2000(1)
Kolbe	Karen		2173
Kole	Martha		2173
Kole	Susan		2173
Kolecki	Erika		2173
Kolesnik	Robert		2173
Kolinsky	Maura		2131
Koloup	Pamela		2173
Kolovou	Anna		2173
Kolpakova	Natalia		2173
Kolvenbach	Megan		2131
Komadina	Irene		2131
Komaromi-Gabriel	Michael Sr		2173
Komenda	Romana		2000
Komeyli	Barbara		2131
Komisar	M		2173(u)
Kommrusch	Richard		2131
Konczal	Eddie		2000(u)
Kondelik	Vicki		2173
Kondreck	Janine		2000, 2131, 2173
Kong	Vanessa		2173
Konig	Judith		2173
Konigsberg	Paula J.		2173
Konish	William		2173
Konkol	Robert		2131
Konrad	Barbra		2031(u)
Konstanty	Kristin		2173
Koo	Rebecca		2173
Koogler	Hillary		2173
Koogler	Sharon		2000
Koolbergen	James Van		2173
Koonce	Rheama		2000, 2173
Koone	Nanw		2173
Koontz	Karla		2173
Koopman	Elizabeth		2000
Kopan	Diane		2173
Kopczak	Tom		2173
Kopczynski	Jennifer		2173
Kopel	Maxine		2173
Kopena	Louise		2173

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Kopetzky	Cavell		2173
Kopp	Isabel		2173
Kopp	Johanna		2173
Koppenberg	Tara		2000
Korah-Sedgwick	Michelle		2173
Koran	Jessica		2173
Korba	Peter		2131
Kordas	Edmund		2173
Kordecki	Kathleen		2131
Korek	Brian		2000
Koreneef	Jan		2000
Koritz	Mark		2131(1), 2173
Koritz	Raleigh		2173
Kornberg	Paul		2173
Kornblum	Ina		2173
Korner	Jeff		2173
Kornreich	David		2173
Korogodski	Leonid		2173
Korolak	Ted		2173
Koroliszyn	Jean		2000
Korovilos	John		2173
Korsmo	Chris		2000
Korson	Steven		2173
Kortenhof-Struck	Shelby		2000
Kortes	Daniel		2173
Korth	Lucy		2000
Kortjohn	Patricia		2173(u)
Kory	Robin		2173
Kos	Carolyn		2000
Kosak	Donald		2173
Kosatka	Scott		2173
Koschinski	Sven		2000
Kosec	Dawn		2173
Koshinskie	Robert		2173
Koshinz	Ronald		2131
Koshlap	Karl		2173
Kosinski	Kathy		2173
Koskella	Alexx		2131
Koski	Mary		2173
Koslek	Terry		2173
Kosloske	Sunday		2131
Kososki	Jennifer		2173
Kosowicz	Aleks		2000, 2131, 2173
Kossack	Stephanie		2131
Kossack	Steve		2131, 2173
Kossman	Diane		2173
Kostenko	Jane		2312(1)
Kostenko	Joseph		2173
Koster	Joelle		2173
Koster	Valerie		2173
Kostiv	Eddie		2031
Kotch	Brant		2131, 2173
Koteen	Lucy		2173
Kotelchuck	Catherine		2173
Kotowski	Elisabeth		2173(u)
Kotsis	Eleni		2173
Kott	Lance		2173
Kotte	Natascha		2319
Kotte	Natascha		2031(u)
Koukol	Henry		2173
Koundry	Deborah		2173
Koustubhan	Punita		2031(u)
Kouzel	Lynn		2173
Kovac	Tatjana		2173
Kovacs	S.		2173
Kovalcik	Nicholas		2173
Kovary	Aylene		2173
Kovats	Attila		2173
Koviak	Kathleen		2173
Kovich	Jenni		2173
Kowal	Steve		2131, 2173
Kowalchick	Kathlene		2173
Kowalewski	Erin		2000, 2173
Kowall	Betty		2173
Kowalska	Marta		2173
Kowalske	Sarah		2173
Kowalski	Josephine		2173
Kowalski	Michele		2173
Kowell	Richard		2173
Kowitt	Manuela		2173
Kozak	Brandon		2173
Kozak	Linda		2173
Kozinski	Susan		2173
Koziol	Monica		2250
Kozlosky	Donald		2173(u)
Kozma	Jeff		2173

Last Name	First Name	Org	CIN
Krach	Judy		2173
Krager	Mary Claire		2173
Kraimer	Rebecca		2131, 2173
Kral	Bradford		2000
Kram	Heather		2173
Kramarz	Karen		2173
Kramer	Darlene		2000
Kramer	Elizabeth		2173
Kramer	Jeffrey		2131
Kramer	Jeffrey		2000
Kramer	Julie		2173
Kramer	Matthew		2031(u)
Kramer	Rob		2173
Kramer	Tess		2000
Kramer-Dodd	Gay		2000
Kramer-Druzycka	Susanne		2000
Kramer-Rolls	Dana		2173
Kranefoed	Peter		2000
Krasch	Delilah		2000
Krasch	Gregory		2000
Krash	Kallyn		2000
Krasnoff	Joshua		2173
Krassenstein	Diane		2173
Kratky	Gregory		2173
Kraus	Andrea		2173
Kraus	Cathy		2000
Kraus	Lawrence		2131
Kraus	Marion		2000
Kraus	Melody		2173
Kraus	Patricia		2173(u)
Krause	Al		2173
Krause	Doug		2000
Krause	Krystal		2000
Krause	Mercedes		4009
Krause	Richard		2173
Krause	Sandra		2173
Krause	Susan		2000
Krause	Susan		2312
Kraushaar	Sunday		2173
Krauss	Debra		2173
Krauss	Robert		2173
Krausz	Ibi		2173
Krausz	Lisa		2173
Krauter	Marsha		2173
Kravitz	Barbra		2173
Krawisz	Bruce		2173
Kraynak	Ed		2173
Krebill	Kerry		2173
Krebs	Charlotte		2173
Krebs	Colleen		2173(u)
Krebs	Jim		2173
Krebs	Kirk		2173
Krebs	Mike		2173
Krebs	Satyna		2173
Kreft	Terry		2173
Krehbiel	Robb		2173
Kreil	Joanne		2173
Kreiman	Cindy		2173
Krell-Bates	Diane		2173
Krenke	Robin		2173
Kresila	Dean		2173
Kretmar	Gerald		2173
Kreuscher	Marion		2173
Kreuser	Tom		2131
Kreuter	Don		2131
Kribs	Michele		2000
Krichevsky	Evan		2173
Krieger	Anna		2173
Krieger	Barry		2131
Krieger	Delores		2173
Kriel	Michael		2173
Krieman	Megan		2000
Krikorian	Linnell		2000, 2173
Kring	Juli		2173
Kringlie	Savannah		2173
Kriser	Ellen		0308
Krishnan	Umasangker		2000
Krismann	Carol		2131, 2173
Krist	Daniel		2131
Krist	James		2131, 2283
Kristensen	Terese		2312
Kristoff	Diane		2131
Kriston	Ira		2000
Kritzer	Sherry		2173
Kritzman	Philip		2173
Krochmalny	Annie		2173
Kroeger	Catherine		2173
Kroeger	Steven		2173
Kroeger	Wendy		2173
Kroepfl	Lorna		2031(u)

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Krogh	Marian		2131
Krohne	Sheryl		2131
Krohngold	Walter		2173
Krok	Douglas		2173
Krol	Kathy/ Kathleen		2000, 2131
Kroll	Kathy		2173
Kronick	Jeff		2173(u)
Krosnoff	Cam		2131, 2173
Kross	Walter		2173
Krstic	Gianna		2173
Kruck	Annie		2031(u)
Krucoff	Rachel		2173(u)
Krueger	Betsy		2173
Krueger	D.		2173
Krueger	David		2173
Krueger	Dennis		2173
Krueger	Gabrielle		2173(u)
Krueger	Kirsten		2173(u)
Krueger	Richard		2131
Krueger	Shari		2173
Kruger	Caron		2173
Kruger	Erin		2173
Kruger	Henry		2000, 2173
Kruger	Pam		2173
Kruger	Suzanne		2173
Krüger	Martin		2173
Kruggel	Cyndee		2173
Krulik	Richard		2000
Krum	Jill		2173
Krum	Liz		2173
Krumdick	Mel		2173
Krumm	Paul		2173
Krupinski	K		2000, 2173
Krupinski	Keith		2173
Krupinski	Kim		2173
Krupp	Brian		2131
Kruppa	Muriel		2173
Kruschwitz	Vicki		2173
Kruse	M.A.		2312
Kruse	Maryann		2173
Kruse	Teresa		2173
Kruse	Todd		2131
Krutz	Sarah		2031(u)
Kruzic	Dale		2131
Kryshak	Walter		2173
Krysiak	Patricia		2000
Krysinski	Brian		2000
Kuba	Alfredo		2173
Kubachka	Beverly		2173
Kubacki	Katherine		2173
Kubik	Christine		2173
Kubinak	Kathleen		2131
Kubitsch	Werner		2131
Kubosh	Irene		2000
Kucaba	Kathy		2173
Kucala	Barbara		2000
Kuch	Edward		2173(u)
Kuchnia	Margaret		2173
Kuciej	Walter		2000, 2114, 2312
Kuczynski	Edward		2173
Kuczynski	Kathleen		2000, 2173
Kudelchuk	Ken		2000
Kuehn	Sherrie		2000
Kuehnling	William		2173
Kuelper	Carol		2000
Kuester	Keitha		2173
Kuestner	William		2173
Kuether	Dave		2173
Kuge	Donna		2173
Kuhen	Mary		2173
Kuhl	Eleanor		2131
Kuhlow	Carrol		2000, 2131
Kuhn	Dylan		2031(u)
Kuhn	Gerald		2173
Kuhn	Peter		2173
Kuhn	Robert		2131
Kuhn	Rollin		2173
Kuhn	Tammy		2173
Kuhner	Patty		2000
Kuhnert	Robert		2000, 2173
Kuk	Rebecca		2173
Kukkonen	Holly		2173
Kulak	Kelly		2173
Kulakofsky	Rob		2131
Kulakowski	Mary		2173
Kulanda	Kathy		2173
Kulchar	Marsheela		2000
Kulida	Irina		2173
Kulikowski	Susan		2173
Kulish	Carma		2173

Last Name	First Name	Org	CIN
Kulkarni	Abhijeet		2312
Kulkarni	Claudette		2173
Kuller	Robert		2173
Kulp	Jeff		2000, 2173
Kulp	R/Roger		2131, 2173
Kulppi	Nancy		2173
Kumar	Jen		2173
Kumar	Naresh		2131
Kummer	Karen		2173
Kunamneni	Sruthi		2173
Kuncl	Janet		2173
Kung	Giar-Ann		2000
Kung	Jack		2000, 2173
Kunkel	Chris		2173
Kunstler	David		2173
Kuntz	Jeanne		2173
Kunz	Ellen		2031(u)
Kunz	Katie		2173
Kuper	Hannah		2173
Kurakin	Tatiana		2131, 2173
Kurki	Ari		2173
Kurland	Charlotte		2131
Kurland	Michele		2131
Kurnik	Jamie		2173
Kurotaki	Rui		2131
Kurran	Kristal		2173
Kurtnick	Mary		2173
Kurtz	Ken		2173
Kurtz	Maya		2131
Kurtz	Nancy		2131
Kurz	Daniel		2173
Kurz	Don		2173, 2312
Kusch	Kristie		2131, 2173
Kuschel	Kristen		2031(u)
Kush	Edward		2173(1)
Kush	Lynn		2312
Kushida	Maiko		2173
Kushner	Judith		2131
Kushner	Sharon		2131, 2173
Kusi	Jo		2173
Kuster	William		2131
Kusterer	Jacky		2173
Kuszajewski	Edward		2173
Kutch	Heather		2131
Kuter	Ann		2000, 2173
Kuticka	Sheri		2000, 2173(u)
Kutilek	Michael		2000
Kutter	Ellen		2173
Kutz	Kallen		2173
Kutzscher	Detlef & Sybille		2173
Kuykendall	Carol		2131
Kuykendall	Rory		2069
Kuyper	Kathy		2000
Kuzma	Laura		2000
Kuzmeskus	David		2173
Kuznetsova	Natalia		2173
Kwasneski	Cathie		2173
Kwasnik	Barbara		2173
Kwentus	Susan		2031
Kwiatkowski	Kathryn		2000, 2173
Kwiecinski	Joann		2173
Kwiek	Nicholas		2173
Kydd-Sumberg	Colleen		2312
Kydonieus	Maria		2173
Kyes	Karin		2000(1)
Kyler	Joan		2173
Kyriakopulos	Jill		2000(u)

L

Last Name	First Name	Org	CIN
L	A		2173
L	A		2173
L	Adrienne		2173
L	Beth		2173
L	Carla		2000(1)
L	David		2173
L	Jessica		2173
L	K		2173
L	Pat		2173
L	Thomas		2173
L	V/Vince		2000(1), 2173
L.	Mary		2031
L.O. Junior	Moacir		2173
La Burt	Suzanne		2173
La Forgia	Tony		2173
La France	Diane		2145

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La Frinere	Rochelle		2000, 2173
La Marca	Monique		2173
La Mattina	Adriana		2173
La Moy	Mary		2173
La Serra	Stephen		2000(1)
La Viola	Denise		2173
Labartette	Sylvain		2031(u)
Labb	Deborah		2173
LaBelle	Alyssa		2131
Labelle	Stanley		2131
Laberge	Lucie		2000
Labey	Georgia		2000, 2173
Labi	Dorothy		2173
Labotka	Margaret		2131
LaBreck	Sharon		2000, 2173
Labuda	Linda		2173
LaBudie	Richard		2000, 2173
LaBudie	Velvet		2173
Lacayo	Maria		2173
Laccone	Connie		2173
Lacelle-Peterson	Kristina		2173
Lach	M		2173
Lachance	Marcey		2000
Lackner	Catherine		2173
Lacombe	Anne-Marie		2131
Lacoste	Sharon		2173(u)
Lacque	Andy		2173
Lacson	Diana		2173
Lacy	Chrissy		2173
Lacy	Julie		2131(1)
Lacy	Penny		2173
Ladau	Robert		2173
Ladiana	Elizabeth		2173
Laemmerhirt	Daniel		2292
LaFace	Mary		2173
Lafferty	William		2173
LaFlare	Lexie		2000
Lafond	David		2131, 2173
LaFond	Susan		2173
Lafontaine	Paul		2131
LaFrance	John		2173
LaFrancis	Louise		2173
LaFreniere	Joanne		2173
Lager	Phyllis		2000
Lagerstam	Todd		2173
Lagnado	Sarah		2173
Lagorio	Lori		2131
Lahaie	Ivan		2173
LaHay	Laura		2173
Lahey	Diana		2173
Lahey	Michael		2173
Lahner	Robert		2173
Lai	Carla		2131
Laielen	A		2173
Lail	Jason		2173
Laimbeer	Alice		2173
Laine	Jamie		2173
Laing	Patrick		2173
Laird	Victoria		2173
Laiti	Jared		2000
Laitysnyder	Mark		2173
Lajeunesse	Paul		0219, 2173
Lakatose	Marion		2173
Lake	Alison		2173
Lake	Arthur		2173
Lake	Elizabeth		2173
Lake	James		2173
Lake	Kathryn		2000
Lake	Keith		2173
Lake	Sue		2173
Laker	Chad		2173
Lakes	Lisa		2173
Lakowski	Deborah		2173
Lalli	Ann		2000
Lallman	Bill		2173
Lalumiere	Valerie		2173
LaLuna	Bonnie		2173
Lam	Susan		2000
Lamadrid	Irina		2000
Lamagna	Leticia		2173(u)
LaMaison	Sherry		2173
LaMantia	Theo		2173
Lamar	Kate		2000, 2131, 2173
Lamar	Robert		2173
LaMarca	Dawn		2173
LaMaster	Gary		2173
Lamb	Barbara		2173
Lamb	Gina		2173
Lamb	John		2173
Lamb	John		2131

Last Name	First Name	Org	CIN
Lamb	Joseph		2173
Lamb	Patricia		2173
Lamb	Susan		2173
Lambard	Valerie		2173(u)
Lambe	Jill		2173
Lambert	Alan		2173(u)
Lambert	Angela		2173
Lambert	Carol		2231
Lambert	Janet		2173
Lambert	Jill		2000
Lambert	Kay		2173, 2312
Lambert	Ken		2173
Lambert	Laura		2173
Lambert	Mary		2173
Lambert	Monty		2000, 2131
Lambert	Rene		2000
Lambert	S		2173
Lambert	Sandra		2000
Lambert	Susan		2173
Lamberth	Elizabeth		2173
Lambeth	Larry		2173(u)
Lamers	Steven		2173
Lamke	Richard		2000
Lammers	Matthew		2173
Lamons	Kristina		2173
LaMontagne	Susan K.		2131, 2173
Lamoreaux	Darla		2173
Lamoreaux	Douglas		3008
Lamorte	Bill		2173
Lamorte	Diane		2173

Last Name	First Name	Org	CIN
Lampe	Raymond		2173
Lampel	Jason		2131
Lampert	Cory		2031(u)
Lampi	Michael		2173
Lampi	Sarah		2173
Lampila	David		2173
Lampkin	Donna		2131
Lampley	Leigh		2131
Lampman	Nora		2173
Lamson	Scott		2173
Lanagan	Pamela		2173
Lancaster	A		2173
Lance	Cindy		2173
Lancia	Laura		2173
Land	David		2131
Land	Henk-J		2000
Land	Karen		2173
Landa	David		2173
Landa	Marty		2131
Landau	Elenia		2173
Landau	Fred		2000
Lande	Emily		2131
Lande	Robin		2000, 2173
Landefeld	Sally		2173
Landen	Laura		2173
Landers-George	Donna		2173
Landi	Dennis		2173
Landi	Dennis		2000
Landis	Maggie		2173
Lando	Lauri		2173
Landolt	Scott		2131, 2173

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Landon	Lynne		2173
Landowski	Lindsey		2031(u)
Landry	A.l		2173
Landry	Cheryl		2173
Landry	Donna		2131
Landry	Maureen		2173
Landsberg	Elizabeth		2173
Landsberg	Marisa		2173
Landsberg	Yamuna		2131
Lane	Alexa		2173
Lane	Amanda		2312
Lane	Carol		2173
Lane	Christi		2173
Lane	Dava		2173
Lane	Eric		2173
Lane	Justina		2173
Lane	Katie		2000
Lane	Kristina		2131, 2173
Lane	Laura		2000
Lane	Michael		2173
Lane	Paul		2173
Lane	Philip		2173
Lane	Rachel		2173
Lane	Sandra		2173
Lane	Veva		2173
Lanes	Susan		2000
Laneve	Agnese		2173
Lang	Dan		2173
Lang	Donel		2131
Lang	Erika		2131, 2173
Lang	Julie		2131

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Lang	Kar/Karen		2000, 2173
Lang	Katarina		2000
Lang	Liana		2000, 2173
Lang	Michael		2173(u)
Lang	Nancy		2173
Lang	Nancy		2173
Lang	Pat		2173
Lang	Randall And Abigail		2131
Lang	Sabine		2173
Lang	Stacy		2173
Lang	Tim		2131
Langan	Barbara		2173
Langan	Eileen		2173
Langan	Mark		2173
Lange	Bob		2173
Lange	Gordon		2173
Lange	Janice		2173
Lange	Marlena		2000, 2173
Langelan	M.		2173
Langele	Robert		2173
Langelier	Karen		2173
Langelier	Lisa		2312
Langer	Val		2173
Langerman	Jillian		2173
Langevin	Ann		2000
Langford-Edwards	Kathryn		2131
Langlais	Rhonda		2173
Langley	Wayne		2131, 2173
Langlitz	Linda		2173
Langlois	Cheri		2173(u)
Langlois	Donna		2131
Langmacher	Linda		2173
Langran	Karen		2131
Langseth	Cheryl		2173
Langston	Darina		2173
Langston	Zed		2173
Lanham	Rick		2232
Lanin	Dmitry		2173
Lanka	Mike		2000, 2131, 2173
Lankowski	Joseph		0107
Lanni	Sharon		2173
Lanning	June		2173
Lansaw	Sarah		2173
Lansing	Ronald		2131
Lanski	Christopher		2131
Lansky	Marcus		2000
Lanspery	Susan		2173(u)
Lantow	Susan		2173
Lantry	Gavin		2173
Lantto	Sarah		2173
Lanzel	Sheila		2131(u)
Lanzillotta	Stacey and John		2173
Lao	I-Ching		2000
LaPage	Ted		2173
LaPenna	Ellen		2131
Laplante	Robert		2173
LaPoint	Gretchen		2173
Lapoint	Marisa		2173
LaPoint/La Point	Peggy Lqa		2131(u), 2173(u)
LaPointe	Drena		2000, 2131, 2173
Lapointe	Jocelyne		2000
Lapointe	Kenneth		2000, 2173
LaPointe	Robert		2173
Lapointe	Toni		2000, 2173
LaPorte	Candace		2000, 2173
LaPorte	Michele		2173
Lappe	Roshanee		2173
Laptad	LisaJo		2131
Laquidara	Thomas		2173
Lara	Darlene		2173
Lara	Greg		2173
Laramie	David		2173
Larcher	Catherine		2173
Lardie	Dotty		2131
Lardiere-Grison	Darlene		2000
Larger	Mandy		2173
Laricos	Cynthia		2173
Larivey	Dan		2000
Larkin	Deborah		2173
Larkin	Maggie		2173
Larkin	Timothy		2173
Larkins	Shelly		2131
Larkins-Strawn	Marianne		2173
LaRocca	Christina		2173
LaRocca	Laura		2173
LaRocca	Tracy		2173

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LaRochelle	John		2173
LaRose	Kalia		2000
Larrabee	Consuelo		2173
Larro	William		2173
Larry	William		2173
Lars	Margo		2173
Larsen	Ady		2173
Larsen	Alice		2173
Larsen	Carole		2173
Larsen	Cassandra		2031(u)
Larsen	Eric		2031(u)
Larsen	Grace		2031(u)
Larsen	Jeanine		2173
Larsen	Joanne		2173
Larsen	Jon		2173
Larsen	Julia		2173
Larsen	Karen		2131
Larsen	Nadine		2173
Larsen	Pamela		2173
Larsen	Rick		2173
Larsen	Sandi		2173
Larson	Andrea		2000, 2131(1)
Larson	Barbara		2173
Larson	Denise		2173
Larson	Gary		2173
Larson	Janet		2000
Larson	Linda		2173
Larson	Nancy		2131
Larson	R.A.		2000, 2173
Larson	Richard		2131
Larson	Sally		2236
Larson	Stacey		2131, 2173
Larson	Tanya		2131(1)
Larson	Virginia		2173
Larson, Jr.	R. Dene		2173
Larstein	Francine		2173
Larue	Erik		2000, 2173
LaRue, Jr, M.S.	Edward L	Desert Tortoise Council	6023
Lasahn	J		2000
Lasalvia	Joseph		2131
LaSchiava	Dona		2131, 2173, 2312
Lasecki	Stacey		2173
Lasek	Patricia		2173
Lasher	Karen		2131
Lashinski	Amy		2173
Lashlee	Hans		2173
Lashuk	Stephanie		2131
Laskosky	Elaine		2173
Lasley	Barbara		2131
Lasorsa	Maria		2000
Lass	Alexis		2173
Lassandrello	Noreen		2000, 2173
Lasselle	Pamela		2173
Lassiter	Allen		2173
Lassiter	Bobbie		2058
Lassiter	Daniel		2173
Last_idaho	First_idaho		2131
LaStrapes	Pat		2173
Lata	Liz		2131(u)
Latham	Mark		2173
Latimer	Bill		2173
Latner	Nancy		2173
LaTrecchia	Dawn		2173
Latsha	Debra		2173
Latshaw	Linda		2173(u)
Latt	Daniel		2131
Latta	George		2000, 2131
Latta	Sharon		2000
Lattanzi	Francis		2173
Lattanzia	Patti		2173
Latterner	Raymond		2173
Lattin	Stan		2031(u)
Lattuga	Maria		2173
Lau	Francis		2173
Lau	Miss M S		2173
Lau	Phyllis		2017, 2226
Laube	Susan		2173
Lauber	Ellen		2173
Lauckern	Eryn		2173
Lauckner	Kathleen		2031(u)
Lauderman	David		2173(u)
Lauer	Marcy		2173
Lauer	Patricia		2173
Lauer	Richard		2173
Lauerman	Emily		2173
Laufenberg	Lynn		2173
Laughlin	Cathy		2000(1), 2173
Laughlin	Cynthia		2173

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Laughlin	Linda		2173
Laumet	Geoffroy		2173
Laupheimer	Margie		2173
Laura	Camponesc hi		2173
Laureano	Felicia		2173
Laurenitis	Diana		2173
Laurer	Beth		2000
Lauri	Esteen		2173
Lauricella	Laura		2173
Laurie	Annie		2131
Laurion	Deb		2131(u), 2173
Lauritsen	Christina		2173
Lauritson	Lynne		2173
Laursen	Seth		2173
Laurson	Edward		2131, 2173
Laurson	Edward and Gail		2131
Lautenslager	Shayne		2173
Lauter	Ken		2000
Lauth	Jenny		2173
Laval	Jennifer		2173
Lavanchy	Jacqueline		2000
LaVaute	Judy		2173
Lavee	Annina		2173
Lavee-Myers	Karen		2131, 2173
Lavelle	Susan		2173
Lavender	David		2131
LaVerne	David		2173
Laves-Mearini	Courtney		2173
Lavictoire	Mary		2173
Lavigne	Charlene		2000
Lavigne	Marlene		2173
Lavin	Julianna		2173
Lavin	Kate		2173
Lavin	Lucianne		2000
Lavinder	Gary		2173
LaVitola	Michelle		2173
Lavoie	Carol		2173
Lavorata	Helen		2173
Lavy	Fred		2000, 2173
Law	Chris		2173
Law	Karen		2173
Law	Kimberley		2173
Law	Meya		2000, 2131
Lawhead	Rosemary		2131
Lawhorn	Robbie		2173
Lawing	Don		2173
Lawler	Lynn		2173
Lawler	Mary		2131
Lawler	Michael		2000, 2131(u), 2173
Lawless	Kathleen		2312
Lawless	Kathy		2173
Lawlor	Michael		2173
Lawnicki	Tim		2000, 2031(u)
Lawrence	Christy		2173
Lawrence	Claire		2173
Lawrence	David		2173
Lawrence	Jeremy		2131
Lawrence	Kathleen		2173
Lawrence	Lois		2131
Lawrence	M.E.		2173
Lawrence	Mary		2173
Lawrence	Michael		2000, 2173
Lawrence	Sandra		2173
Lawrence	Suzy		2000
Lawrence	Vicky		2173
Lawson	Añgie		2173
Lawson	Brettany		2173
Lawson	Caroline		2131, 2173
Lawson	Kathleen		2173
Lawson	Lynn		2000
Lawson	Pat		2173
Lawson	Sondra		2131
Lawyer	Kathleen		2173
Lax	David		2131
Lay	Evan		2131
Lay	Suzanne		2173
Laycook	Pam		2173
Layden	Joan		2173
Layfield	Meghan		2131
Layne	Allister		2000, 2173
Layne	Ken	Desert Oracle	0300
Laytham	Nenya		2173
Layton	Cori		2131
Layton	Jean		2173
Layton	Matthias		2031(u)
Lazar	Jodi		2173
Lazar	Nathan		2131

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Lazarek	John		2173
Lazareva	Maria		2173
Lazas	Mary		2173
Lazenby	Morgan		2000, 2173
Lazier	Steffani		2173
Lazio	Rochelle		2173
Lazos	Lauren		2000
Lazzareschi	Daniel		2031(u)
Le	Trung		2131
Le Beau	Josette		2000, 2173
Le Noir	Luc		2173
le Roux	Helen		2173
Le Voir-Barry	Laura		2173
Leach	Cindy		2173
Leach	Paula		2000
Leach	Theresa		2173
Leach	Yvonne		2000
Leahy	Diane		2173
Leahy	Katherine		2173
Leahy	Susan		2173
Leak	Sharon		2131(1)
Leal	Teresa		2173
Leale	Anthony		2173
Lear	Austin		0158
Lear	Kirtsen		2173(u)
Leary	Joanna		2173
Leas	Arlene		2173
Leas	Don		2173
Lease	Barry		2173
Leather	Rose		2131
Leathers	Cathy		2173
Leavengood	David		2173
Leaverton	Cynthia		2131(1)
Leavitt	Charles and Lara		2131(1)
Leavitt	David		2173
Leavitt	Dixie		2131
Leavitt	Donna		2131, 2173
Leavitt	Kristin		2173
Leavitt, Esq.	James T.		2031(u)
Lebas	Anne		2173
Lebas	Anne		2173
Lebeck	Gail		2173
Lebel	Georgette		2173
Lebich	William		2173
LeBlanc	Anna		2000, 2173
Leblanc	Danielle		2173
Leblanc	Edward		2131
LeBlanc	Nancy		2173
LeBlanc	Willy		2173
Lebo	Harlan		2173
Lebo	Marcia		2131
Lebron	Laraine		2173
Leca	Henry		2173
Lecat	Andree		2000
Leccese	Monica		2173
Lechner	Becky		2173
Lechner	Joann		2173
Lechner	Sierra		0143
Lechowicz	Elaine		2173
Leclerc	Barbara		2173
Leclerc	Marie		2173
Lecroy	Karen		2173
Ledden	Dennis		2173
LeDent	Jamie		2173
Lederman	Gayle		2131
Lederman	Keith		2173
Lederman	Kimberly		2173
Ledford	Timothy		2173
Ledford	Tom/Thomas		2173, 2312
Lee	Amanda		2173
Lee	Amy		2173
Lee	Andrew		2173
Lee	Andrew		2173
Lee	Brady		2173
Lee	Brenda		2000, 2173
Lee	Carol		2173
Lee	Carol		2173
Lee	Caroline		2173
Lee	Claudia		2173
Lee	Derek		2173
Lee	Diana		2000
Lee	Diane		2173
Lee	Dottie		2173
Lee	Gary		2131
Lee	Hannah		2173
Lee	Hilary		2173
Lee	Jane		2173
Lee	Janet		2173(u)
Lee	Janice		2173
Lee	Jeanette		2000, 2173
Lee	Kathleen		2173

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Lee	L		2173
Lee	Madeleine		2131
Lee	Mary		2173
Lee	Melinda		2173
Lee	Michael		2131(1), 2173
Lee	Richard		2000, 2173
Lee	Robina		2173
Lee	Sharon		2173
Lee	Sherrie		2131, 2173
Lee	Terry		2173
Lee	Virginia		2131
Lee	Virginia		2131
Lee	Wilson		2173
Lee	Yafu		2173
Leech	Lisa		2173
Leech	Ruba		2173
Leeder	Cynthia		2000
Leedham	Suzy		2000
Leeds	Lois		2131
Leeman	Christine		2173
Leemanmd	Cavin		2173
Lees	Aubrey		2173
Lees	Jackie		2173
Lees	Nancy and Walter		2131
Leesekamp	Kris		2173
Leet	Sandra		2173
Lefebvre	Peter		2131
Lefebvre	Sylvie		2000
LeFever	Elizabeth		2173
Lefevers	John		2173
LeFevre	Donna		2173
Lefevre	Elaine		2173(u)
Leffett	Irene		2000
Leffingwell	Linda		2173
Lefkovitz	Karen		2173
Lefkowitz	Jay		2173
Lefler	Debi		2173
Lefson	Bernard		2173
Leftakes	Maria		2173
Legaroff	Kyra		2173
LeGate	Lawson		2031(u)
Legault	Richard		2173
Legge	Ray		2173
Legrand	Michèle		2000
Legsdin	Amanda		2173
Legzdins	Albert		2000, 2173
Lehman	Gary		2131
Lehman	Kate		2131
Lehman	M		2000, 2173
Lehmann	Tanja		2000
Lehr	Marijane		2173
Lehrer-Graiwer	Shelah		2173(1)
Lehwalder	Debbie		2173
Leib	Bracha		2000, 2173
Leib	Shayna		2173
Leibacher	Celia		2173
Leibenson	Carol		2173
Leibman	Carol		2173
Leibman	Irene		2173
Leibowitz	Ariel		2173
Leibowitz	Arthur		2173
Leid	Leon		2131
Leierer	Sylvia		2173
Leifheit	Aaron		2031(u)
Leifheit	Jake		2031(u)
Leigh	Avra		2173
Leigh	Becki		2173
Leigh	Ben		2131
Leigh	Tahoe		2173
Leigh	Tracy		2131, 2173
Leimenstoll	Jerald		2173
Lein	Kristin		2131(1)
Leinbaugh	Tracy		2173
Leischow	Dagmar		2000
Leisman	Donald		2131
Leiss	Simo		2173
Leisure	Chloe		2131
Leisure	Sean		2131(1)
Leitch	David		2173
Leitch	Mary		2000
Leitner	Joel		2173
Leitner	Shannon		2173
Leitshuh	Toni		2173
Leitzell	Jerry		2000
Lekberg	Melinda		2173
Leland	Dawn		2173(u)
Leland	Laurie		2173
Leland	Lora		2173
Lelinski	Catherine		2173
LeMaire	Saralee		2000

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Lematta	Andrea		2173
Lemay	Melissa		2000
Lemay	Pat		2173
Leme	Betina		2173
Lemelin	Carl		2000
Lemelin	Sandra		2173
Leming	Chad		2173
Lemke	Linda		2173
Lemmon	Kathleen		2173
Lemoine	David and Kandy		2131
Lemoine	Kathryn		2000, 2173
Lemon	KA		2131(u)
Lemonik	B.R.		2000
Lemonik	Baila		2173
Lemont	Joan		2173
Lemos	Fernanda		2000
Lemura	Lisa		2173
Lemus	Diana		2173
Lenahan	Kathy		2173
Lenard	Clint		2000, 2173
Lenardson	Denise		2173
Lenat	Dale		2173
Lenchner	Nicholas		2173
Lenehan	Tara		2031(u)
Leng	Barbara		2173
Lengel	Elizabeth		2173
Lengel	Gail		2000
Lenhart	Scott		2312
Lenk	Vivienne		2247
Lenoble	Martyn		2173

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Lenssen	Barbara		2131
Lenthall	Kate		2173
Lentina	Michael		2173
Lentine	Maria		2173
Lentini	Tony		2173
Lentz	Barbara		0216
Lentz	John		2173
Lentz	Katelyn		2173
Lentz	Susan		2000
Lentz	Vivian		2131, 2173
Lenz	Andrew		2000
Leon	Alan		0254
Leon	Candi		2173
Leon	Elizabeth		2074
Leon	Laura		2173
Leon	Lucy		2173
Leon	Marc		2173
Leon	Nathalie		2131, 2173
Leonard	Betsy		2131
Leonard	Cami		2173
Leonard	Greg		2312
Leonard	Kristine		2173
Leonard	Linda		2173
Leonard	Monika		2173
Leonard	Nick		2131
Leonard	Valerie		2173
Leonard	Valerie		2173
Leonard-Horwith	Shawn		2173
Leonardo	Sherry		2312(1)
Leone	Rita		2000, 2173

Last Name	First Name	Org	CIN
Leong	Moana		2173
Leonis	Carol		2173
Leopold	Estella		2173
Leopold	Stacy		2173
Leovy	Joanne		2031(u)
Lepczyk	Christopher		2173
Lepore	Bri		2131
Lepore	Gary		2173
Lepore	Lodiza		2131, 2173(1)
Lepore	Paula		2173
Leppo	Bob		2173
Lepre	Elizabeth		2173
LeQuire-Schott	Antoinette		2173(u)
Lercara	Sharinne		2173
Lerch	James		2173
Leresche	Andrea		2173
Lerman	Valerie		2173
Lerner	B.		2173
Lerner	Lynne		2173
LeRose	Lisa		2173
LeRoy	David		2000, 2173
Lesartre	Stacy		2173
Lesea	John		2131
Lesem	Ken		2173
LeShanna	Linda		2173
Lesicko	Stephanie		2173
LeSieur	Laura		2173
Lesinski	Pete		2173
Leska	A		2173
Lesley	Mike		2173
Leslie	C		2173

Last Name	First Name	Org	CIN
Leslie	Cheri		2173
Leslie	Christiane		2173
Leslie	J		2173
Leslie	Jean		2173(u)
Leslie	Leslie		2173
Leslie	M. Virginia		2131, 2173
Leslie	Mary		2173
Lesniak	Cydney		2131
Lesnick	Jeffery		2173
Lesperance	Adina		2131
Lessard	Joanne		2173
Lessard	Julie		2173
Lessard	Lynn		2131
Lesselles	Tanya		2031(u)
Lesser	Al		2173
Lesser	Joe		2173
Lesser	Tamara		2173
Lesser-Adamo	Nancy		2131
Lester	Donna		2173
Lester	Lisa		2000, 2173
Lester	Rebecca		2000
Lester-Granger	Sabrina		2173
Leszai	Rebecca		2173
Leszczynska	Monika		2173
Leszczynski	M/Milly		2000, 2131(1), 2173
Letchworth	Cindy		2173
Letosa	Silvia		2173
Letsche	Debbie		2173
Letson	Janette		2173

Last Name	First Name	Org	CIN
Lettiere	Paula		2173
Leuenberger	Michelle		2131
Leung	Ming Chuen		2173
Leung	Vivian		2173
Leuning	Eldon		2173
Leupold	Jim		2173
Leva	Dana		2173
LeValley	Lon		2000
LeVeque	Linda		2173
Levering	Edmund		2131
Levernier	Pamela		2173
Leverson	Rob		2173
Levesque	David		2031(u)
Leveton	Alan		2131
Levett	Eileen		2173
Levi	Anna-Lina		2173
Levi	Louis		2000
Levicke	Jeff		2173
Levin	Adam		2000
Levin	Amanda		2173
Levin	CathyElizabeth		2173
Levin	Eileen		2173(u)
Levin	Julie		2000, 2173
Levin	Marty		2173
Levin	Monnie		2173
Levine	Alan		2173
Levine	Carol		2131
Levine	Gregg		2173
Levine	Ian		2173
Levine	Katie		2173(u)
Levine	Linda		2173(u)

Last Name	First Name	Org	CIN
Levine	Lorraine		2000
Levine	Marilyn		2173
Levine	Mark		2000
Levine	Nicholas		2173
Levine	Patti		2173
Levine	Rachel		2131
Levine	Rhoda		2173
Levine	Sandra		2173
Levine	Sandra		2173
Levine	Sandra/Sandy		2000, 2173
Levine	Sharon		2173
Levine	Sharon		2000
Levine	Susan		2173
Levingston	Serena		2173
Levins	Karen		2000, 2173
Levinsoh	Linda		2173
Levinson	Gilda		2173
Levisen	Martin		2173(u)
Levit	Nancy		2131
Levitan	Carol		2173
Levitt	Lacey		2000, 2173
Levitt	Michael/Robert		2131(1)
LeVous	P.		2173
Levy	Albert		2173
Levy	Angela		2173
Levy	Corinne		2173
Levy	Janet		2173
Levy	Leslie		2173
Levy	Mark		2173

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Levy	Stephen		2131, 2173
Lew	Michelle		2173
Lewallen	Tom		2173
Lewandowski	Timothy		2173
Lewin	Alexa-Sascha		2173
Lewin	Peter		2173
Lewins	Kim		2173
Lewis	Amy		2173
Lewis	Andrea		2000
Lewis	Ashley		2173
Lewis	Brenda		2173
Lewis	Brittany		2319
Lewis	Carolyn		2131
Lewis	Cassandra		2131
Lewis	Cynthia		2173
Lewis	David		2173
Lewis	Deborah		2173
Lewis	Deborah		2173
Lewis	Diane		2173
Lewis	Douglas		2173(u)
Lewis	Erma		2173(1)
Lewis	Heather		2173
Lewis	J		2173
Lewis	Jan		2173
Lewis	Janie		2000, 2173
Lewis	Jeff		2173
Lewis	Jody		2000, 2131, 2173
Lewis	Jovial		2000
Lewis	Joyce		2000
Lewis	Karen		2312
Lewis	Katherine		2173
Lewis	Kathleen		2173
Lewis	Kathleen		2173
Lewis	Kenneth		2131
Lewis	Kiera		2173
Lewis	Kimberly		2173
Lewis	Kristin		2173
Lewis	Laura		2173
Lewis	Lauren		2173
Lewis	Linda		2000
Lewis	Lisa		2173
Lewis	Lisa		2173
Lewis	Lorraine		2173
Lewis	Margaret		2173
Lewis	Mark		2173
Lewis	Mary		2173
Lewis	Melinda		2173
Lewis	Michele		2000
Lewis	O		2173
Lewis	Polly		2173
Lewis	Rebecca		2173
Lewis	Rena		2000(1)
Lewis	Rev Beverly		2000
Lewis	Richard		2000, 2173
Lewis	Rick		2131, 2173
Lewis	Rita		2173
Lewis	Roshan		2131
Lewis	Ruth		2173
Lewis	Sharon		2173
Lewis	Sherry		2000, 2131(u)
Lewis	Stefan		2173
Lewis	Susan		2000, 2173
Lewis	Tommy		2173
Lewis	Verlene		2173
Lewis	William		2173
Lewis	Zoe		2131
Lewis-Gunning	Sylvia		2173
Lexa	Debbie		2173
Lexa	Rebecca		2312
Ley	Cid		2173
Ley	Debora		2173
Ley	Mary		2000, 2258
Leyden	Anastasia		2173
Leyendecker	Cynthia		2173
Leyerle	Blake		2173
Leyva	Gilbert & Sonya		0059, 2000
Leyva	Jasmin		2173
Leyva	Sonya		2131
lheureux	Jole		2000
Li	Glen		2173
Li	LeeJung		2173
Li	Lily		2173
Liakos	Nina		2173
Liang	Alicia		2173
Lianzi	Theresa		2173
Libbey	Thomas		2173
Libby	Dominic		2173
Liberal	Carina		2173

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Liberge	Marcel		2000, 2131, 2173
Liberta	Karen		2173
Liberti	Joseph		2131
Liberty	Lance		2173
Liberty	Sandra		2173
Libis	Barbera		2173
Libke	Shelby		2031(u)
Libman	Amanda		2173
Libson	Aaron		2173
Licciardone	Carole		2173
Licht	Fred		2173
Lichtenberger	Wayne		2131
Lichtenbert	Bob		2173
Lichtenhan	Daniel		2131
Lichtenstein	Bradley		2131
Lichty	Cheryl		2131
Licini	Carol		2173
Liddy	Pat		2173
Liden	Robert		2173
Lidiya	Kryskiv		2173
Lieb	Louise		2173
Lieb	Reddy		2173
Lieban	Gayle		2131
Lieberman	Rhonda		2173
Liebert	Suzy		2173
Liebert	Veronica		2173
Liebson	John & PJ		2131, 2173
Liedike	Robert		2131, 2173(u)
Lieras	Mary		2173
Lies	Marilyn		2173
Liess	Linda		2173
Lifton	Paul		2173
Liggett	Cris		2173
Liggio	Eleanor		2000, 2173
Liggon	Kenneth		2131
Light	Gregory		2000, 2173
Light	John		2000
Light	Kathryn		2173
Light	Tracy		2173
Light	Wendy		2000
Lightbody	Kristen		2131(1), 2173
Lighthart	Myra		2173
Lightner	Robin		2173
Lightowler	Terry		2131
Ligon	Joan		2173
Lihou	Christopher		2173
Lihou	Denise		2173
Lilien	Elizabeth		2131
Lilith	Ms		2131, 2173
Lillegard	Sarah		2031(u)
Lillig	Pamela		2173
Lilly	Frank		2131
Lillywhite	Lesley		2131, 2173
Lilyquist	Matthew		2000
Lim	Benson		2173
Lim	Ileana		2031(u)
Lima	Chris		2000(1), 2173
Lima	Paul		2173
Limbach	Pete		2131(2)
Limonadi	Shahaneh		2173
Limperis	Stephen		2173
Lin	Ching-yi		2173
Lin	Danielle		2031(u)
Lin	Jennifer		2131
Linam	Stephanie		2173
Linares	Eli		2173
Linares	Rayvlinares		2131
Linback	Peter		2173
Lincicome	Betsy		2131
Lincoln	Marcia		2131
Lincoln	Rebecca		0290, 2228
Lincoln	Sarah		2173
Lind	Lanette		2173
Lind	M		2173
Lind	Michelle		2173
Lind	Rachael		2131, 2173
Linda	John		2131
Lindabury	Sally		2173
Lindaman	Chyanne		2000, 2173
Lindamood	Alexander		2319
Lindamood	Jenny		2173
Lindau	Roselind		2173
Lindberg	David		2131
Lindberg	Robert		2173
Lindberg	Susan		2173
Lindell	Susan		2173
Lindemuth	Carrie		2173

Last Name	First Name	Org	CIN
Linden	S		2173
Linden	Steven		2173
Linden	Tanina		2173
Lindenbacher	Dany		2173
Linder	Dana		2173
Linder	Kay		2131
Linder	Nancy		2000, 2173
Linder	Patty		2000
Linderman	Michael		2173
Lindewirth	Kari		2131
Lindgren	Connie		2173
Lindgren	Jean		2000
Lindgren	Kristie		2173
Lindh	Carrie		2000, 2173
Lindhen	Sakari		2173
Lindner	Vicki		0180
Lindquist	Camille		2173
Lindquist	Steven		2131
Lindsay	Helen		2173
Lindsay	James		2312
Lindsay	James		2173
Lindsay	Leslie		2173
Lindsay	Pat		2131
Lindsey	Joey		2131
Lindsey	Lauren		2173
Lindsey	Marisa		0012, 2056, 2131
Lindsey	Ramona		2173
Lindsey	Robin		2173
Lindsey	Victor		2031
Lindsley	Ann		2173
Lindstrom	Steve		2173
Line	Norma		2173
Linehan	Victoria		2173
Linerud	Tim		2173
Lines	Nancy		2173
Lingo	Leonard		2173
Linhares	Luciana Côrtes Fernandes		2173
Linhart	June		2173
Lininger	Steve		2173
Link	Laura		2173
Link	Patricia		2173(u)
Link	Peggy		2000
Link	Suzanne		2173
Link	Tracey		2131
Linkin	Vicki		2000, 2131
Linklater	Daniel		2131
Link-New	Virgene		2000(u)
Linkous	Amanda		2173
Linn	Brandon		2173
Linn	Karen		2173
Linn	Ruth		2173
Linnane	David		2173
Linsky	David		2173
Lint	Tara		2173
Linton	Patrice		2173
Linville	Alan		2173
Lion-Storm	Nancy		2000
Lipcsey	Todd		2173
Lipinski	Joe		2131
Lipka	Francine		2173
Lipman	Deborah		2173
Lipmanson	Patricia		2173
Lippard	Lucy		2131
Lipper	Carol		2173
Lippert	Rebecca		2173
Lippiello	John		2173
Lippman	Susan		2173(u)
Lipson	Robert		2131
Lipson	Virginia		2131, 2173
Lipstreu	David		2173
Liptak	Barbara		2000
Liptak	Linda		2173
Lira	Patti		2173
Lira	Stefon		2173
Liriano	Monica		2031(u)
Lisa	Shaw		2173
Liscinsky	Carol		2173
Liscomb	Melissa		2000, 2173
Lish	Christopher		2173(u)
Lish	M.		2173
Lisi	Julius		2173(u)
Lisiewski	Kitrina		2173
Lisowski	John		2173
Liss	Mary		2173
Liss	Renee		2173
Lister	Linda		2031(u), 2131(1)
Littelmann	Thomas		2173
Little	Ann		2173
Little	Bethal		2131

Last Name	First Name	Org	CIN
Little	Cathy		2131
Little	Janina		2031(u)
Little	John		2173
Little	Katie		2173
Little	Margaret		2296
Little	Michael		2131
Little	Paula		2173
Little	Robyn		2173(u)
Little	Shannon		2173
Littleman	Tina		2131
Littmann	Mike		2173
Littrell	Jane		2173
Litvak	Gale		2131
Litvin	Danil		2131
Liu	BIll		2131
Liu	Roy		2173
Livant	Barbara		2173
Lively	Pamela		2173
Lively	Susan		2131
Livengood	Bonnie		2131
Livernois	Chantal		2173
Livesey-Fassel	Elaine		2173
Livingston	Cynthia		2173
Livingston	Elaine		2173
Livingston	Joan		2000
Livingston	Tawnee		2131
Lizak	Bernard		2173
Llamas	L		2173
Lledo	Gina		2173
Llewellyn	David		2173
Llewellyn	James		2173
Llewellyn	Pamela		2312
Lloyd	Valerie		2173
Loacker	James		2131
Loats	Carol		2131
Lobel	Colleen		2000(1), 2173
LoBuono	Joanne		2173
Lochner	Kathy		2131
Locicero	Jessica		2131
Lock	David		2173
Locke	Cynthia		2173
Lockett	Loretta		2131
Lockhart	Christine		2173
Lockhart	James		2312
Locklair	Jonathan		2173
Lockman	Gerri		2173
Lockman	Stacey		2173
Lockridge	Ross		2000(u), 2131(u)
Lockton	Teri		2173
Lockwood	Christina		2173
Lockwood	Jennifer		2131
Lockwood	Kim		2173
Lockwood	Peter		2131(1), 2173
Loden	Mo		2031
Loe	Peggy		2173
Loe	Steve		2173, 2312
Loeb	Margaret Smith		2173
Loebel	John		2173
Loebl	Robert		2173
Loechell	Niels		2131
Loehr	Cameron		2131
Loerky	Margot		2173
Loewe	Sandra		2173
Loewenstein	Cathy		2173
Loewer	Vera		2000
Loewy	Alfred		2173
Loeza	Alicia		2000
Lofroos	Kit		2000
Loftin	Nancy		2000, 2131(u), 2173(u)
Loftis	Shelia		2173
Logan	Ann		2173
Logan	Bob		2173
Logan	Chris		2131
Logan	Frances		2173
Logan	Jane		2173
Logan	Kelly		2173
Logan	Marilyn		2173
Logan	S		2000
Logan	T		2173(u)
Loginova	Yana		2173
Lohli	Arline		2000(1), 2173
Lohman	Wendy		2173
Lohmar	Eric		2173
Lohnes	Vida		2173
Lohr	Margaret		2173
Lohr	Marilyn		2131, 2173
Lois	Laura		2173
Loizides	Thomas		2173
Lok	Isabella		2131
Lokensgard	Linda		2173

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Lokensgard	Linda		2000
Lokey	Ann		2173
Lomaka	Christine		2173
Lomas	Leslie		2131
Lombard	Caroni		2173
Lombard	Richard		2173
Lombardi	Bob		2173
Lombardi	Donna		2131(u)
Lombardi	Michael		2000, 2173
Lombardi	R J and Sandra		2131
Lommel	Lois		2173
Lomprey	Hunter		2031(u)
London	Joy		2173
London	Sandy		2173
Loney	Sandy		2173
Long	Carrie		2131
Long	Catherine		2173
Long	Cliff		2173
Long	Cynthia		2173
Long	Deborah		2000
Long	Janice		2173
Long	Jared		2131
Long	Judy		2131
Long	Kristina		2173
Long	Laura		2173
Long	Linda		2312
Long	Loretta		2173
Long	Mary		2173
Long	Nancy		2131
Long	Patricia		2173
Long	Patricia		2131
Long	Patricia		2173
Long	Patrick		2173
Long	Paula		2173
Long	Quincy		2131
Long	Robin		2173
Long	Ryan		0244
Long	Steven		2173
Long	Susan		2173
Longden	Kathy		2173
Longever	Jordan		2173
Longhenry	Carol		2173
Longley	Neil		2173
Longley	Richard		2173
Long-Lusk	Sandy		2173
Longmore	Claudia		2173
Longo	Elaine		2173
Longo	Stephanie		2131
Longoni	Robert		2131
Longoria	Juan		2173
Longoria	T.		2173
Longville	Rachel		2173
Longyear	Sharon		2000, 2173
Loo	Chris		2173
Looman	Lora		2000
Loomba	Mary		2173
Loomis	Rea Ann		2131
Looney	Ernie		2173
LooneyKochie	Lois		2312
Loonsfoot	Tina		2131
Loos	Elisabeth		2173
Loose	Susan		2000
Loosli	Ed		2008
Loper	Matthew		2173
Lopera	Yvonni		2173
Lopes	Cristina Paixão		2173
Lopes	Maria		2000
Lopez	Andrea		2173
Lopez	Bonnie		2173
Lopez	Carolina		2131
Lopez	Iliana		2173
Lopez	IM		2173
Lopez	Kimberly		2131
Lopez	Mara		2173
Lopez	Mary		2173
Lopez	Raul		2173
Lopez	Ron		2173
Lopez	Rosa		2173
Lopez	Susan D.		2000, 2173
Lopez	Ximena Suarez		2131, 2173
Lopez, Jr.	Merovingian Native American Baldamar Franco Baca		2173
Lopresto	Mark		2000
Lord	Christopher		2000
Lord	Gail		2000
Lord	Herbert		2173
Lord	Michelle		2000
Lordi	Gail		2173
Lorentzen	Robin		2173
Lorenz	Marina		2173

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Lorette	Len		2173
Lorey	Jeanene		2173
Lorga	Cristina		2173
Lorie	Craig		2173
Lorig	Constance		2173
Lorimer	Dan		2173
Lorimer	Joel		2000, 2131
Lorito	Geri		2173
Lorkiewicz	Candace		2173
Loro	Karen		2000
Lorraine	Hilary		2000
Lostetter	Kathie		2131
Lotito	Mark		2000
Lott	Kelly		2173
Lott	Sherri		2173
Lotz	Jude		2000
Lotz	Kathryn		2173
Loucks	Cynthia		2000, 2173
Loucks	Jeri		2173
Loudis	Catherine		2173
Louie	Denise		2000
Louie	Mei-Ling		2000
Louie	Norma		2173
Louis	Kristin		2173
Louise	Wanda		2173
Loupee	Angela		2031(u)
Loustaunau	Martha		2131
Louvier	Amy		2173
Louvis	Judith		2173
Lovan	Kathleen		2173
Lovas	Liana		2173

Last Name	First Name	Org	CIN
Love	Allison		2173(u)
Love	Darcy		2173
Love	Jane		2131
Love	Jerri		2173
Love	Kathleen		2173
Love	Lori		2173
Love	Sarah		2000
Love	Sheryl		2131
Lovelace	Lanelle		2173
Loveland	Jim/James		2000, 2173, 2312
Loveless	Brenda		2173
Loveless	Karyn		2173
Loveless	Michael		2173
Loveless	Peggy		2173
Lovell	Pat		2173
Lovell	Patti		2173
Lovell	Stephanie		2173
Love-Nicholson	Charlene		2131
Loventhal	John		2173
Lovering	Scott		2173
Lovernick	Darlene		2173
Lovett	Karen		2173
Lovett	Kirsten		2173
Lovich	James		2173
Lovig	Jayne		2000, 2173
Loving	C		2131
Lovingood	Vivian		2131
Low	Loretta		2031(u), 2131
Low	Richard		2173

Last Name	First Name	Org	CIN
Lowden	Barbara		2173
Lowe	Amanda		2173
Lowe	Erma		2173
Lowe	Joanne		2131
Lowe	John & Diane		2173
Lowe	Josephine		2173
Lowe	Kay		2000
Lowe	Kimberly		2000, 2131
Lowe	Leah		2131
Lowe	Margaret		2173
Lowe	Margot		2000, 2173
Lowe	Nancy		2173
Lowe	Pat		2173(u)
Lowe	Ryan		0179
Lowe	Stephen		0020
Lowe	Susan		2173
Lowell	Dwight		2173
Lowenberg	Pat		2173
Lowery	Earl		2173
Lowery	Karen		2000
Lowery	Kelly		2173
Lowes	DR		2031(u)
Lowman	Keely		2173
Lowndes	Rebecca		2131
Lowney	Carrie		2173
Lowrance	Herb		2173
Lowrance	Karen		2173
Lowrey	Donita		2000, 2131, 2173
Lowrey	Josephine		2173

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Lowry	Erika		2173
Lowry	Lyn		2149, 2173
Lowry	Marsha		2173
Loyd	Susanne/ Susannel		2131, 2173
Lozano	Donna		2131
Lozon	Kristina		2173
Lozon	Rob		2173
Lozon	Sharon		2173
Lozoraitis	Helen		2173
Lubin	Diana		2173
Lubin	Rega		2173
Lubin	T		2173
Lubliner	Karen		2131
Luboff	Tina		2173
Lubonty	Lawrence		2173(u)
Lubow	Barbara		2173
Lubow	Judy		2131
Luca	Janet		2173
Lucaciu	Lidia		2000
Lucas	Addie		2173
Lucas	Erin		2031
Lucas	Shannon		2173(u)
Lucas	Steven		2173
Lucchesi	Lisa		2173
Luce	Carrie		2000
Lucero	Marsha		2000
Luchetta	Phil		0128
Luchetta	Phillip		0058
Luchini	Benjamin		2131
Luciani	Paola		2173
Lucianna	Mark		2173
Luciano	Liana		2173
Luck	Joey		2173
Luck	Patricia		2173
Luckay	Jeffrey		2173
Luckoff	Michael		2173
Luczyszyn	John		2000
Ludbrook	Helen		2173
Ludi	Gary		2131
Ludke	Susan		2173
Ludlow	Marlene		2173
Ludolphia	Nicolette		2000
Ludwick	Heidi		2000, 2173
Ludwick	Russ		2173(1)
Ludwig	George		2173
Ludwig	Jack		2173
Ludwig	Kristin		2173
Lueb	Brian		2173
Luebbert	Melanie		2173
Lueders	Edward		2131
Luedke	Janis		2173
Luepke	John		2131(1)
Luetkemeier	Kristen		2131
Lugg	Loren		2173
Luhman	Barbara		2173
Luhtala	Natalie		2173
Luis	Sabrina		2173
Luiso	Mark		2173
Lukachy	Tammy/ Tamara		2000, 2031(u), 2173(u)
Lukas	Barbara		2173
Lukas	J		2173
Luke	Jaedra		2173
Lukensmeyer	Pat		2000, 2173
Lukich	Lyn		2173
Lukkari	Riitta		2173
Lukowitz	Wendy		2173
Lukso	Stephanie		2131
Lum	Christie		2173
Lumley	Julie		2131, 2173
Lumsden	Carol		2173
Lumsden	Linda		2131
Lumsden	Robert		2000
Luna	Darling		2173
Luna	Dennis		2000
Luna	Peggy		2000
Lunael	Dominic		2173
Lund	Jessica		2173
Lunde	Lauren		2173
Lundeen	Bill		2000, 2173
Lundell	Gina		2173
Lundgren	Janell		2000
Lundgren	June		2173
Lundgren	Scott		2173
Lundgren, MD	Alston		2131
Lundheim	Vanassa		2173
Lundquist	John		2173
Lundquist	Karen		2173
Lundquist	Mary		2173
Lundy	Monica		2000
Lundy	Stephanie		2031(u)
Lundy	Stephi		2319

Last Name	First Name	Org	CIN
Lunghi	Alyssa		2173
Lungwitz	Lisa		2173
Lunham	Lloyd		2173
Luomala	Katya		2173
Luongo	Rita		2131
Luparello	Rocio		2173
Lupe	Marcia		2173
Lupenko	Andy		2000
Lupien	Sue Ellen		2173
Lurtz	Jamie		2000, 2131
Luscalzo	Judith		2173
Luster	Cynthia		2173
Lustgarden	Steve		0249, 2000
Lustig	Lauren		2131
Luther	Doris		2173
Luthy	Judi		2173
Lutterman	Jann		2131(1)
Luttrell-Rowan	Teri		2173
Lutz	Ashley		2173
Lutz	Cheryl		2131
Lutz	Diane		2173
Lutz	Karen		2173
Luu	Eric		2131
Luu	Jane		2173
Lux	Andrea		2173
Lux	Cynthia		2131
Luzader	Tina		2173
Lyall	Andrew		2000, 2173
Lyda	Mary		2000, 2173
Lyday	Dennis		2180
Lydecker	Stacy		2131
Lydon	Sharon		2131
Lyford	Skip		2173
Lyke	Jennifer		2131
Lyke	Judith		2131
Lyle	Katherine		2173
Lyman	Lesley		2173
Lyman	Mary		2173
Lyman	Michael		2131
Lyman	Teresa		2173
Lynch	Andrea		2173
Lynch	Catherine		2131
Lynch	Cindy		2173
Lynch	Cynthia		2173
Lynch	Debbie		2000
Lynch	Deborah		2173
Lynch	James		2173
Lynch	Jaremy		2000, 2173
Lynch	Jennifer		2173
Lynch	Jonathan and Cynthia		2131(u)
Lynch	Joyce		2173
Lynch	Karen		2173
Lynch	Linda		2131
Lynch	Maureen		2173
Lynch	Michael		2000
Lynch	Richard		2131
Lynch	Rosann		2173
Lynch	Theresa		2173
Lynch	Verena		2000
Lynch	W.		2131
Lynch-Knight	Victoria		2173
Lyndale	Patricia		2173
Lynn	Amanda		2173
Lynn	Dawn		2173
Lynn	Rod		2173
Lynn	Sandy		2173
Lynn	Stuart		2173
Lyon	Barbara		2131
Lyon	Barbara		2173(u)
Lyon	Billie		2173
Lyon	Celene		2173
Lyon	Chris		2173
Lyon	Cynthia		2173
Lyons	Connie		2173
Lyons	Jasmine		2131, 2173
Lyons	Kay		2131
Lyons	Margaret		2000
Lyons	Marsha		2173
Lyons	Pamela		2000, 2173
Lytle	Cynthia		2173
Lytle	Denise		2000, 2131
Lytle	Gail		2000
Lytle	Jessie		2000
Lytle	Matthew		2000
Lytle	Yvette		2173

M

Last Name	First Name	Org	CIN
M	Anita		2173
M	Anna		2000

Last Name	First Name	Org	CIN
M	Bob		2000, 2131
M	Bree		2173
M	Frances		2173
M	G		2173
M	J		2173
M	J.		2173
M	Joe		2173
M	June		2173
M	June		2131
M	K		2000(1)
M	Lindsay		2131
M	Rachelle		2173
M	Ruth		2000
M	Sam		2173
M	Shira		2173
M.	Brian		2031
M.	Gina		2173
M.	Lara		2173
M.	Mike		2173
Ma	Katelyn		2131
Maas	Monique		2173
Mabery	John		2312
Mabrey	Elizabeth		2131
Mabry	Mary		2173
Mabry	Monica		2173
Mabry	Toni		2131, 2173
Mac Donald	Nilah		2173
Mac Nish	Robert		2131
MacAdam	Holly		2173(u)
MacAlpine	Barbara		2000, 2173
MacAlpine	Gordon		2131, 2173
Macan	Catherine		2000, 2173
Macan	Edward		2173
Macarilla	Liz		2173
MacArthur	Robert		2173
Macartney	Bill		2131, 2173
MacAulay	Johanna		2173
Macaulay	Wainani		2173
Macavery	Tristan		2173
MacCallum	Crawford		2131
MacCallum	Susan		2173
Maccaro	Lisa		2173
Macchi	Giulia		2173
Maccini	Michael		2173
MacComb	Alan		2173
Maccrindle	C		2173
Macdonald	April		2173
Macdonald	Emily		2173
MacDonald	Janette		2000
MacDonald	Jeri		2173
MacDonald	Joan		2173
Macdonald	Judith		2173
Macdonald	Kevin		2173
Macdonald	Nina		2173
Macdonald	Tracey		2173
MacDonald	Wayne		2131
MacDonnell	Jo Ann		2173
MacDougall	Barbara		2173
Mace	Colleen		2173
Mace	Pat		2000
Macellaio	Matthew		2031(u)
MacFarlane	Adrienne		2000, 2173
MacFarlane	Jo-Ann		2173
Macfarlane	Peter		2173(u)
Machka	Debra		2173
Macias	Gina		2173
Macias	Marlene		2173
Macias	Sherry		2000, 2173
Maciel	Marie		2173
Macina	Vicki		2173
MacIsaac	Virginia		2000
Mack	Autumn		2173
Mack	Gail		2131
Mack	Linda		2312(u)
Mackall	Theodore		2173
Mackanic	Janice		2000
MacKay	Bonnie Jean		2173
Macke	Barbara		2173
MacKelvie	Elizabeth		2173
MacKenzie	Anna		2131
Mackenzie	Don		2000
Mackenzie	Janice		2131
MacKenzie	Linda		2131
MacKenzie	Michelle		0294, 2173, 2312
Mackenzie	Penny		2000, 2173
Mackenzie	Valerie		2173
Mackett	David		2117
Mackey	Elizabeth		2173
Mackey	Rachel		2131

Last Name	First Name	Org	CIN
Mackiewicz	Frances		2000
Mackillop	Alan		2173
MacKinnon	Bonnie Lynn		2000, 2131(1)
Mackison	George		2173
MacLafferty	Michael		2173
Maclaine	Craig		2000
MacLamroc	Alan		2173
Maclaurin	Kirby		2131
MacLean	Dawn		2173
MacLennan	Melanie		2173
MacLeod	Andi		2173
MacLeod	Beverly		2173
MacLeod	Keith		2173
MacLeod	Ramsay		2173
MacLeod	Soozi		2173
MacMillan	Paulette		2173
Macmurray	Christine		2173
MacNamara	Tara		2173
MacNeil	d'Anne		2131
MacNeil	Elizabeth		2173
Macomber	Jessica		2173
Macomber	John		2000
MacPherson, Ph.D.	Malcolm		2000(u), 2131
Macrae	Amber		2173
MacRae	Diann		2173
Macraith	Bonnie		2009, 2173(u)
Macunovich	John		2173
Macvicar	Mary		2173
Macy	Cecilia		2173
Macy	Michelle		2000
Maddalena	B/Barbara		2000, 2173
Madden	Ann		2173
Madden	Colleen		2173
Madden	Heather		2173
Madden	Maryann		2173
Madden	Susanne		2000
Madden	Tony		2173
Madden-Bentle	Kathy		2000
Maddock	June		2173
Maddox	Karen		2173
Maddy	Coleen		2173
Mader	Barbara		2131
Mader	Jose		2319
Mader	Patricia		2173
Mader	Teri		2131(u)
Madero	Joe		2131
Mades	Natalie		2173
Madigan	Maureen		2173
Madla	Alex		2031(u)
Madole	Cathy		2173
Madon	Sandra		2173
Madonna	Jane		2173
Madsen	Jill		2000, 2131, 2173
Maeda	Angela		2173
Maehr	Erin		2000
Maes	Simone		2000
Maestro	Betsy		2000, 2131, 2173
Magahan	Lisa		2173
Magal	Phyllis		2173
Magalas	Mariechristina		2173
Magalini	Lina		2173
Magana	Daniel		2031(u)
Magana	Susan		2173
Magarian	Robert		2173
Magaziner	Sally		2173(u)
Mage	Jean		2173
Magee	C. Sharyn		2173(u)
Magee	Paul		2173
Magennis	Daniel		2173
Mager	Lynne		2131
Maggiore	Kristie		2173
Magie	Bambi		2173
Magill	Judith		2173
Magill	Kathleen		2131
Magliola	Lawrence		2173
Magnan	Ronald		2000(1)
Magnavito	Anthony		2173
Magne	Kathy		2131, 2173
Magnuson	Barbara		2131(u)
Magpantay	Yolanda		2173
Magri	Linda		2000
Magri	Linda		2173
Magruder	Christi		2173
Magruder	Graeme		2173
Magruder	Karen		2131(1)
Magtutu	Gabe		2173
Maguire	Sara Anne		2173
Magyar	Linda		2173
Mahaffey	Corinne		2173

Last Name	First Name	Org	CIN
Mahaffie	Mary		2173
Mahajan	Sumeet		2173
Mahan	Ann Pilkington		2173
Mahaney	Lilly		2131(1)
Mahder	Debbie		2173
Maher	David		2173
Maher	Juanita		2173
Maher	Mary		2173
Mahery	Joan		2173
Maheu	Vicki		2173
Mahlan	Kirk		2131
Mahler	Sarah		2079
Mahler	Sarah		2031(u)
Mahoney	John		2173
Mahony	Elizabeth		2173
Maia	Maria		2000(1)
Maibom	Heidi		2173
Maida	Alice		2173
Maiello-Lacey	Anne		2173
Maier	Frank		0085
Maillet	David		2173
Mailloux	Marian		2173
Main	Peggy		2173
Maines	Michael		2173
Maines	Warren		2173
Mainland	Edward		2173
Mains	Adam		2131
Maio	Larry		2173
Maiolatesi	Jan		2173
Maire	David		2031(u)
Mais	Gretchen		2000
Maish	Sally		2173
Maisky	Lily		2000
Maison	Michelle		2173
Maisongrande	Frederic		2173
Maité	Paloma	UNLV Native American Student Assoc-iation	3051
Maitland	Diana		2173
Maitre	Florian		2131
Maizel	Yefim		2173
Majdalani	Kathleen		2173
Majerowicz	Eugene		2173
Majerowski	Rhae		2173
Majeski	Wanda Lee		2173
Majors	James		2173
Maker	Janet		2173
Maker	June		2000
Makhlouf	Melanie		2173
Maki	Bettye		2173
Makiewicz	Rhonda		2173
Makiewicz	Tim		2173
Makowski	Mjane		2173
Makris	Carol		2173
Malacrida	Linda		2173
Malapira	Marigelle		2107
Malavanya	Lynda		2173
Malcher	Susan		2031
Malcolm	Karen Kravcov		2000
Malcolm	Susan		2131
Malcom	Carol L		2173
Malcomson	Jene		2173
Maldonado	Paul		2173
Malec	Natalie		2173
Malenky	Alexi		2173
Maley	C.		2173
Malfatone	Dawn		2173
Malgà	Jordi		2000
Malick	Vicki		2173
Malik	Jennifer		2173
Malin	Marny		2173
Malinauskas	Helen		2173
Malinowski	Linda		2173
Malisch	Rosa		2000, 2131
Mallahan	Lisa		2173
Maller	Bonnie		2173
Mallery	Patricia		2173
Mallett	Ana		2131
Mallett	Becky		2173
Mallinson	Cathy		2173
Mallon	Anne-Marie		2173
Mallon	Barbara		2173
Mallon	Tracy		2173
Mallory	Barbara		2131, 2173
Mallory	Janeth		2173
Mallory	Jesse		2173
Mallory	Larie		2173
Mallory	Nancy		2173
Mallory	Randall		2173
Mallory	Richard		2131
Mallouh	Janette Morrell		2173(u)

Last Name	First Name	Org	CIN
Malloy	Jamie		2173
Malmborg	Eric		2173
Malnichuck	Mark		2173
Malo	Christopher		2173
Maloley	Paula		2173
Malone	Annie		2000
Malone	Joyce		2031(u)
Malone	Marsha		2173
Malone	Samantha		2319
Malone	Sheila		2173
Malone	Terry		2131
Malone	Theresa		2173
Maloney	Bonnie		2173
Maloney	Cheryl		2173
Maloney	Margaret		2173
Maloney	Maria		2173(u)
Maloney	Patrick		2173
Maloney	Philip		2131, 2173
Maloney-Brown	Patricia		2173
Malpass	Betsy		2173(u)
Malpiede	Karly		2131, 2173
Malpus	Rita		2173
Malsheimer	John		2173
Malven	Tania		2000
Malven	Tania		2131
Malvin	Donna		2173
Maly	Peter		2000
Malyon	Ann		2173
Malyon	Ann		2000
Malzer	Hannelore		2173
Mamary	George		2173
Mamone	Virginia		2031
Man	Cave		2131(1)
Manalio	Patrick		2173
Manchester	Austin		2173
Manchester	Logan		2173
Manchester	Margaret		2131
Manchester	Sharon		2173
Mancinelli	Luke		2173
Mancini	Al		2173
Mancini	Lauren		2173
Mancino	Evelyn		2131(u), 2173
Mancuso	Jennifer		2000(u)
Mand	Kiran		2173
Mande	Jace		2000, 2173
Mandel	Bonnie		2173
Mandel	Tatiana		2173
Mandelbaum	Ilene		2173(u)
Mandell	Sheila		2000
Mander	Linda		2000
Manders	Jen		2173
Manegre	Debra		2173
Mangan	Shelley		2173
Mangels	Christopher		2173
Manger	Jim		2131
Manges	Edd		2173
Mangini	Gale		2000
Mangum	Sarah		2173
Mangum	V		2246
Mangus	Tracey		2000, 2173
Manheim	Janine		2312
Manio	Elaine		2000
Manion	Michaelene		2131(u)
Manion	Penny		2173
Maniscalco	Bonnie		2173
Manjarrez	Tanya		2173
Manji	Ish		2173
Manke	Michelle		2173
Mankowski	Sarah		2173
Manley	David		2173
Mann	Billie		2173
Mann	Doreen		2173
Mann	Jeffrey		2173
Mann	Judy		2173
Mann	Kathy		2131(1)
Mann	Louise		2173
Mann	Ray		2173
Mann	Renee		2173
Mann-Hielscher	Galia		2000(1)
Manning	Alexandra		2173
Manning	Jennifer		2031(u)
Manning	K		2000
Manning	Laura		2173
Manning	Laura		2173
Manning	Laurie		2173
Manning	Lynore		2173
Manning	Patricia		2131
Manning	Terry		2173
Mansbridge	Beth		2000
Mansfield	Cade		2131
Mansfield	George		0263
Mansfield	Linda		2000
Mansfield	Linda		2173

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Mansfield	Lynn		2173
Mansfield	Mark		2173
Mansfield	Mary		2173
Manske	Amber		2000, 2131
Mansour	Jason		2000
Mantell	Robert III		2173
Mantinband	Margaret		2131
Manuat	Derrick		2031
Manwaring	Celeste		2173
Manz	Laura		2173
Manzene	Maureen		2173
Manzer	Bryan		2173
Manzer	Marlene		2173
Manzi	Jennifer		2131(1)
Manzi	Paula		2173
Manzo	Mario		2131
Mapes	Jenny and David		2000
Maples	Stephen		2031(u)
Maragon	Lisa		2131
Maraldo	Mario		2173
Maranowski	Erica		2173
Marashinsky	Amy Sophia		2173
Marble	Nicole		2173
Marc	Charles		2173
Marcacci	Carole		2131
Marcel	Lorretta		2173
March	Patricia D		2173
Marchant	Robert		2173
Marchese	John		2173
Marchesi	Fred		2131
Marchi	Jamie		2173
Marchitto	Lynn		2173
Marchman	Sharon		2173
Marcho	Cheryl		2173
Marchock	Judith		2131
Marciano	Dorothy		2000
Marciante	Sandra		2173
Marcille	Christopher		2173
Marciniak	Monica		2173
Marcotte	Isabelle		2173
Marcotte	Keith		2173
Marcovecchio	Chuck		2173
Marcum	Annabell		2173
Marcus	Eugenia		2173
Marcus	Jack David		2173
Marcus	Melissa		2173
Marcy	Jessica		2131
Marczyk	Cathy		2173
Marek	Cj		2173
Marek	Corinne		2173
Marek	Michael		2131
Mares	Anais		2131
Margo	Kirk		2173
Margolis	Gary		2131
Margolis	Larry/ Laurence		2000, 2173
Margolis	Margo		2173
Margulies	Cheryl		2173
Margulies	Lee		2173
Margulis	Elise		2173
Marhon	Jeremy		2173
Mari	Denise		2173
Mari	Natalie		2000
Marianetti	Betty		2131
Mariani	Eugene		2173
Mariani	Michael		2173
Mariano	Susan		2173
Mariano-Simmons	Marie		2131, 2173
Marie	Catherine		2173
Marie	Christine		2173
Marie	Jullien		2173
Marie	Krystalya		2131
Marie	Shari		2131
Marie	Sylvia		2173
Mariebucher	Anne		2173
Marilley	Rachelle		2000
Marin	Debra		2156
Marin	Heather		2173
Marinakis	Marie		2173
Marino	Dominic		2173
Marino	Michele		2173
Marino	Nate		2173
Marino	Patricia		2131
Marinos	Annie		2031(u)
Marins	Tina		2173
Marion	Carolyn		2173
Mariorenzi	Maria		2173
Mariott	Jerri		2173
Maris	Bonnie		2000
Maris	Susann		2131
Marittimi	Sole		2131, 2173
Mark	Darian		2173
Mark	Ilene		2173
Mark	Robert		2131(1)

Last Name	First Name	Org	CIN
Markaryan	Stephan		2173
Marker	Burt		2173
Markett	Gail		2173
Markevich	Alex		2131
Markevich	Christel		2131, 2173
Markham	Ann		2173
Markham	Dorryann		2173
Markham	Gary		2131
Markham	Gary		2173
Markham	John		2173
Markillie	Paul		2173
Markley	Larry		2173
Markoe	Kevin		2173
Markoff	Rachel		2312
Markoff	Randy		2173
Markovich	Maya		2173
Markowitz	Susan		2312
Marks	Helen		2173
Marks	Jeremy		2173
Marks	Julie		2000
Marks	Martha		0166
Marks-Curatolo	Eva		2173
Markushewski	John (Edward)		2000, 2173(u)
Markus-Walczak	Kathleen		2000, 2131
Markward	Linda		2000
Marley	Yvonne		2131, 2173
Marlow	Margaret		2173
Marmolejo	Marsha		2000
Marmont	Tony		2131
Marne	Marielle		2000, 2131
Marone	Regina		2173
Marone	Susan		2173, 2312
Maron-Friend	Judith		2173
Maronge	Peter		2173
Marotta	Theresa		2173
Marotta	Tracy		2173
Marquart	Frances		2173
Marquart	Nicholas		2091
Marquart	R/Ron		2000(1)
Marquee	Jamie		2319
Marquez	Connie		2173
Marquez	Sharon		2173
Marquis	Kathy		2173
Marquis	Thomas		2000
Marr	Rhonda		2000
Marra	Albert		2312
Marra	Angela		2173
Marra	Tony		2173
Marrero	Peter		2173
Marriot	Laurie		2000
Marro	John		2173
Marrone	Corinne		2173
Marroquin	Angelica		2031(u)
Marrs	Cynthia		2000, 2173
Marrs	Randy		2131
Marrs	Tracy		2173
Mars	Rachel		2173
Marsala	Joe		2000
Marsalis/ Catches	Diane/ Marge		2173
Marschner	Sandra		2000
Marsh	Andrea		2173
Marsh	Diana		2173
Marsh	Marion		2173
Marsh	Nancy		0196
Marsh	Sheryl		2173
Marsh	Susan		2173
Marsh	Tiffany		2173
Marshall	Angelle		2173
Marshall	Betsy		2173
Marshall	Beverly		2173
Marshall	Charles		2173
Marshall	Corey		2173
Marshall	Craig		2131
Marshall	Dorrine		2173
Marshall	Erin		2173(u)
Marshall	Isabel		2131
Marshall	Jacque		2173
Marshall	Karen		2173
Marshall	Linda		2173
Marshall	Raymond		2173
Marshall	Rebecca		2173
Marshall	Robert		2143
Marshall	Senseney		2173
Marshall	Shannon		2173
Marshall	Tariq		2131
Marsico	Brett		2173
MartÃnez	John		2173
Martell	Jon		2173
Martello	Linda		2173

Last Name	First Name	Org	CIN
Marten	Bethany		2173
Martens	Jeannie		2173
Martens	Linda		2173(u)
Marth	Jamey		2173
Marti	Kathryn		2131
Martick	Monika		2173
Martie	Al		2068
Martien	Rebecca		2131
Martillo	Roxana		2173
Martillo	Ruth E.		2173
Martin	Amy		2173
Martin	Ann		2131
Martin	Ashley		2173
Martin	Brian		2000
Martin	Bronte		2173
Martin	C.		2173
Martin	Candice		2000, 2173
Martin	Carmel		2131
Martin	Cathy		2000, 2173
Martin	Charles		2131
Martin	Cheryl		2131
Martin	Chris		2131
Martin	David		2173
Martin	Deborah		2173
Martin	Debra		2031(u)
Martin	Dick		2173
Martin	Drew		2173(u)
Martin	Drew		2312
Martin	Gayle		2173
Martin	Harry		2173
Martin	Jaime		2173

Last Name	First Name	Org	CIN
Martin	James		2000
Martin	Jennifer		2173
Martin	Jill		2173
Martin	Joanna		2173
Martin	John		2173
Martin	Judith		2131
Martin	Julia		2131
Martin	Julie		2131
Martin	Kathleen		2173
Martin	Kay		2173
Martin	Kim		2131
Martin	Larry		2173
Martin	Leslie		2173
Martin	Lisa		2173
Martin	Lisa		2173
Martin	Liza		2000
Martin	Lynn		2000, 2173
Martin	Margaret		2173
Martin	Margie		2173
Martin	Marilyn		2000
Martin	Mark		2173
Martin	Martin Linda		2173
Martin	MaryJoy		2131
Martin	Melanie		2173
Martin	Melissa		2173
Martin	Michael		2173
Martin	Michael		2173
Martin	Michele		2173
Martin	Nancy		2000
Martin	Nancy		2173
Martin	Nancy		2173

Last Name	First Name	Org	CIN
Martin	Nancy		2131
Martin	Oscar		2000
Martin	Patrick		2131
Martin	Priscilla		2173
Martin	Randee		2173
Martin	Raymond		2173
Martin	Rick		2173
Martin	Robert		2131
Martin	Roleigh		2031(u)
Martin	Ronald		2173
Martin	Ryan		2131
Martin	Sallie		2000
Martin	Sheila		2173
Martin	Stacy		2173
Martin	Sue		2131
Martin	Susie		2173
Martin	Teresa		2173
Martin	Tim		2173
Martin	Tina		2173
Martin	Tobe		2131
Martin	Tracey		2173
Martin	Victoria		2131
Martines	Sam		2031(u)
Martinez	Andrew		2173
Martinez	Ashleigh		2131
Martinez	Ben		2031(u)
Martinez	Claudia		2173
Martinez	Daniel		2173
Martinez	Donna		2173
Martinez	Janice		2173
Martinez	Jennifer		2000, 2131

Last Name	First Name	Org	CIN
Martinez	Joan		2131
Martinez	Katherine		2131
Martinez	Kathy		2131
Martinez	Laura		2173
Martinez	Lorraine		2173
Martinez	Megan		2173
Martinez	Minerva		2131
Martinez	Natalia		2173
Martinez	Priscilla		2173
Martinez	Ray		2173
Martinez	Raymond		2131
Martinez	Rose		2131
Martinez	Vanessa		2173
Martínez de Campos	Carla		2173
Martinez Jr.	Jose		2173
Martinez/M.	Keiko		2131, 2173
Martini	Denise		2000(1), 2131, 2173
Martini	Mae		2000
Martino	Amy		2031(u)
Martino	Kathleen		2173
Martino	Kaye		2131
Martins	Claudia		2173
Martins	Isabel		2000, 2173
Martire	R		2000
Martonhegyi	Miki		2173
Marts	A		2000
Martus	James		2173(u)
Marty	Susie		2000
Marugg	Brian		2173
Marwick	Jean		2173
Marx	Jaime		2173
Marx	Nicki		2131
Mary	McDonough		2173
Maryboy	Mark		2131
Marziale	Thomas/Thomad		2173(1)
Marzolf	Joy		2173
Masa	Erin		2173
Masanz	Timothy		2173
Masar	Jacki		2173
Maseda-Gille	Sheila		2173
Masek	Margaret		2173
Maslin	Cheryl		2173
Mason	Alison		2131
Mason	Dawn		2131, 2173
Mason	Elliot		2000, 2173
Mason	June Ann		2131
Mason	Kit		2173
Mason	Marion		2312
Mason	Marty		2173
Mason	Mary		2173
Mason	Mary		2173
Masoner	Jeri		2173
Masonturcios	Kimberly		2173
Masroor	Mariam		2173
Massa	Joy		2173
Massa	Martine		2000
Massanari	Patricia		2173
Massaro	Sherry		2000, 2031, 2173
Masse	Debbie		2173
Masser	Joel		2000
Massey	Caitlin		2131
Massey	Carolyn		2131, 2173
Massey	Cf		2173
Massey	Kathleen		2173
Massey	Sharon		2173
Massman	John		2000, 2312
Masson	Jill		2000
Massonneau	Christiane		2173
Massoubre	Ann Gould		2173
Mast	Caroline		2173
Mast	James		2173(u)
Mast	Joyce		2173
Mastalier	Lisa		2173
Masteller	Marianne		2173
Masters	Laura		2173
Masters	Mary		2173
Masters	Pam		2131, 2173
Masterson	Charles		2173
Masterson	Kate		2131
Mastrangelo	Katherine		2173
Mastri	Francis		2000, 2173
Mastro	Cynthia		2000
Masuda	Carol		2173
Masuda	Diljeet		2173
Masullo	Anne		2000
Matalone	Frank		2173
Matano	Eleanor		2173

Last Name	First Name	Org	CIN
Matare	Shannon		2173
Matarin-Bessiron	Anne		2173
Matchett	Eric		2131
Matelski	Lauren		2000
Matelsky	Jessica		2173
Materi	Sandra		2000, 2131, 2173
Matheny	Vicki		2000
Mather	Beth		2000
Mather	James		2173
Matherly	Norma		2131
Matherne	Christy		2173
Mathers	Madelyn		2173
Mathes	Barbara		2131, 2173
Mathes	Jean		2173
Mathews	Brianna		2173
Mathews	Christine		2173
Mathews	Dean		2173
Mathews	Holger		2173
Mathews	Michelle		2173
Mathews	Randy		0051, 0236
mathews	Ward		0261
Mathewson	Sally		2131
Mathias	Amy		2173
Mathias	Jeanette		2131
Mathias	John		2173
Mathis	Kalynn		2173
Mathis	Leanne		2173
Mathys	Sue		2131
Matkovic	Roberta		2173
Matlin	Thelma		2000
Matlin	Thelma		2131
Matlock	John		2173
Mato	Nancy		2173
Matonovich	Jan		2173
Matos	Lizette		2173
Matousek	Charlotte		2173
Matsui	Vicky		2173
Matt	J.		0297
Mattan	Steve		2173
Matte	Warren		2173
Matthes	Linda		2173
Matthew	Antonia		2173(u)
Matthew	Elaine		2173
Matthews	James		2173(u)
Matthews	Marilyn		2131
Matthews	Mark		2131
Matthews	Sam		2000(1)
Matthews	Sharon		2173
Matthews	Susan		2131
Matthias	Bryan		2173
Matthiensen	Alan		2131
Mattision	Priscilla		2000
Mattison	Lynda		2173
Mattke	Jean		2173
Mattoon	Joyce		2173
Mattson	Anna		2173
Mattson	Diane		2131
Mattson	Nancy		2173
Mattusch	Eleanor		2173
Matulina	Karen		2000
Matulyte	Daina		2173
Matusoff	Cathy		2173
Matuszak	Mary		2173
Mauck	Linda		2173(u)
Mauermann	Karen		2173
Mauet	Sarah		2131, 2173
Mauger	Jacques		2131
Maughan	Dianne		2131
Maughan	Margith		2173
Maul	Kim		2131
Maurer	Dennis		2173
Maurer	Hillary		2173
Maurer	Jim		2173
Maurer	Laurel		2131
Maurer	Susan		2173
Maurer	Thomas		2173
Mauriello	Chris		2173
Mausolf	Bonnie		2173(u)
Mauz	Norman		2173
Mauzey	Paul		2173
Mawhorter	Jerry		2000
Max	Patricia		2173
Maxell	Diana		2131
Maxfield	Casee		2173
Maxson	Gary		2173
Maxwell	Carl		2173
Maxwell	Leslie		2307
Maxwell	Lou Anne		2173
Maxwell	Lucia		2173(u)
Maxwell	Lynn		2173
Maxwell	Stephanie		2173
Maxwell	Stephen		2131

Last Name	First Name	Org	CIN
May	Bruce		2173
May	Dana		2173
May	Dave		2173
May	Francoise		2173
May	Joanne		2173
May	Joe		2173
May	Julie		2173
May	Kathleen		2000
May	Lana		2173(u)
May	Margaret		2173
May	Marylyn		2173
May	Michele		2312
May	Paige		2173
May	Patricia		2173
May	Paul		2000
May	Sylvia		2173
Mayberry	Joanne		2173
Maye	Elizabeth		2173
Mayer	Betty		2173
Mayer	Careese		2173
Mayer	Joseph		2173
Mayer	Karen		2173(u)
Mayer	Toni		2173
Mayer	Veronica		2173(1)
Mayers	Katherine		2173
Mayes	Laila		2173
Mayes	Susan and Steven		2131, 2173
Mayger	Bonnie		2173
Mayhew	Jon		2131
Mayhew	Sarah		2173
Maymi	Maritza		2131

Last Name	First Name	Org	CIN
Maynard	Linda		2173
Maynard	Linda		2173
Maynard	William		2173
Mayne	Shad		2000
Mayo	Alberta		2173
Mayo	Emily		2173
Mayo	Gail		2312
Mayo	Lisa		0131
Mays	Joyce		2173
Mays	Teresa		2000, 2173
Mays	Terry		2131
Maysonet	Melinda		2173
Mayville	LaDene		2173
Mazaika	Kathryn		2173
Mazar	Laura		2173
Mazar	Rachelle		2173
Mazias	Melissa		2000
Mazuji	Nasrin		2131, 2173
Mazur	Ed		2131
Mazuzan	Johnny		2173
Mazza	Penelope		2173
Mazza	Valentina		2173
Mazzitelli	Donna		2173
Mazzocco	Vida		2173
Mazzola	Lisa		2000(1), 2131(1), 2173
Mazzuoccolo	Kathleen		2173
Mc Birney	Joanne		2173
Mc Cullough	James		2131
Mc Iain	Cynthia		2173

Last Name	First Name	Org	CIN
Mc Roberts	James		2173
McAfee	Alan		2173
McAfee	Michelle		2173
McAfee	Nico/Nicolas		2000, 2173
McAlary	Rebecca		2173
Mcalear	Elissa		2131
McAlister	Aidan		2173
Mcalister	Diane		2173
McAlister	Kevin W.		2000(1), 2173
Mcallister	Ann		2173
McAllister	Cheryl		2173
McAlpine	Tracy		2000
McAnally	Jennifer		2173
McAnulty	Richard		2173(1)
McArdell	Carol		2173
McArdle	Struan		2173
McArthur	Barbara		2173
McAskill	Sophia		2000
McAuliffe	Carole		2000
McBain	Bill		2173
Mcbee	Jane		2131
McBee	Nora		2173
McBeth	Kristin		2131, 2173
McBride	James		2000
Mcbride	John		2173
McBride	Marcine		2000, 2173
McBride	Ruth		2173(u)
McBurney	Jennifer		2173
McCabe	Elaine		2173

Last Name	First Name	Org	CIN
McCabe	Erin		2173
McCabe	Michael		2173
McCabe	Suzanne		2173
McCabe	Tom		2312
McCaffrey	Erika		2131
McCaffrey	Kathy		2173
McCain	Joe		2173
McCain	Joseph		2173
Mccain	Judith		2173
McCain	Lauren	Defenders of Wildlife	2173(1)
McCain	Mary		2173
McCalley	Toni		2173
McCammick	Michelle		2173
McCance	Melissa		2173(u)
McCann	Ellen		2000
Mccann	Leona		2173
McCann	Russ		2173
Mccann	Tiger		2173
McCarney	Samantha		2173
McCarter	Angel		2000, 2131, 2173
McCarter	Melissa		2000
McCarter	Tom		2173(u)
McCarthy	Anne		2173
McCarthy	Anne		2173
McCarthy	Barbara		2000
McCarthy	Brendan		2131(u)
McCarthy	Caprice		2173
McCarthy	Clarence		2031(u), 2131
McCarthy	Cynthia		2131
McCarthy	Debbie		2000, 2173
McCarthy	James		2173
McCarthy	Janelle		2173
McCarthy	Linda		2173
McCarthy	Sandra		2173
McCarthy	Sandra		2000
McCarthy	Sean		2173
McCarthy	Shirley		2173
McCarthy	Susan		2173
McCarthy	Wendy		2173
McCarthy	Wiley		2173
McCartney	Teresa		2000, 2173
McCarty	Chris		2131, 2173
McCarty	Paula		2173
McCaul	Mary		2312
McCauley	Brandi		2173
Mccauley	Carolyn		2173
McCauley	Patricia		2173
Mccauley	Peggy		2131
McCaw	Karen		2173
McClain	Amber		2000, 2173
McClain	Becky		2173
McClain	Jolee		2131
McClaughrey	Christina		2083
McCleary	Harriet		2173
McCleary	Tiffany		2000, 2173
McClellan	Terry		2173
McClelland	Elizabeth		2000
McClelland	Eric		2173
McClelland	Hugh		2173
Mcclelland	Julee		2173
McClelland	Thomas		2173
McClendon	Polly		2173
McClintock	Amy		2173
McCloskey	Cheryl		2131
McCloskey	James		2131(u)
McCloud	Kalyn		2173
Mccloud	Kim		2131
McClung	Judy		2173
McClure	Andrew		2173
McClure	James		2131, 2173
McClure	Lyn		2173
McClurg	Daviann		2000, 2173
McClurg	Melany & Jim		2173
McCluskey	Sharon		2173
McCollough	Kevin		2173
McCollum	Lyn		2173(u)
McCombs	Robert		2173
McConkey	James		2173
McConkey	Kimberly		2173
Mcconnell	Alexis		2131
McConnell	Ellen		2173
McConnell	Joann		2173
McConnell	Rod		2000
McConnell	Suzanne		2173
McConnell	Tonia		2173
McConnell-Kelly	Melinda		2131
McConner	Loretta		2000
Mcconville	Lori		2131

Last Name	First Name	Org	CIN
McCool	Samuel		2031(u)
Mccord	Marilyn		2131(u)
McCorkhill	Robin		2173(u)
McCormack	Dana		2173(u)
McCormack	Jack		2173
McCormick	Douglas		2000, 2173
McCormick	Elizabeth		2173
McCormick	Gary		2131, 2173
McCormick	Jessica		2131
McCormick	Jim		2173
McCormick	Margie		2173
McCormick	Rose		2000
McCormick	Shari		2173(u)
McCoubrie	Elise		2000, 2173(1)
McCoy	Amanda		2173
McCoy	Amy		2131, 2173
McCoy	Brenton		2131
McCoy	Carol		2173
McCoy	Dan		2000
McCoy	Diana		2131
McCoy	Hazel		2000, 2131
McCoy	Jeff		2131
McCoy	Michelle		2131, 2173
McCoy	Nancy		2173
McCoy	Nancy		2131, 2173
McCracken	Amanda		2000
McCracken	Lillian		2131
McCracken	M M		2173
McCracken	Mary M		2173
McCracken	Tobin		2173
McCraney	Tony		2173
McCraw-Cavalieri	Lynn		2173
McCray	Parker		2173
McCready	Felina		2173
McCready	Tamara		2173
McCreagh	Colleen		2173
McCreary	Christy		2173
McCreary	Jan		2000, 2173
McCredie	Gail		2173
McCrummen	Cathy		2173
Mccue	Mike		2173
McCullar	Kara		2173
McCulloch	Norma		2173(1)
McCulloch	Ryan		2173
McCulloh	Gordon		2173
McCullough	Amanda		2173
McCullough	Colin		2131
McCullough	Don		2173
McCullough	Joe		2131
McCullough	Mark		2173
McCullough	Nancy		2173
Mccullough	Patrick		2131
McCullough	Sue		2173
McCullough	William		2173
McCune	Bonnie		2173
McCune	Dick		2131(1)
McCune	Sylvia		2131
McCune-Sanders	William		2173
McCurdy	Dan		0242
McCurdy	Michael		2173
McCutchen	Kate		2000
McCutcheon	Cynthia		2173
McCutcheon	Ron		2173
McD	L		2031(u)
McD	Ruth		2173
Mcdade	Jessie		2173
McDade	Shereen		2173
McDaniel	Carol		2131
McDaniel	Danny		2173
McDaniel	Jim		2173
McDaniel	Larry		2173
McDaniel	Lisa		2173
McDaniel	Paul		2131(u)
McDaniel	Terry		2173
Mcdavid	Claudia		2131
McDermit	Evan		2173
McDermott	Ann		2173
McDermott	Ann		2173
McDevitt	Dana		2000
McDill	George		2173
McDonald	Alison		2000
Mcdonald	Aya		2131
McDonald	Carol		2173
McDonald	Colleen		2173
McDonald	Debbie		2031(u)
McDonald	Gail		2173
McDonald	Holly		2173(u)
McDonald	Jeanne		2173
McDonald	Jeanne		2131
Mcdonald	Jeri		2173

Last Name	First Name	Org	CIN
McDonald	Joyce		2173
McDonald	Kim		2173
McDonald	Linda		2173
McDonald	Louisa		2173(u)
McDonald	Madison		2131
McDonald	Mark		2173
McDonald	Mary Ann		2173
McDonald	Melissa		2000
McDonald	Michael		2173(u)
Mcdonald	Pamela		2223
Mcdonald	Patricia		2173
McDonald	Rodney		2173
McDonald	Stephanie		2173
McDonald	Taylor		2173
McDonald	Thomas		2173
McDonald RVT	Erin		2000, 2173
Mcdonas	Thollem		2131
McDonell	Alexander		2173
McDonnell	Cat		2000
McDonnell	Robert		2000, 2173
McDonough	Diane		2000
McDonough	Janet		2173
McDonough	Kathryn		2000
McDougal	Linda		2173
McDougall	Joan		2173
McDougall	Judy		2000
McDowell	Hugh		2131
McDowell	Kelley		2173
Mcdowell	Rev. Monica		2173
Mcdowell	Robert		2131
McEachern	Don		2173
McEachron-Taylor	Linda		2131(1)
McEldowney	Maggie		2173
McElhinney	Adam		2031(u)
McElligott	Jane		2173
McElwain	Christopher		2173
McElwain	Judith		2000
Mcelwain	Trenny		2131
McElwee	Glenda		2173
McEntire	Miranda		2173
McEtchin	Stanley D		0226
Mcevers	Kelly		2173
McEwan	Diane		2173
Mcewen	Nancy		2173
McFadden	Joseph & Kathryn		2173
McFadden	Stephanie		2173
McFall	Cynthia		2173
McFarland	Brian		2173
McFarland	Heather		2173
Mcfarland	Jamie		2131
McFarland	Mary Ann		2173
McFarlane	Ann		2173
McFee	Debra		2173
McFeeters	Rich		2131
Mcferran	Michele		2173
McGaha	Kendra		2173
McGanty	Erin		2173
Mcgarry	Angela		2173
McGaughey	Mary		2000, 2173
McGee	Jan		2173
McGee	Kathleen		2173
McGee	Maureen		2173
McGeehan	Carol		2000, 2173
McGhie	Stephanie		2000(1)
McGill	Ann C.		2173
McGill	Bonnie		2173(u)
McGilligan	Micky		2173
McGillivary	Joanne		2173
McGinn	Lisa		2131
McGinnis	Diane	McGinnis Mica Medical Pc	3063
McGinnis	Helen		2173(u)
McGinnis	Margaret		2173
McGinnis-Craft	Kathy		2173
McGinty	Frank		2173
McGlennon	Timothy		2173
McGoff	Barry		2173
McGonigal	Joan		2000
McGough	Zoe		2031(u)
McGovern	Sandy		2173
McGowan	Brian		2173
McGowan	Dave		2173
McGowan	Elizabeth		2000
McGowan	Joan		2000, 2173
McGowan	John		2173
McGowan	Laura		2173(u)
McGowan	Pauline		2173
McGowan-Guida	Denise		2173
McGowan-Smith	Lorna		2131
McGrann	James		2173
McGrath	Collin		2173

Last Name	First Name	Org	CIN
McGrath	Jackie		2173
McGrath	Jaime		2173
McGrath	Joan		2173
McGrath	Joanne		2000, 2173
McGrath	John		2173
McGrath	Kathy		2173
McGrath	Kathy		2173
McGrath	Laura		2173
McGrath	Lisa		2000
Mcgrath	Michael		2173
McGrath	Renee		2173
Mcgrath	Richard		2131
McGratty	Jessica		2173
McGraw	Bruce		2173
Mcgraw	Donald		2131
McGraw	Jane		2173
McGraw	Kristin		2173
McGreevy	Karen		2173
McGregor	Debra		2173
McGregor	Gordon		2173
McGregor	Hilary		2000
McGregor	Sharon		2000
McGrover	Marilyn		2173
Mcguey	Sue		2131
McGuffey	Jack	Nevada Assoc-iation of County Officers or County Commiss-ioners	3066
Mcguffey	Lucy		2131
McGuigan	LeeAnn		2173(u)
McGuire	Daniel		2131, 2173
McGuire	Debra Lynn		0117, 0192, 0277
McGuire	Jessica		2173
McGullam	Kathleen		2173
McGullam	Margaret		2173
McHendry	Kathleen		2173
McHenry	Sue		2000(u)
McHugh	Damien		2173
McHugh	Heather		2131, 2173
Mcilhinney	Eileen		2173(u)
McIlravy	Barbara		2131
Mcilwaine	Denise		2173
McIlwrath	Sabrina		2131(u)
McInerny	Carol		2173
McIntire	Joyce		2173(u)
McIntire	Kathy		2173
McIntosh	Jim		2173
McIntosh	Malva		2000, 2173
McIntosh	Roberta		0102
McIntosh	Susan		2131
McIntyre	Monique		2173
McIntyre	Wiley		2173
McIsaac	Liana		2173
McJunkin	Diane		2000, 2173
McKay	Claire		2173
McKay	Greg	Nevada OHV Commiss-ion member	0052
McKay	Sally		2173
McKay	Sandra		2131
McKean	Helen		2173
McKean	Tammy		2173
McKee	Brian		2173
McKee	Deborah		2173
McKee	Gabriel		2173
McKee	Kelly		2131
McKee	Lary		2000
McKee	Megan		2173
McKee	Shelley		2173
McKee	Wendy		2173
McKee, Jr	James		2173
McKeel	Jennifer		2131, 2173
Mckeeman	Jana		2131
McKeeman	Jim & Jana		2173
McKeever	Mary		2173
McKeever	William		2173
McKeighen	Dan		2173
McKelvey	Don		2000(1), 2131(1), 2173
McKelvey	Terrence		2173
Mckelvie	Patricia		2131
McKenna	Dale		2173
McKenna	Laurie		2173
McKenna	Marci		2173
McKenna	Mike		2173

Last Name	First Name	Org	CIN
McKenna	Stephen		2173
McKenna	Susan		2173
McKenny	Katrina		2173
Mckenzie	Carol		2131
McKenzie	E		2000
McKenzie	Gayle		2173
McKenzie	Nicole		2000
McKenzie	Sharon		2173
McKenzie	Valerie		2000, 2173
McKenzie	William		2173
McKeon	Christina		2173
McKeon	Renae		2173
McKeough	Kathy		2000
McKernon	Diane		2173
McKey	Nicholas		2000
Mckillip	Brian		2131
McKillip	Linda		2173
Mckimmie	Tim		2131
Mckinley	Darby		2173
McKinley	Mary		2173
Mckinley	Patti		2131, 2173
McKinney	Georgene		2173
Mckinney	Jason Gerald		0245
McKinney	Jennifer		2173
McKinney	Joan		2173
McKinney	Laura		2173
McKinney	Mary		2173
McKinney	Michael		2173
Mckinney	William		2173
Mckinstry	Marilyn		2173

Last Name	First Name	Org	CIN
McKirdy	Wayne		2173
McKissick	Rita		2173
Mcknight	Kathleen		2131
McKnight	Shoshanah		2173
McKown	Tanya		2173
Mckown	Terri		2173
Mckune	Kristi		2131
Mckune	Megan		2173
Mclain	Joanne		2131
McLane	Kathleen		2173
McLane	Neil		2131
McLane	Richard		2173
McLarnon	Tracy		2173
McLaughlin	Bruce		2173
Mclaughlin	Dagmar		2173(u)
McLaughlin	Diane		2173
McLaughlin	Kathleen		2000
McLaughlin	Kerri		2173
McLaughlin	Nelda		2131, 2173
McLaughlin	Pat		2173
McLaughlin	Robert		2173
Mclaughlin	Sally		2131
McLaughlin	Sean		2031(u)
McLaughlin	Timothy		2173
McLaurin	John		2173
McLean	Janyce		2173
McLean	Katherine		2173
McLean	Kenneth		2173
Mclean	Nancy		2000, 2131
McLellan	Sandra		2173
McLellan	Tawny		2173

Last Name	First Name	Org	CIN
McLeod	Maryjane		2173
Mcleod	Mia		2131
McLeroy	Jacob		2173
McLuckie	John		2131
McLuckie	Sandra		2000(1)
McMahan	Barbara		2173
McMahan	Charles		2173
McMahan	Michael		2000, 2173
Mcmahan	Peter		2131
McMahan	Sandra		2131
McMahon	Annie		2131, 2173
McMahon	Carol		2173
McMahon	Katherine		2173(u)
McMahon	Kathleen		2173
McMahon	Michael		2173
McMahon	Sue		2173
McMahon	Teresa		2000
Mcmanama	Patrick J		2131
McManus	Candace		2173
McManus	Constance		2173
McManus	Deborah		2173
McManus	Dennis		2000
McManus	Mary		2131
McManus	Veronica		2173
Mcmaster	Dana		2131
McMaster	Susan		2173
McMath	AnaLisa		2031
Mcmenamin	Rosalie		2173
Mcmillan	Amanda		2173
McMillan	Sherrie		2000
Mcmillan	Tracy		2131

Last Name	First Name	Org	CIN
McMindes	Stephanie Tracy		2031(u)
McMullen	Angela		2173
McMullen	Ann		2173
McMullen	Colleen		2000, 2131, 2173
McMullen	Gail		2000, 2131(1)
Mcmullen	Joan		2131
Mcmullen	Laura		2173
McMurray	Karen		2173(u)
Mcmurtrey	Michael		2173
McNab	Maryanne		2173
Mcnair	Linda		2173
McNall	Shirley		2173
Mcnall	Warren		2131
McNally	Melissa		2173
McNamara	Anita		2000
McNamara	Anita		2173
McNamara	Catherine		2000, 2173
Mcnamara	Courtney		2173
McNamara	Cynthia		2173(u)
McNamara	Kimberly		2075
McNamara	Mair		2173
McNamara	Sharon		2173
McNamara-Bordewick	Nora		2031
McNany	Lisa		2173(1)
McNatt	Ellen		2131, 2173
McNaught	Holly		2031(u)
McNaughton	Patricia		2173

Last Name	First Name	Org	CIN
McNeal	Debbe		2173
McNeeley	Hylin		2173
McNeil	Brian		2173
McNeil	Donna		2173
Mcneil	Doug		2131
McNeill	Caroline		2173
McNeill	Norma		2173
McNeirney	Ellen		2173
McNeny	Lindsey		2173
McNerney	Katy		2000, 2173
McNew	Tina		2173
Mcnitt	Will		2131
McNulty	Bridget-Kate		2090
McNulty	Louise		2173
McNulty	Robert		2312(u)
Mcnulty	Shannon		2000, 2131
McPeake	Rosemarie		2173
Mcpeek	Susan		2173
McPhail	Theresa Moriarty		2173
McPhee	Camille		2000
Mcphee	Nancy		2131
McPherson	Andrew		2173
McPherson	Jeannie		2173
Mcpherson	Karen		2131
McPherson	Nancy		2000
McPherson	Sandra		2173
McPherson	Valerie		2173(u)
McQuade	Uta		2173
McQuilken	Sean		2173
McQuillan	Kathleen		2173(u)

Last Name	First Name	Org	CIN
McQuinn	Janna		2173
McRae	Charles		2173
McRae	Nancy		2173
McRill	Susan		2173
McRoberts	Judy		2173
McShane	Mari		2173
Mcshane	Sue		2131
McSpadden	Sandi		2131
McSwain	Judith		2173
McSweeney	Caitlin		2000
McSweeney	Charles		2173
McTiernan	Sandra		2173(u)
McVay	John		2131
McVay	Tom		2000
McVey	Earl		2131
McVey	James		2131, 2173
McVey	Ruth		2131
McWhirr	Matthew		2173
Mcwhorter	Kathy		2131
Mcwhorter	Patricia		2131
McWilliams	Cynthia		2173
McWilliams	Donald		2000
McWilliams	Nancy		2000, 2173
Mdeddy	John		2131, 2173
Mea	Darlene		2031(u)
Meachum	Marcy		2173
Meachum	Teresa		2173
Mead	Joan		2173
Mead	Julee		2131(1), 2173

Last Name	First Name	Org	CIN
Meade	David		2000
Meade	John		2131
Meade	Richard		2131
Meadows	Connie		2173
Meadows	Johnny		2173
Meadows	Susan		2131
Meadows	William		2173
Meagher	Joanne		2173
Meagher	Sherri		2173
Means	Barbara		2131
Means	Destinee		2173
Means	Lynda		2173
Mear	Margaret		2173
Mearns	Norman		2173
Mears	SJ		2000(1)
Mechler	E.		2173
Mecke	Ernst		2000
Meckley	Shannon		2131
Medaglia	Maureen		2173
Medford	Margaret		2131
Medhurst	Jude		2173
Mediano	Manor		2173
Medina	Ceasar		2031(u)
Medina	Kathleen		2173
Medina	Mark		2173
Medina	Tatiana		2173
Medlin	Barry		2173
Medoff	Judith		2173
Medrano	Nico		2131
Medved	Dorothy		2173
Medwid	Stephanie		2173
Meehan	Brook		2173
Meehan	Carol and Barry		2173
Meehan	Mary		2173
Meek	F		2131
Meek	Nick		2131(1)
Meeker	Jeanette		2173
Meeker	Simone		2131
Meeker-Lowry	Susan		2173
Meekins	Jodi		2173
Meeks	Julia		2131
Meeks	Mark		2131, 2173(u)
Mefford-Hemauer	Apryl		2000
Megee	Michael		2131
Megias	Catherine		2173
Megyes	Ecaterina		2000
Mehaffey	Lynn		2173
Mehay	Caren		2173
Mehbod	Desiree		2173
Mehle	Anthony		2173
Mehling	Diane		2131
Mehren	Christopher		2173
Mehrman	Evan		2131
Mehta	Adil		2173
Mehta	Florentina		2173
Meiberg	Linda		2173
Meier	Axel		2173
Meier	Joel		2131
Meier	Pamela		2173
Meier	Robert		2173
Meierotto	Danielle		2173
Meiers	Susan		2173
Meier-Schellersheim	Miriam		2173
Meikle	Ian		2031(u)
Meikle	Louise		2173
Meilinger	Rebecca		2173
Meinerding	Tony		2173
Meinert	Margaret		2173
Meinhardt	Kevin		2173
Meinhardt	Mark		2173
Meinhardt	Pamela		2173
Meissner	Christine		2173
Meister	Christopher		2173
Mejaski	Manuela		2173
Mejia	Lily		2173
Mejides	Andres		2000
Melamed	Molly		2131
Meldrum	Kimberly		2173
Melendrez	George		2131
Melgar	JoAnn		2000
Meli	Mary Ellen		2000
Meli	Michele		2173
Melinkoff	Marc		2173
Melius	Dan		2000
Melka	Peter		2173
Mell	Richard		2000
Mellem	Thomas		2131
Mellen	Linda		2173
Mello	Cristina		2173
Mellor	Gaynor		2173
Melloway	Dale		2173
Melmon	Jennifer		2173
Melnick	Margaret		2173

Last Name	First Name	Org	CIN
Melnychuk	James		2000
Melody	Sybil Malinowski		2173
Melof	Theresa		2173
Melograna	Chris		2131
Melsha	Ron		2000
Melton	Alyssa		2000, 2131
Melton	Nancy		2173
Meltzer	Rachel		2173
Melucci	Martin		2173
Melvin	Dana		2173
Melvin	Jackie		2131
Melvin	Robert		2173
Memminger	Dianne		2173
Menanno	Susan		2173
Menard	Kathryn		2173
Menarello	Isabella		2173
Menchu	Carol		2173(u)
Mencik	Jitka		2000
Mendelblat	Ron		2173
Mendelsohn	Debra		2173
Mendez	Molly		2173
Mendez	Sam		2031(u)
Mendik	Natalie DeFee		2173
Mendolusky	John		2173
Mendousa	Anthony		2173(u)
Mendoza	Bridget		2173
Mendoza	Catherine		2131(u), 2173
Mendoza	Julie		2131
Mendoza	Katherine		2031
Mendoza	Miranda		2173
Mendoza	RedElisa		2000
Mendozza	Kyla		2131
Menechella	Tony		2173
Meneguzzo	Dawne		2173
Menendez	Rick		2173
Menga	Jessica		2031(u)
Menke	Stephen		2131
Menne	Suzanne		2173
Meno	Kelsey		2031(u)
Menosky	Beverly		2173
Mensing	Patricia		2173
Mentas	Jennifer		2173
Mentes	Lisa		2173
Mentzer	April		2173
Menyuk	Diane		2173
Meo	Orsola		2173
Meraz	Mary		2173
Meraz	Yesenia		2031(u)
Mercado	Florencia		2173
Mercer	Brian		2173
Mercer	Lynda		2173
Mercer	Melissa		2173
Mercer	Sydney		2031(u)
Merchand	Ann	Beatty Chamber of Commerce	5011
Merchant	David		2173
Merchant	Luther		2173
Mercier	Lyssa		2173
Merckx	Guy		2173
Meredith	Buford		2131, 2173
Meredith	Lauren		2173
Meredith	Marcia		2173
Meredith	Micki		2173
Meredith	Suzanne		2000
Merhai	Maddie		2173
Merica	F. Gene		2173
Merica	Kay		2173(u)
Merick	Dyan		2131
Mericle M.D. D.A.B.R.	John		2173
Merino	Aimee		2173
Merithew	Marcia		2173
Meriwether	Don		2173
Merkel	Karynn		2173
Merle	Lynn		2173
Merletto	Anna		2000
Merline	William		2131(u)
Merljak	Julija		2173
Mernier	Christine		2131
Meroni	Adele		2000
Merriam	Sue		2131
Merrick	Craig		2173
Merrick	Judy		2173
Merrick	Nancy		2173
Merrigan	Anita		2312
Merrill	Barbara		2173
Merrill	Cindy		2173
Merrill	Dawn		2173
Merrill	Deanna		2173
Merrill	Diane		2173
Merrill	Jerry		2173

Last Name	First Name	Org	CIN
Merrill	Jessica		2173
Merrill	Jibralta		2000, 2173(u)
Merrill	Joan		2173
Merrill	Lloyd		2312
Merrill	Rebecca Corcoran		2131
Merrill	Sandra		2173
Merriman	Georgia		2173
Merriman	Keri		2131, 2173
Merritt	Elizabeth		2000, 2173
Merritt	Massiel		2031(u)
Merritt	Nancy		2173
Merrow	Kaiti		2131
Merryman	Arlene		2173(u)
Mertens	Lawrence		2173
Mertz	Leonice		2000
Merz	Robert		2173
Merzakhanian	Frida		2173
Mesa	Barbara		2173
Meserve	John		2173
Meshna	Douglas		2173
Meslar	Gerald		2173
Mesrobian	Ann		2173
Messall	Lola		2173
Messamore	Tina		2173
Messatzzia	Linda		2173
Messenger	Thomas		2131
Messer	Gretchen		2173
Messerschmitt	Susan		2173
Messick	Karen		2173
Messick	Scott		2131
Messier	Julia		2173
Messina	Jen/Jennifer		2131(2), 2173
Messina	Jim		2173
Messina	Len		2000
Messina	Leonard		2173
Messina	Richard		2173
Messineo	Vince		2173
Messing	Luci		2131
Messinger	Sharon		2131
Messmer	Judie		2173
Messmer	Kim		2173
Messuri	Ethel		2173
Metcalf	Jim		2173
Metcalf	Martha		2173
Metcalf	Melissa		2173
Metcalf	Nancy		2173
Metcalf	Norm		2131, 2173
Metcalf	Virginia		2000
Metcalfe	Jane		2173
Metos	Sylvia		2131
Mettenbrink	Joseph		2173
Mettger	Zak		2173
Mettie	Bonna		2000, 2131
Metz	Amelia		2173
Metz	Whitney		2173
Metzelaar	Barbara		2131
Metzger	Carol		2173
Metzger	Harvey		2173
Metzger	Luke		2000, 2173(u)
Metzler	JoAnne		2173
Metzler	Peter		2173
Metzler	Vanessa		2173
Metzner	Kristine		2173
Meunier	Berta		2173
Meunier	Lorena		2000
Meuser	Pamela		2131
Mewawala	Gulnar		2173
Mexi	Alex		2173
Meyer	Alexandra		2000
Meyer	Ari		2173
Meyer	Colonel		2173
Meyer	Cora		2173
Meyer	Derek		2173
Meyer	Diane		2173
Meyer	Dianne		2173
Meyer	Eric		2312(1)
Meyer	Erin		2173
Meyer	Heather		2173
Meyer	Jacob		2173
Meyer	Jean-Paul		2000
Meyer	Jimmi	Meyer and Associates	0095
Meyer	John		2134
Meyer	Lesley		2000, 2173
Meyer	Lisa		2173
Meyer	Louise		2131
Meyer	Marla		2173
Meyer	Mary		2173
Meyer	Melissa		2173

Last Name	First Name	Org	CIN
Meyer	Paul		2173
Meyer	Richard		2173
Meyer	Robert		2000
Meyer	Robert		2000
Meyer	Scott		2131
Meyer	Stephan		2131
Meyer	Twyla		2173
Meyer, Jr.	Harold Adolph		2000
Meyerding	Lyn		2173
Meyerkorth	Marjorie		2131
Meyerovitz	Donna		2000
Meyer-Parthemore	Phyllis		2131, 2173
Meyers	Ashley		2173
Meyers	Catherine		2131
Meyers	Lynn		2173(u)
Meyers	Mickey		2173
Meyers	Paul		2173(u)
Meyers	Samantha		2173
Meyers	Sarah		2173
Meyers	Sav		2173
Meyers	Tonia		2031
Meyers	Wilma		2173
Meyers, MSc	Jeffrey		2131
Mezoff	Kathleen		2131
Micciulla	Adriana		2131, 2173
Micek	Patricia		2173
Michael	Edward		2173(u)
Michael	Kathleen		2173
Michael	Mary		2173
Michael	Melinda		2173
Michael	Sanders		2173
Michael-Dahlmann	Tina		2173
Michaeli	Lissa		2173
Michaelides	Greg		2173
Michaels	Melissa		2173
Michaels	Patricia		2131
Michaels	Todd		2000
Michaels-Tyner	Michelle		2173
Michailidou	Helen		2000
Michalak	Cheri		2173
Michalek	David		2000
Michalek	Dorothy		2173
Michalski	Florence		2173
Michaud	Michelle		2315
Michaud	Noreen		2173
Michel	Barbara		0029, 3010
Michel	Jennifer		2173
Michel	Lance		2173
Michel	Marina		2312
Michel	Michael		2000
Michel	Robin		2173
Michel	Stephanie		2173
Michel	Tonya		2131, 2173
Michell	Jen/Jennifer		2000, 2173
Michels	Daniel		2000
Michelsen	Lee		2173
Michelsen	Samantha		2173
Michelson	Marilyn		2131
Michetti	Leslie		2173
Michiels	Carine		2173
Michielutti	Robert		2173
Michl	Marie		2000, 2173
Michl	Sara		2131
Michniewicz	Barbara		2173
Mickels	Sarah		2173
Mickelsen	Patti		2173
Micone	Ornella		2173
Middag	Bob		0241
Middaq	Darlene R.		2319
Middaugh	Linda		2173
Middlebrooks	Ethan		2173
Middleditch	Ellen And Dennis		2131
Middleton	Ann		2173
Middleton	Chris		2173
Middleton	Darlene		2131
Middleton	Desiree		2173
Middleton	Eric		2131
Middleton	Pat		2173
Midgett	Jennifer		2000
Midgette	Sierra		2000
Midgley	Claudette		2173
Midkiff	Kenny		2173
Midkiff	Sherri		2173
Miedema	Cory		2173
Miedzwiecki	J		2173
Miele	Danielle		2173
Mielke	B		2173
Mielke	Denise		2173
Mielke	Marcia		2131
Mielke	Monica		2131

Last Name	First Name	Org	CIN
Mielo	Laurie		2173
Miera	Debbie		2131
Mierau	Ehren		2173
Mierow	Luanne		2173
Mierzwa	Donna		2173
Migdal	Marcia		2295
Migliore	Joe		2173
Miguez	Pamela		2173
Mihalski	Susan		2000, 2173
Miiller	Victor		2173
Mika	Gaia		2131
Mika	Marie		2173
Mikala	Kyra		2173
Mikkelsen	David		2173
Mikkelsen	Helle		2173
Miklic	Rhonda		2173
Mikol	David		2173
Mikulak	Phillip		2173
Milak	Lisa		2173
Milam	Dennis		2173
Milanese	Diane		2131
Milanicz	Karen		2268
Milano	Joseph & Mary		2000
Milano	Karen		2000
Milano	Marjorie		2173
Milcarek	Lyndsey		2173
Milcoff	Brett		2173
Miles	Dawn		2173
Miles	DoRi		2173
Miles	Frank		2312
Miles	Irene		2173
Miles	Sharon		2173
Miletti	Alexis		2173
Milewski	Nancy		2173
Milgram	Richard		2173
Milhaupt	Shannon		2131
Milholland	Jean		2131
Milic	Ljiljana		2000(1)
Milich	Lenard		2173
Milione	Regina		2173
Milkie	Renee		2173
Milkowski	George		2173
Milkowski-California	Deborah		2173
Millan	Ilana Lopez		2173
Millan	Steven		2173
Millard	Ashley		2173
Millard	Mary		2131, 2173
Millenacker	Michelle		2173
Millensifer	Aimee		2131
Miller	A		2000
Miller	Abigail		2173
Miller	Amanda		2000
Miller	Anthony		2000
Miller	Ariel		2131
Miller	Barbara		2173
Miller	Barbara		2173
Miller	Barry		2173
Miller	Berkly		2173
Miller	Betty		2000
Miller	Betty		2000, 2131
Miller	Blair		2173
Miller	Bob		2173
Miller	Bobbi		2000
Miller	Brad		2000, 2173
Miller	Brenda		2000
Miller	Brent		2173
Miller	Brian		2173
Miller	Burton	1985	0334
Miller	Carla		2173
Miller	Carmen		2131
Miller	Carol		2000, 2173
Miller	Carol		2173
Miller	Charla		2173
Miller	Cheryl		2066
Miller	Cheryl		2173(u)
Miller	Christian		2173
Miller	Christin		2173
Miller	Cindy		2173
Miller	Corinne		2173
Miller	Danielle		2173
Miller	David		2173(u)
Miller	David		2173
Miller	Deborah		2000
Miller	Deborah		2173
Miller	Debra		2000
Miller	Dennis		2173
Miller	Diane		2173
Miller	Dianne		2131
Miller	Doretta		2173
Miller	Doris		2173
Miller	Douglas		2131
Miller	Elaine		2173

Last Name	First Name	Org	CIN
Miller	Elizabeth		2173
Miller	Emily		2173
Miller	Florence		2131(1)
Miller	Frank		2173
Miller	Gail		2173
Miller	Gregory		2131(u)
Miller	Hans		2173
Miller	Heather		2173
Miller	Helene		2173
Miller	Irene		2173
Miller	Jackie		2266
Miller	James		2131
Miller	Jane		2173
Miller	Janet		2173
Miller	Janette		2051
Miller	Janice		2173
Miller	Jarvis		2173
Miller	Jean		2173
Miller	Jeff		2131
Miller	Jeff		2131, 2173
Miller	Jeffrey		2131(1)
Miller	Jennifer		2000, 2173
Miller	Jennifer		2031(u)
Miller	Jenny		2173
Miller	Jessalyn		2131
Miller	Jonathan		2131
Miller	Joy		2131
Miller	Judith		2173
Miller	June		2173
Miller	Karen		2173
Miller	Kari		2000
Miller	Kathleen		2173
Miller	Kelly		2173
Miller	Kenneth		2173
Miller	Kerby		2173
Miller	Kimberly		2131
Miller	Larry		2173
Miller	Larry		2173
Miller	Laura		2000
Miller	Laura		2312
Miller	Lesley		2131
Miller	Lester		2173
Miller	Libba		2173
Miller	Linda		2131(u)
Miller	Linda		2173
Miller	Loyd		2131
Miller	Lucile		2173
Miller	Lyn		2131
Miller	Marie		2131
Miller	Mark		2173
Miller	Mary		2131
Miller	Mary		2217
Miller	Mary		2173
Miller	Melissa		2173
Miller	Michael		2000, 2173
Miller	Michael		2173(u)
Miller	Michelle		2173
Miller	Nancy		2173
Miller	Nancy		2173(u)
Miller	Nari		2031(u)
Miller	Natalie		2173
Miller	Nathan		2173
Miller	Nena		2000
Miller	Nicole		2173
Miller	P		2173
Miller	Pam/Pamela		2000, 2131, 2173
Miller	Paul		2173
Miller	Phyllis		2173
Miller	R.A.		2173
Miller	Rebecca		2000
Miller	Rex		2173
Miller	Richard		2173
Miller	Robert		2131
Miller	Robert		2000, 2173
Miller	Robert		2131
Miller	Robert		2173
Miller	Robert		2173
Miller	Robert		2173
Miller	Robin		2173
Miller	Rosemary		2173
Miller	Samantha		2173
Miller	Sara		2173
Miller	Sarah		2173
Miller	Sheila		2000, 2173
Miller	Sherry		2173
Miller	Sherry and Tom		2173
Miller	Stephanie		2173
Miller	Sue		2173
Miller	Sue		2173
Miller	Susan		2173

Last Name	First Name	Org	CIN
Miller	Susan		2000, 2173
Miller	Tami		2173
Miller	Timothy		2173
Miller	Timothy		2131, 2173
Miller	Todd		2131
Miller	Travis		2000
Miller	Valerie		2173(u)
Miller	Valerie		2173
Miller	Valerie		2000, 2049
Miller	Vicki		2173
Miller	Vickie		2312
Miller	Warren		2173
Miller	William		2173
Miller/M	D/Danielle		2000, 2173
Miller-Brasure	Nola		2173, 2312
Miller-Lyons	Judy		2000
Millette	Kari		2173
Millette	Lorrie		2173
Millgram	Elijah		2131
Millican	Diane		2173
Milligan	Jim		2031(u)
Milligan	Sue		2173
Milliken	Gerry		2131, 2173
Milliken	Karen		2131
Milliken	Lynne		2131, 2173
Millis	Robin		2173
Millman	Harriet		2173
Millman	Jonathan		2173(1)
Millman	Mia		2173
Millman	Michele		2173
Milloy	John		2131
Mills	Adam		2000, 2173
Mills	Brett		2173
Mills	Christina		2000, 2173
Mills	Constance		2173
Mills	Damon		2173
Mills	Dave		2173
Mills	Debra		2173
Mills	Edward		2173
Mills	Hannah		2131
Mills	Holly		2173
Mills	Judy		2173
Mills	Kaitlyn		2173
Mills	Katherine		2000, 2031(u)
Mills	Krystal		2131
Mills	Laurel		2131
Mills	Lisa		2000, 2131
Mills	Peg Henderson		2173
Mills	R. William		2173
Mills	Randy		2173
Mills	Sheila		2000
Mills	Shirley		2000
Mills	Terri		2173
Millu	Janis		2131, 2173
Milne	Linda		2173
Milo	Karen		2173
Miloszewska	Joanna		2000(1)
Milstead	Dina		2131, 2173(u)
Milstein	Karen		2131, 2173
Milster	Amanda		2173
Milster	Charlie		2173
Milton	J.		2173
Milton	Jack		2000
Milton	Terissa		2173
Mina	Lisa		2131
Minadeo	Melody		2173
Minarik	Mari		2131
Minasian	Rose		2173
Minch	Kathleen		2131
Mindelzun	Naomi		2173
Miner	Chris		2173(u)
Minerva	Mary		2173(u)
Minford	Terri		2173
Minger	John		2173
Minić/Mini?	Marija		2000(1), 2031(u)
Minich	Shirley		2173
Minion	Zach		2000
Minish	Gary		2173
Mink	Daniel		2173
Mink	Loretta		2173
Minka	Rue		2173
Minkin	Paul		2173
Minor	Carmen		2173
Minor	Colin		2131
Mintz	Barbara		2173
Miquelon	Nancy		2131

Last Name	First Name	Org	CIN
Miquelon	Pam		2131, 2173
Mirabal	Alexandra		2173
Mirabella	August		2173
Mirabella	Carol		2173
Miranda	Claudia		2173
Miranda	Evangeline		2173
Miranda	Lori		2173
Miranda	Maleny		2000
Miranda	Renee		2173
Miranda	Sophie		2131
Miranda	Tyler		2173
Mirante	Anne-Marie		2131
Mirate	Jeffrey		2173
Mirmak	DeeDee		2000
Mirsalis	Paul		2173
Mischel	Steve		2131
Misdorp	Adrianne		2173
Misek	Jolie		2000, 2173
Mishoe	Denine		2173
Miske	Lisa		2173
Miskimon	Leah		2173
Mislove	Caroline		2173
Misner	Jared		2173
Missler	Keary		2173
Mistich	Lainy		2000
Mistretta	Jill		2173
Mistretta	Lisa		2173
Mitani	Eiko		2173
Mitchel	John		2000, 2131
Mitchel	William		2000
Mitchell	Alexis		2131
Mitchell	Beverly		2000
Mitchell	Bonnie		2173
Mitchell	Brett		2173
Mitchell	Carol		2173
Mitchell	Crystal		2173
Mitchell	David		2131
Mitchell	David		2131
Mitchell	Desiree		2173(u)
Mitchell	Dianne		2173
Mitchell	Dorothy		2173
Mitchell	George		0316
Mitchell	Jennifer		2131
Mitchell	Jennifer		2173
Mitchell	Jessica		2131
Mitchell	Joan		2173
Mitchell	Jonathan		2173
Mitchell	Joseph		2000
Mitchell	Joyce		2173
Mitchell	Karen		2173
Mitchell	Kathryn		2173
Mitchell	Kelley		2173
Mitchell	Laurie		2173
Mitchell	Lenise		2173
Mitchell	Marilynn		2173
Mitchell	Martha		2173
Mitchell	Mary		2173
Mitchell	Melissa		2173
Mitchell	Melissa		2173
Mitchell	Michele		2173
Mitchell	Michelle		2173
Mitchell	Pamela		2131
Mitchell	Patrick		2173
Mitchell	Phillip		2131
Mitchell	Rick		2173
Mitchell	Robert		2173
Mitchell	Ruby		2173
Mitchell	Sidney		2173
Mitchell	Stephen		2000, 2173
Mitchell	Susan		2173
Mitchell	Thom		2173
Mitchell	Valory		2173
Mitchell-Poyser	Nadine		2173
Mitchelmore	Sarah		2173
Mitose	Kazuko		2000, 2173
Mitoulas	Virginia		2173
Mitrovich	Justine		2173
Mitsch	Connor		2173
Mitsuda	Michael		2131(1)
Mittel	Kathleen		2173
Mittelstadt	Lynn		2173
Mittelstaedt	Douglas		2173
Mitton, Jr.	Joseph		2173
Mitts	Yolanda		2173
Mitu	Camelia		2000
Miville	Sharon		2173
Mixell	Janice		2131
Mizar	Robert		2173
Mize	Robert		2173
Mizell	Linda		2131
Mizrahi	Sheila		2131, 2173
Mizuki	Michelle		2173

Last Name	First Name	Org	CIN
Mlawski	Leslie		2173
Mlodzik	Catherine		2173
Mmeek	Judith		2173
Moan	Benjamin		2031(u)
Moan	Jaina		2076(1), 3038
Moan	Terry		2131
Mobley	Amanda		2173
Mobley	Susan		2000, 2173
Moccio	Michael		2312
Moceri	Cathy		2173
Mock	Carole		2131
Mock	Michael		2131
Mock	Neal		2173
Mockus	Deimile		2173
Moczygemba	Stan		2173(u)
Moden	Tina Moden		2131
Modgeddi	Negar		2173
Modine	Mark		2131
Modjeski	Jan		2173
Modrell	Carol		2173
Moegenburg	Mary		2131(1), 2173
Moeller	Anne		2131
Moeller	Erik		2131
Moeller	Robert		2173
Moeller	S		2000
Moeller	William		2173
Moen	Edward		2173
Moenk	Jeanne		2173
Moeser	Sharon		2131
Moezzi	Liz		2173

Last Name	First Name	Org	CIN
Moffa	MikeAnthony		2000
Moffett	Allison		2173
Moffett	Jeffrey		2173
Moffett	Lavern		2173
Moffitt	Sandy		2173
Mogensen	Alan		2173
Moglowsky	Susi		2000
Mogran	John		2131
Mogull	Constance		2173
Mohaupt	Michael		2031
Moher	Thomas		2173
Möhler	Sabine		2000
Mohning	Kathleen		2000
Mohr	Karen		2173
Mohr	Laurel		2173
Mohr	Meredith		2173
Mohr	Susan		2173
Mohr-Felsen	Ariane		2131
Mohseni	Leila		2000
Moht	Yolanda		2173
Moir	Dollie		2131, 2173
Moissant	Helen		2173
Moissant	Helen		2000
Mokelke	Susan		2173
Mola	Nicole		2000, 2173
Molde	Donald		2105
Molen	Mark		2131
Molendijk-Schipper	Lenie		2173
Molessa	Leslie		2131
Moleti	Carole		2173

Last Name	First Name	Org	CIN
Molidor	Dave		2173
Molieri	Rachel		2173
Molin	Stephen		2173
Molina	Ana		2173
Molina	Darlene		2173
Molinar	Lanie		2173
Molinelli	Caryn		2173
Moller	Margaret		2173
Möllersten	Björn		2173
Mollet	Murray		2131
Mollett	Kathy		2131
Molloy	Mark		2000
Mols	Marie Thérèse		2000
Molsberry	Tania		2131
Molyneaux	Kathie		2173
Momerak	Gaye		2173
Monacella	Pat		2312
Monaco	Carol		2173
Monaghan	Dennis		2000
Monaghan	Sue		2173
Monaghan	Wendy		2173
Monagle	Cathy		2131
Monahan	Gregory		2131
Monahan	Laurie		2173
Monahan	Marie		2173
Monch	Maria		2173
Monda	Lisa		2173
Mondanelli	Anna		2173
Mondel	Steven		2173
Mondragon	Michelle		2173
Mondres	L. H.		2173

Last Name	First Name	Org	CIN
Monell	Mary		2173
Monfette	Aggie		2000, 2173
Monforte	Thomas		2173
Monfredini	Janet		2173(u)
Monge	Mary Lynn		2094
Monger	Becky		2173
Monjauze	Sue		2173
Monk	Tom		2173
Monreal	Tania		2000(1)
Monroe	Cord		2173
Monroe	Dana		2173
Monroe	Donna		2131
Monroe	Elizabeth		2131
Monroe	James		2173
Monroe	James R		2000
Monroe	Katrina		2173
Monroe	Michael		0168
Monroe	Thomas		2173
Monroe-Rubendall	Amanda		2173
Monroe-Stockton	Sondra		2173
Monson	Matt		2131
Monson	Todd		2173
Montague	Dana		2173
Montague	Fred and Patricia		2173
Montague	Katherine		2000
Montague	Susan		2000
Montalbano	Chris		2173
Montanez-Salas	Alida		2173
Montano	Pedro Ivan		2131(2)
Montarou	Anne		2000, 2173
Monteith	Dawn		2173(u)
Montello	Ramona		2173
Monterisi	Mariangela		2000
Montero	Cindy		2173
Montes De Oca	Dayanara		2000(1)
Mont-Eton	Jean		2173
Mont-Eton	Michele		2131
Montez	Arlene		2131, 2173
Montez	Christopher		2173
Montgomery	Carol		2131
Montgomery	Cristie		2131
Montgomery	Cynthia		2173
Montgomery	Douglas		2173(u)
Montgomery	Edith		2000
Montgomery	Kelley		2131
Montgomery	Mary Ann		2312
Montgomery	Mary Ellen		2131
Montgomery	Mary Lee		2173
Montgomery	Orne		2173
Montgomery	Tiffany		2173
Montgomery	William		2173(u)
Monti	Chris		2131, 2173
Montoya	Magdalena		2173
Montoya	Marisol		2031(u)
Montoya	Thomasine		2131
Montoya	Viola		2173
Moody	Ian and Janeane		2000
Moody	Justine		2173
Moody	Peggy		2312
Moody	Randa		2173
Mooers	S		2173
Moon	Diane		2173
Moon	Jennifer		2173
Moon	Lauri		2000
Moon	Rick		2173
Mooney	Chris		2173
Mooney	Debra		2000
Mooney	Eric		2173
Mooney	Glenn		2173
Mooney	Holly		2173
Mooney	Kenneth		2173
Mooney	Linda		2000
Mooney	Marina		2173
Moonlight	Ardis		2173
Moonshadow	Ms/Moon-shadow		2131, 2131(u)
Moore	Ben		2173
Moore	Bettye		2173
Moore	Brian		2031(u)
Moore	Brian		2031(u)
Moore	Brian		2173
Moore	Caroline		2131
Moore	Chris		2000, 2173, 2312
Moore	Chyrl		2173
Moore	Debbie		2173
Moore	Debbie		2173
Moore	Debra		2000
Moore	Eloise		2173
Moore	Emily		2173

Last Name	First Name	Org	CIN
Moore	Eric		2131
Moore	Eva		2173
Moore	Gary		2173
Moore	Gayle		2173
Moore	Janine		2173(u)
Moore	Jeff		2131
Moore	Joanne		2173
Moore	John		2173
Moore	John and Carol		2173(u)
Moore	Judy		2173
Moore	Jutta		2173
Moore	Kimberly		2173
Moore	Laura		0121
Moore	Leah		2000
Moore	Lee		2000
Moore	Linda		2000
Moore	Malc		2173
Moore	Maria		2173
Moore	Nancy		2173(u)
Moore	Norma		2173
Moore	Pam		2173
Moore	Paul		2000
Moore	Randy		2173
Moore	Robert		2131
Moore	Roberta		2031(u)
Moore	Roger		2173
Moore	Shabaka		2173
Moore	Sherrie		2000, 2173(u)
Moore	Susan		2131
Moore	Susan		2000
Moore	Tasha		2000
Moore	Thomas		2173
Moore	Tina		2173
Moore	Tony		2000
Moore	Trois		2000, 2173
Moore	Veronica		2173
Moore	Walter		2173
Moore	Wynne		2173
Moorhead	Fiona		2173
Moorman	Janet		2173
Mooshie	Marilyn		2000
Moqtaderi	Cyrus		0152
Mora	John		2173
Morabito	Giorgio		2131
Morache	Elisa		2031
Moraiti	Vicky		2000
Morales	Anne		2131
Morales	Ernesto		2131
Morales	Josue		2173
Morales	Julie		2000
Morales	Mario		2173
Morales	Marisa		2131, 2173
Morales	Marisol		2173
Morales	Maxine		2173
Morales	Rosy		2173
Morales-bello	Raquel		2173
Moran	Denis		2131
Moran	Denise		2173
Moran	Emily		2131
Moran	Erin		2173
Moran	Fintan		2173
Moran	Frances		2131, 2173
Moran	John JH		2173
Moran	Mary		2173
Moran	Michael		2173
Moran	Mike		2173
Moran	Susan		2173
Morand	Lynne		2173
Morander	Kellyann		2173
Morandi	Lucilene		2173
Morano-Brown	Darleen		2173
Moranz	Sigrid		2173
Morarre	Pamela		2173
Moraski	Kathleen		2000, 2173
Moray-Brach	Debra		2173
Mordente	Denise		2173
More	Mary		2173
More	Robert		2173
Morefield	James		2031(u)
Morefield	James		2031(u)
Morehouse	Michelle		2173
Morell	Nicole		2173
Morelli	Elizabeth		2173
Morelli	Janice		2131
Moreno	Ashlyn		0083
Moreno	Brigid		2173
Moreno	Henry		2173
Moreno	Michael		2131
Moreno	Sharon		2173
Moreno	Trini		2173
Moret	Tim		2131
Morey	Cynthia		2173

Last Name	First Name	Org	CIN
Morey	Kat		2173
Morey	Kathleen		2173
Morey	Kathleen		2131
Morgan	Angela		2173
Morgan	Barbara		2000
Morgan	Belinda		2173
Morgan	Beverly		2173
Morgan	Carolisa		2173
Morgan	Catherine		2164
Morgan	Dan		2000
Morgan	Derek		2131
Morgan	Edward		2173(u)
Morgan	Elaine		2173
Morgan	Ellen		2000
Morgan	Greg		2173
Morgan	Janine		2173
Morgan	Jean		2131
Morgan	Jeffrey		2173
Morgan	Jim		2173
Morgan	Lea		2173
Morgan	Linda		2173
Morgan	Linda		2131, 2173
Morgan	Marie		2131
Morgan	Michael		2173
Morgan	Nerissa		2000
Morgan	Norma		2312
Morgan	Robert		2173
Morgan	Robert H.		2131
Morgan	Shelly		2173
Morgan	Sylvia		2173
Morgan	Tori		2312
Morgan	Viv		2173
Morgan-Storer	Katie		2173
Morgaridge	Jeanne		2173
Morgart	Robert		2131
Morgen	Joy		2173
Morgenstern	Dorothea		2173
Morgenstern	Jack		2131
Morgenstern	M.L.		2131
Mori	Lidia		2000
Moriarity	Ann		2173
Morics	Tracy		2173
Morimoto	Joyce		2173
Morin	Carla		2000, 2173
Morin	Charleen		2173
Morin	Elan		2173
Morin	Tom		2131
Moris	David		2000
Morley	Dennis		2000, 2173
Morley	Hannah		2173
Morley	Julaine		2173
Morning Star	Opal		2131
Morningstar	Larry		2173
Morochnik	Adam		0103
Morphew	Karol		2000
Morr	Rachel		2000, 2173
Morrell	Brian		2173
Morrell	Cynthia		2173
Morrell	Debbi		2173
Morrell	Larry		2173
Morren	Jay		2173
Morresi	Gian Andrea		2000
Morrill	Kim		2173
Morrin	Mike		2173
Morringello	Gerri		2173
Morris	Alan		2173
Morris	Carole		2173
Morris	Cecily		2173
Morris	Chrys		2173(u)
Morris	Darlene		2000
Morris	Jeff		2031
Morris	Jessica		2173
Morris	Lisa		2173
Morris	M		2131
Morris	M		2173
Morris	Mary		2173
Morris	Michael		2173
Morris	Morge		2173
Morris	Olivia		2173
Morris	Pamela		2173
Morris	Patrick		2173
Morris	Patty		2000, 2173
Morris	Peggy		2131, 2173
Morris	Rhonda		2173
Morris	Robert		2173
Morris	Scarlett		2131
Morris	Sharon		2000(1)
Morris	Steven		2000
Morris	Steven		2173
Morris	Susan		2173
Morris	Theresa		2131
Morris	Vonya		2173

Last Name	First Name	Org	CIN
Morris	William		2173
Morrison	Anton		2312
Morrison	Barb		2000, 2173(1)
Morrison	Bruce		2173
Morrison	Cathy		2131, 2173
Morrison	Cindy		2173
Morrison	Edward		2131
Morrison	James		2000
Morrison	Jessica		2173
Morrison	Jill		2000
Morrison	Mary		2173
Morrison	Patricia		2173
Morrison	Patricia		2131
Morrison	Rebecca		2173(u)
Morrison	Whitney		2173
Morrison-Hunt	Colleen		2173
Morrissey	Bruce		2173
Morrone	Marina		2173
Morros	Jorge		2173
Morrow	Andrea		2031(u)
Morrow	Andrea		2031(u)
Morrow	Beneth B.		0049(1)
Morrow	Brandon		2000
Morrow	Jane		2173
Morrow	John		2173
Morrow	Lauren		2173
Morrow	Rosalyn		2131
Morsberger	Grace		2173
Morse	Amy		2173
Morse	Annabella		2173
Morse	Janet		2131
Morse	Jean		2173
Morse	Lauren		2000
Morse	Sundae		2173
Morse	Susan		2000
Morse	Thomas		2131
Morse	Thomas		2173(u)
Mortensen	G		2173
Mortensen	John		2173
Mortensen	Leni		2173
Mortimer	Sarah		0037
Morton	Amy		2173
Morton	Jenny		2131
Morton	Julie		2173
Morton	Kelly		2173
Morton	Robert		2173
Morton	Robin		2173
Morton	Susan		2173
Morton-Hamil	Ellen		0067
Morzenti	Eugenia		2000
Moschetti	Jacklyn		2173
Moscuzza	Pierfrances-co		2173
Moseley	Mandylee		2131
Moser	Janet		2173
Moser	Lynn		2173
Moser	Rich		2000
Moser	Rochelle		2173
Moses	William		2312
Mosher	Ellen		2131
Mosher	Kathryn		2173
Mosher	Kristin		2173
Mosier	Akila		2000, 2173
Mosier	Tracy		2173
Mosimann	Edward		2131(u)
Moskowitz	Audrey		2173
Mosley	Marilyn Cochran		2173
Mosley	Wesley		2031(u)
Mosqueda	Anna		2173
Moss	Carol		2173
Moss	Eliot		2173
Moss	Eric		2173
Moss	Geralyn		2173
Moss	Mia		2000
Moss	Paul		2173
Moss	Paul		2000
Moss	Teri		2173
Mossavi	Ida		2173
Mosser	Michelle		2173
Moszyk	John		2000, 2131
Mothershead	E.		2131
Motiel	William		2173(u)
Motsinger	Kathy		2000
Mott	John		2312
Mott	Kristin		2173
Mott	Marsie		2173
Motta	Denise		2173
Motta	Jessica		2173
Motta	Michael		2173
Motto	Bob		2173
Mottola	Phyllis		2000
Motzer	Robin		2173
Mould	Brian		2173
Moulin	Margo		2173

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Moulton	Estelle		2173
Moulton	Heidi		2173
Moulton	James		2131
Mount	Anita		2173
Mountjoy	Ben		2173
Moureau	Ann		2131
Moureilles	Tony		2173
Mourlas	Alexander		2173
Mouron	Justine		2031
Mouw	Cynthia		2000
Mouzourakis	Kathy		2173
Mouzourakis	Nicholas		2173
Mower	Todd		2173
Mown	Lynn		2173
Moxey	Keith		2173
Moxley	Mike		2173
Moy	Albert		2173
Moy	Carolyn		2000
Moy	Gene		2173
Moy	Kristine		2173
Moy	Mike		2173
Moy	Ruth		2173
Moyed	Karole		2173
Moyer	Bob		2173
Moyer	Bruce		2173
Moyer	Daniel		2173
Moyer	Sandra		2173
Moyers	Delma & Ben		2173
Moyers	Sidney		2173
Moylan	Julie		2173
Moyle	Kristi		2173(u)
Moyner	James		2173
Mozziconacci	Monique		2000
Mozzocchi	Amy		2173
Mroz	Heather		2131
Muccillo	Dolf		2173
Muckerman	Steve		2131
Mudrak	Louise		2173
Mudrick	Stephen		2173
Muecke	Jessie		2131
Muehlbacher	Christopher		2000
Mueller	Amy		2173
Mueller	Christine		2000, 2173
Mueller	Christine		2173
Mueller	Frances		2131
Mueller	Gabrielle		2131
Mueller	Karsten		2000, 2173
Mueller	Marilyn		2000, 2173
Mueller	Matt		2131
Mueller	Michael		2173
Mueller	Michal		2173(u)
Mueller	Michelle		2131
Muench	Kristen		2131(u)
Muetz	Percy		2173
Mufson	Susan		2173
Mugele	Kathleen		2173
Mugglestone	Lindsay		2173
Muir	Jennifer		2173
Mujica	Bernardo Alayza		2173
Mulanax	Monica		2173
Mulcahey	Martin		2131, 2173
Mulcahy	Karen		2131
Mulcahy	Patricia		2173
Mulcahy	Susan		2131
Mulcare	James		2000, 2131(3), 2173(1)
Mulder	John		2173
Mulder	Joni		2173
Mulder	Linda		2173
Mulholland	Barbara		2173
Mulholland	Jane		2131
Mulkey	John		2131
Mulkey	Selway L.	Pahrump Valley 4 Wheelers (member)	0265
Mull	Charles		2031
Mullan	John		2173
Mullane	Danny		2173
Mullaney	Linda		2173
Mullen	Katie		2173
Mullenger	Judi		2173
Mullennix	Sarah		2173
Mullens	Pamela		2173
Muller	Donna Sue		2173
Muller	Liz and Don		2131
Muller	MaryAnne		2173
Muller	Maureen		2173
Muller	Monika		2031
Muller	Sue		2312
Mullett	Laurie		2173
Mulligan	Margi		2000

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Mullin	Gregory		2131
Mullin	Jon		2131, 2173
Mullineaux	Dixie		2173
Mullins	Denise		2000
Mullins	Jery		2173
Mullins	Pamela		2173
Mullins	Ruth		2131
Mullins	Susan		2173
Mulloy	Alyce		2173
Mulraney	Jenna		2173
Mulvey	Greg		2173
Mulvey	Lori		2173
Mulvey	Patrick		2173
Mulvihill	Patrick		2000
Mumaw	Cheryl		2173
Muncich	Jennifer		2319
Mundal/M	Sarah		2000, 2173
Munday	MaryMark		2173
Mundie	Alan and Barbara		2173
Mundo	Beth		2031(u)
Mundon	Lynne		2173
Mundy	Jaye		2131
Mundy	Ken		2312
Mungarro	Tina		2173
Mungle	Terri		2173
Mungo	Deloris		2173
Munkelnbeck	Susan		2131
Munn	Erica		2173
Munn	Patricia		2173
Munoz	Claudia		2173
Munoz	Laura Andrea		2000
Munoz	Laurie		2173
Muñoz	Laura		2000(1)
Munroe	Thailynn		2173
Munson	Tina		2173
Munter	Barbara		2131
Muntter	Laurie		2173
Munves	Sol		2131
Munzke-Deal	Janice		2173
Muraski	Anne		2173
Murawski	Heather		2173
Murch	Annette		2173
Murgel	Angela		2131(u)
Murillo	D. Eve/Eve		2131, 2173
Muro	Maxamina		2173
Murphey	Carolyn		2000
Murphey	James		2173
Murphy	Annette		2173
Murphy	Ashley		2173
Murphy	Barbara		2173
Murphy	Cassie		2173
Murphy	Chuck		2131
Murphy	Cindy		2000
Murphy	Dacia		2000, 2131
Murphy	Daneen		2031(u)
Murphy	David		2173
Murphy	David		2131
Murphy	Deborah		2173
Murphy	Ellen		2000
Murphy	Erin		2000
Murphy	Ernie		2000
Murphy	Heidi		2173
Murphy	Irene		2173
Murphy	James		2173
Murphy	Joan		2131
Murphy	Joann		2131
Murphy	Joy		2131
Murphy	Karen		2173
Murphy	Kelle		2173
Murphy	Linda		2131, 2173
Murphy	Linda		2000
Murphy	Liz		2000
Murphy	Liz		2173
Murphy	Lucinda		2173
Murphy	Lynn		2173
Murphy	Mary		2131, 2173
Murphy	Mary Ann		2173
Murphy	Melanie		2173
Murphy	Michelle		2173
Murphy	Patricia		2173
Murphy	Richard		2131
Murphy	Samantha		2000
Murphy	Stephen		2173
Murphy-Kennerson	Kelly		2173
Murray	Adriana R.		2031
Murray	Barbara		2173
Murray	Claudine		2131
Murray	Craig		2000
Murray	Cristy		2275

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Murray	Dan		2131, 2173(u)
Murray	Dennis		2131
Murray	Donald		2173
Murray	Douglas		2173
Murray	Gia		2173
Murray	Jeanmarie		2173
Murray	Jim		2131
Murray	Kristen		2173
Murray	Lyn		2173
Murray	Marilee		2173
Murray	Monica		2173
Murray	Patrick		2173
Murray	Phil		2131
Murray	Rosemary		2173
Murray	Sonnet		2173
Murray	Susanne		2173
Murray	Verona		2173
Murrow	Stacey		2000(1)
Murru	Christine		2173
Murtagh	Joan		2173
Murtha	Jackie		2173
Musante	Heather		0282
Muscardelli	Dani		2000
Musgrave	Drew		2000
Musgrove	Jeanne		2173(u)
Musialowski	Monique		2000, 2173
Musick	Constance		2173
Musielski	Gina		2173
Musselman	Casey		2131
Musser	Christy		2173
Musser	Grace Sage		2131(1)
Musser	Greg		2173
Musser	Kathy		2173
Musser	Richard		2173
Musser IV	William M.		2173
Musson	Larry		2173
Mustaca	Raquel		2173
Musulin	Annette		2173
Mutascio	Bob		2173
Mutchnick	Patrice		2000
Muth	Daniel		2173
Muto	Dale		2173
Muttitt	Lillian		2312
Muyskens	Paula		2173
Muzecka	Katarzyna		2173
Mydlowski	Laura		2173
Myer	Kaiulani		2173
Myers	Adele		2173
Myers	Amanda		2000
Myers	Amy		2173
Myers	Ann		2173
Myers	B.		2131
Myers	Carina		2173
Myers	Carol		2173
Myers	David		2000
Myers	Donna		2173
Myers	Herb		2312
Myers	Hugh		2173
Myers	Keli		2173
Myers	Krysten		2173
Myers	Linda		2173
Myers	Lorraine		2131
Myers	Mecky		2131, 2173
Myers	Melissa		2173
Myers	Nancy		2173
Myers	Paula Jean		2131
Myers	Rebekah		2131
Myers	Rob		2031(u)
Myers	Robert		2173(u)
Myers	Robert		2173
Myers	Stephanie		2112
Myers	Suzette		2173
Myers	Virginia		2131
Myers	Wendi		2000, 2173
Myerscough	A		2173(u)
Myers-Fuqua	Veronica		2173
Myhill	William		2173
Myles	Paula		2173
Mylott	Sharon		2000
Myones	Zach/ Zachery Roberts		2000(1), 2131(1)
Mysak	Cathleen		2173
Myshrall	Lane		2131
Mysliwiec	Molly		2131

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Last Name	First Name	Org	CIN
N	Kathy		2173
N	Reba		2131
N.	Ads		2173
N.	Elisabeth		2000, 2131, 2173

Last Name	First Name	Org	CIN
N.	Victoria		2131
Naake	Gary		2173
Nabulsi	Laila		2173
Naccarato	James		2131
Naclerio	Frank A. & Edwina M.		2173
Nadeau	Jeanette		2131
Nadeau	S		2173
Nadel	Barbara		2173
Nadel	Robin		2173
Nadell	Michael		2173
Nader	Loralei		2173
Nadig	Keith		2131
Nading	Lisa		2173
Nadler	Cara		2031(u)
Nadolny	Caitilan		2173
Nadolski	John		2000
Nadreau	Patricia		2000
Naegele	Alice		2173
Naeser	Mark		2173
Naeseth	Joan		2173
Nagarajan	Kumar		2000(u)
Nagarajan	Sugandha		2173(u)
Nagel	Clinton		2312
Nagel	Davies		2173
Nagel	Dennis		2173
Nagel	Douglas		2131
Nagel	John		2173
Nagle	Mirabai		2131, 2173
Nagy	Marilee		2173
Nagyfy	Desi		2173
Nahigian	Kenneth		2173
Naidich	Sandra		2000, 2173
Naidnur	Joseph		2173
Naidow	Becky		2173
Nailon	Jerry		2173
Naive	Jurissah		2173
Naji	Adela		2131, 2173
Naji	Eric		2000
Nakama	Christy		2173
Nakamura	Mike		2173
Nakayama	Midori		2173
Nam	S.		2000
Namgyel	Janpal		2131
Namie	Joylin		2031(u)
Nanamori	Wesley		2173
Nanarjain	Gina		2000(1)
Nance	Nicholas		2173
Nantz	Jane		2131
Naples	Jean		2131
Naples	Steve		2173
Napoli	Michelle		0150, 3031
Napoli	William		2131
Napolitano	Karen		2173
Napolitano	Sabrina		2173
Napombhe	Jerry		2173
Naranjo	Arlene		2173
Narasimhan	Subha		2173
Narbutovshih	Paula		0165, 2131
Narbutovskih	Anna		2000
Narcisse	April		2173
Nardell	Jason		2131, 2173
Nardella	Nancy		2173
Nardone	Patricia		2173
Narducy	Suzanne		2173
Narigon	Amelia		2000
Narnes	Christine		2173
Nartoomid	Simeon		2131
Narvios	Tem		2173
Naser	Gida		2173
Nash	Heyward		2173
Nash	Maryann		2000
Nason	Randolph		2131
Nassau	Lurie		2131
Nasta	Allan		2173
Nastase	Andrei		2173
Nastick	Kim		2173
Nasuti	Paul		2000, 2173
Natale	Joseph A		0289
Nathanson	Barbara		2173
Nations	L		0171
Natures	Irene		2173
Natwick	Peter		2173
Naujokas	Deborah		2131
Nault	Mike		2173
Nauman	Dave		2173
Naumoff	Bob		2173
Nautel	Victoria		2173
Navan	Gloria		2000, 2173
Navarrete	Kathleen		2173
Navarro	Andres		2000

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Navarro	Eleanor		2000, 2131, 2173
Navarro	Johnny		2173
Navarro	Matilde		2173
Navas	Jeannelle		2173
Navato	Brian Timothy		0062
Nawrocki	Tanya		2031(u), 2319
Naylis	Maureen		2173
Naylor	John		2000, 2173
Nazarenko	John		2173
Nazario	Alexis		2173
Nazelrod	M		2173
Nazor	Craig		2312
Neal	Andrea		2173
Neal	Carter		2131, 2173
Neal	D		2173
Neal	E.		2000, 2173
Neal	James		2312
Neal	Nicole		2173
Nealis	Tammy		2173
Nealy	Carol		2173
Nease	Gregory		2173
Nebel	Bob		2000
Necker	Thea		2173
Nedeff	Liz		2173
Nedrow	Christy		2131, 2173
Needham	Margaret		2173
Needham	Meredith		2173
Needham	Roxanne		2173(u)
Needham	Sally		2173(u)
Neef	Ann		2173
Neel	James		2173
Neely	Kathy		2173
Neely	Michael S.		0046
Neely	Rosemary		2131
Neff	Grace		2131
Neff	Tracey		2173
Neffenger	Gretchen		2173
Nefsky	Melvyn		2131, 2173
Neft	Darrell		2131(1)
Negele	A		2173
Negri	Angela		2173
Neher	Emelie		2173
Neiderhiser	Jenae		2173
Neidich	Theresa		2173
Neidish	Juliet		2173
Neihart	Janet		2000
Neiheisel	Rachel		2000
Neill	Cara		2173
Neill	Laurie		2173
Neill	Theresa		2173
Neilson	Derek		2173
Neira	Stephanie		2000
Neisler	Alexandra		2173
Neitz	Morita		2173
Neitzel	August		2173
Neitzke	Katherine		2173
Nellenbach	Gloria		2173
Nelligan-McGarry	Nancy		2173
Nellyna	Rogereau		2000
Nelson	Andrew		2173
Nelson	Brett		2131
Nelson	Bridget		2173
Nelson	Bruce		2000
Nelson	Carol		2131
Nelson	Cecelia		2173
Nelson	Danielle		2173
Nelson	David		2000, 2131
Nelson	Debbie		2173
Nelson	Debbie		2173
Nelson	Elaine		2000
Nelson	Emily		2000
Nelson	Gary		2173
Nelson	George		2173(u)
Nelson	J Marlowe		2173
Nelson	Jennifer		2173
Nelson	JoAnn		2131
Nelson	Joanne		2173
Nelson	Julie		2173
Nelson	Karen		2000
Nelson	Karin		2173
Nelson	Karla		2173
Nelson	Kathleen		2173
Nelson	Kim		2173
Nelson	L		2000
Nelson	Lorinda		2173
Nelson	Lynette		2173
Nelson	Marisa		2312
Nelson	Michael		2173
Nelson	Michael		2131(1)

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Nelson	Nancy		2031(u)
Nelson	Nick		0224
Nelson	Pam		2173
Nelson	Perry		2173
Nelson	Priscilla		2131
Nelson	Rebecca		2173
Nelson	Sharon		2173
Nelson	Sharon		2173
Nelson	Sonja		2131, 2173
Nelson	Thelma		2173
Nelson	Thomas		2173
Nelson	Thora		2173
Nelson	Tracy		2000
Nelson	Vard		2000
Nelson	Walter		2131
Nelson-Ihne	Paula		2000, 2173
NelsonRogers	Karin		2131
Nemet	Stephanie		2173
Nemeth	Ellyn		2173
Nemeth	Katherine		2131
Nemeth	Michael		2031(u)
Nemirow	David		2173
Neprash	Randy		2173
Neptune	Mary		2173
Nereim	Jennifer		2173
Nero	Kim		2173
Nesbitt	Lynda		2173
Nesbitt	Michael		2173
Nesheim	Maria		2173
Neskauskas	Nancy		2131
Ness	Gina		2173
Ness	Teal		2000
Nessan	Curtis		2173
Nest	John		2173
Neste	Lisa		2000(1), 2131(2), 2173
Nesteruk	Valerie		2173
Nestor	Mike		2000
Netkin	Steven		2173
Netter	Peter		2173
Nettesheim	Catherine		2173
Nettleship	Barbara		2173
Nettleton	David		2173
Netzel	Forrest		2000(2), 2173
Neu	Mary		2173
Neubauer	Erin		2000, 2173
Neubauer	Karen		2173
Neubauer	Melissa		2173
Neuber	Christa		2000
Neuefeind	Bettina		2173
Neuenschwander	Betty		2131(1)
Neuenschwander	Leon		2173
Neuhalfen	Claudia		2000(1)
Neuhalfen	Reinessa		2229
Neuhauser	Alice		2173
Neuhoff	Catherine		2173
Neuman	Loretta		2000
Neumann	David		2173
Neumann	Nancy		2000
Neumann	Pam		2173
Neumann	Renata		2000
Neumann	Roger		2173(u)
Neumann	Ross		2173
Neuner	Keith		2131, 2173
Neurauter	Sarah		2173
Neuschaefer	Kate		2131
Neuss	Marleen		2000
Neuvar	Elizabeth		2312
Neuzil	Bob/Robert		2131, 2173
Nevala	Heidi		2173
Nevel	Cecilia		2173
Neville	Rebecca		2173
Nevi-Maguire	Patricia		2173
New	Terri		2131
Newash	Judith		2173
Newberry	Martha Jordan		2173
Newbery	Jasmine		2319
Newbury	Claudia		0268
Newby	Mindy		2140, 2222
Newcombe	Tracy		2000
Newcomer	Priscilla		2000, 2173
Newell	Barbara		2000
Newell	Mike		2131
Newell	Sue		2173
Newgent	Susan		2173
Newhard	Jay		2173
Newhouse	Henry		2131(1), 2173
Newhouser	Stephanie		2173

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Newick	Cyndee		2000, 2173
Newkirk	Dorothy		2173
Newman	Anita		2173, 2312
Newman	Constance		2173
Newman	Denise		2173
Newman	Gene		2173
Newman	Kathy		2173
Newman	Richard		2173
Newman	Ricki		2000, 2173
Newman	Roberta E.		2173
Newman	Serena		2000
Newman	Sharon		2000
Newman	Travis		2173
Newman	Vicky		2173
Newman-Deurloo	Marianne		2131
Newman-Osmon	Jacomina		2131
Newmark	Eric		2031(u)
Newmark	Leone		2312
Newsom	Bert		2173
Newsom	Stephanie		2173
Newsome	Mike		2173
Newton	Ann		2173
Newton	Chad		2173
Newton	Don		2173
Newton	Gary		2131, 2173
Newton	Laura		2131, 2173
Ney	Christine		2000, 2131
Ng	Cat		2173
Ng	James		2173
Ng	Mary		2173
Ng	Won		2173
Nghiem	Kim		2173
Ngo	Thinh		2173
Nguyen	Ann		2000
Nguyen	Dylan		2173
Nguyen	Hoang		2131(1)
Nguyen	Monica		2173
Nguyen	Tracy		2173
Nicaise	Susan		2031(u)
Nicastro	Vince		2131(u)
Nicholas	Andrew		2000
Nicholas	Anna		2173
Nicholas	Gudda		2173
Nicholas	Jill		2173
Nicholas	Judith		2173
Nicholas	Laura		2173
Nicholas	Leslee		2173
Nicholas	Norma		2173
Nicholas	Peter		2173
Nicholls	Michon		2031(u)
Nichols	Debra		2173
Nichols	Jason		2000
Nichols	Leslie		2173
Nichols	Peggy		2173
Nichols	Peter		2000
Nichols	Richard		2131
Nichols	Sarah		2173
Nichols	Susan		2173
Nicholson	Abby		2173
Nicholson	Heather		2131
Nicholson	Kim		2173
Nicholson	Nancy		2173
Nicholson	Viola		2173
Nickel	Mick		2131
Nickel	Patricia		2173
Nickell	Joanne		2173
Nickerson	Alvin		2000
Nickerson	Susan		2173
Nicklaus	Deborah		2131
Nickle	Melinda		2173
Nickoson	Judi		2000
Nicks	Adriene		2173
Nickum	John		2131
Nicoara	Adrian		2000
Nicol	Tiffany		2131, 2173
Nicola	Nikki		2000
Nicolacci	Ornella		2173
Nicolai	Nicola		2173
Niday	Monica		2173
Niedling	Jo An		2131
Niedworok	Claudio		2173
Niehaus	Paul		2000
Niekamp	Matt		2173
Nieland	Tom		2000
Nielsen	Antonella		2000, 2173
Nielsen	Cathy		2031(u)
Nielsen	Cynthia		2031(u)
Nielsen	Jeff		2173
Nielsen	Karen		2131
Nielsen	Katy		2173

Last Name	First Name	Org	CIN
Nielsen	Kirsten		2000
Nielsen	Nathan		2173
Nielsen	Sonja		2000
Nielsen	William		2131
Nielson	Andrew		2173
Nieman	Jordan		2173
Niemann	Donald		2173
Niemeir	Nancy		2131, 2173
Niemeyer	Richard		2173
Niemeyer	Wendy		2000
Nienstadt	John		2131
Nierenberg	Susan		2131, 2173
Nierstedt	Bill		2173(u)
Nieves	Nelson		2173
Niewiarowicz	Mike/ Michael		2131, 2173
Night	Angela		2173
Night	Talus		2173(u)
Nightingale	Lori		2131
Nightingale	Maxine		2173
Nihipali	Michele		2131, 2173
Nihsen	Dixie		2173
Nika	Maria		2173
Nikides	Joanne		2173
Nikolz	Kathy		2000
Niksic	Joyce		2000
Nilasena	Nancy		2173
Niles	Amanda		2173
Nillissen	Sherry		2131, 2173
Nilsson	Crystal		2173
Nilsson	Derinda		2000(1)
Nilsson	Lena		2000
Nimic	Gisele		2173
Nimmo	Jenifer		2131
Nims	Cara		2173
Ning	Constance (Connie)		2131
Nippert	Rodney		2000
Nisbet	Patti		2173
Nischan	Taylor		2031(u)
Nisson	Grant		2173
Nistler	Yvonne		2173
Nitsch	Norbert		2000
Nitsos	Pamela		2173
Nitz	Jennifer		2000(u)
Niver	Diana		2173
Nix	Mrs.		2173
Nix	Robert		2173
Nix	Sara		2131
Nix	Zephan		2131
Nixkn	Diane		2173
Nixon	Sondra		2131
Nixon	Tim		2173
Nizinski	Tom		2173
Noack	Sally		2173
Nobel	Lauren		2173
Noble	Arthur		2173
Noble	Debra		2173
Noble	Frank		2173(u)
Noble	Liz and Ken		2131
Noble	Suzanne		2131(1)
Nóbrega	Fátima		2173
Nocera	Noelle		2173
Noel	Anja		2173
Noel	Tina		2173
Noel-Labieniec	Diana		2173
Noeske	Kyle		2173
Nogal	Barbara		2173
Nogle	Lowell		2173
Nogles	Tammy		2173
Noguerol	Ramiro		2000, 2173
Noire	Anne		2173
Nolan	Antoinette		2173
Nolan	Chris		2131
Nolan	Ela		2000, 2173
Nolan	Marianne		2173
Nolan	Pam		2173
Nolan	Ruth		0295
Nolasco	Chris		2173
Nolen	Richard		2173
Noll	Mary		2131
Noll	Michael		2173
Noll	Richard		2173
Noll	Sandra		2173
Noll	Terrie		2173
Noordyk	James		2000, 2173
Norbury	Kelly		2131
Norcia	Linda		2173
Nord	Randall		2173
Nordberg	Patricia		2173
Norden	Michael		2173
Nordenholz	Karen		2173

Last Name	First Name	Org	CIN
Nordgren	Ulla		2000
Nordheimer	Mary		2173
Nordhof	Pamela		2173
Nordin	Lillian		2173
Nordquist	Janine		2000
Nordquist	Teresa		2173
Noren	Elizabeth		2173
Norlin	Deb		2131
Norling	Jane		2173
Norman	Kay		2173
Norman	Patricia		2173
Normand	Donna		2173
Noroyan	Annabell		2173
Norris	Andrew		2173
Norris	Brenda		2000
Norris	Chrysta		2173
Norris	Eileen		2173
Norris	George		2173
Norris	Scott		2131
Norris	Susan		2131
Norris-jones	Julie		2000, 2173
North	Calvan		2131
North	Edward		2173
North	Ellen		2173
North	JD		2173
North	Joyce		2131
North	Laura		2173
North	Lisa		2173(u)
North	Susan		2173
Northrup	Lisa		2173
Norton	Gary		2131
Norton	Julie		2131
Norton	Rebecca		2173
Norton	Rhonda		2173
Norton	Ronald		2173
Nortz	Nancy		2131
Norup	Paul		2000
Norwine	Judith		2173
Norwood	Marcella		2173
Norwood	Michael		2173
Nostrom	Rachel		2173
Notaro	Julie		2173
Notary	Kimberly		2173
Notestine	James		2131
Nothern	Marjorie		2173
Noto	Ursula		2173
Notsch	Lisa		2173
Nottingham	Holly		2173
Nottingham	Lois		2173
Nounnan	Jack		2173
Nourse	Carrie		2173
Nousiainen	Marja		2173
Novack	Aaron		2000, 2131, 2173
Novak	Judith		2131(1)
Novak	Paul		2173
Novak	Peter		2173
Novak	Trina		2173
Novelo	Cristina		2000
Novey	George		2173
Novo	Emilia		2000
Novor	Barb		2131
Novotny	Suzanne		2173
Nowak	Carol		2173
Nowak	Connie		2131, 2173
Nowak	Joe		2000
Nowakowski	Carol		2131
Nowicki	Maria		2173
Nowicki	Susan		2000
Noyer	Carolyn		2131
Noyes	David		2173
Noyes	Pamela		2173
Nuesch	Ray		2000(2)
Nuetzel	Dave		2173
Nuffer	Barbara		2173
Nugent	April		2173
Nugent	Carol		2000, 2173
Nugent	Debra		2000
Numan	Shelia		2000, 2131
Numsen	Elizabeth		2173
Nunemaker	Connie/ Constance		2000, 2173
Nunes	Deborah		2173
Nunez	Adriana		2173
Nunez	Adriana		2173
Nunez	Anabel		2173
Nunez	Jill		2173
Nunez	Leonardo		2173
Nunez	Robert		2173
Nunez	Stephanie		2000(1), 2173
Nunez	William		2173
Nurse	Heidi		2173

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Nusca	Tyler		2173
Nuss	Katherine		2173
Nussbaum	Amy		2173
Nutini	Michael		2173
Nutley	Andrea		2000, 2173
Nutt	Anna		2173
Nutt	Denise		2173
Nye	Elizabeth		2173
Nye	Julie		2173(u)
Nygren	Vicki		2173
Nylen	Eric		2173
Nyne	Kate		2173
Nyquist	Kris		2173
NystrÃ¶m	Lotta		2173
Nystrom	Paula		2173
Nystrom	Warren		2173

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Last Name	First Name	Org	CIN
O	Catherine		2000
O	Kim		2173
O	Nancy		2000
O	Paige		2000
O' Malley	Mary		2173
O'Neill	Alan		0089
Oag	Natalie		2173
Oakley	Evan		2000, 2173
Oaks	Phoebe		2000
Oates	Judith		2173
Oates	Kimberly		2173
Oatman	Chuck		2173
Obarski	Kathleen		2173
Obarski	Vincent		2173
Obelcz	Mara		2131(1), 2173
Obenauf	Gail		2173
Obenchain	Helen		2173
Oberdorf	Robert		2000, 2173
Oberheu	Adam		2000
Oberkircher	Cheryl		2173
Oberle	John		2131
Obert	Leonard		2173
Oberti	August		2173
O'Bleness	Greiga		2173
Obolosky	Lenny		2131
Obr	Brooks		2173
Obre	Kathleen		2173
Obrien	Catherine		2131
Obrien	Gina		2000
Obrien	William		2000, 2131(1)
O'Brien	David		2173
O'Brien	Dean		2173(u)
O'Brien	Dennis		2173
O'Brien	Don		2000
O'Brien	Eileen		2173
O'Brien	Joyce		2173
O'Brien	Karen		2173
O'Brien	Kathy		2173
O'Brien	Kevin		2173
O'Brien	Lara		2173
O'Brien	Lee		2131
O'Brien	Lynda		2173
O'Brien	Michael		2173
O'Brien	Rebekah		2173
O'Brien	Robert		2000
O'Brien	Sara		2173
O'Brien	Susan		2131
O'Bryan	Kim		2173
O'Callaghan	Jacqueline		2173
O'Callaghan	Patrick		2173
Occhicgrosso	Julia	LV Catholic Worker	0009
Occhipinti	Laurie		2173
Ochoa	Chemen		2000, 2131
Ochoa	Melissa		2173
Ochsner	Susan		2173
O'Clair	Charles E.		2000
Ocon	Jill		2131(1)
OConnell	Trisha		2173
O'Connell	B		2173
O'Connell	Carol		2173
O'Connell	Chris		2173
O'Connell	Devin		2173
O'Connell	Joseph		2173
O'Connell	Kathleen		2173
O'Connell	Marcia		2173
O'Connell	William		0200
OConnor	Aimi		2173
OConnor	Barbara		2173
Oconnor	Denise		2131
Oconnor	Mallory		2173
Oconnor	Maureen		2173
OConnor	Shari		2000

Last Name	First Name	Org	CIN
Oconnor	Siochain		2173
O'Connor	Edward		2000
O'Connor	John		0163
O'Connor	Lesley		2173
O'Connor	Maureen		2173
O'Connor	P.A.		2131(u)
O'Connor	Patrick		2131
O'Connor	Robert		2031(u)
O'Connor DeFilippis	Mary Grace		2173
Oda	Aya		2000
Oda	John		2000(1)
Oda	John		2131
Odd	Joan		2173
ODear	Elizabeth		2173
Odegard	Kirstine		2127
ODell	Evan		2173
Odell	Katharine		2173(u)
Odell	Mark		2173
Odell	Rollin		2000
O'Dell	Nannette		2173
O'Dell	Rebecca		2173
O'Dell	Sean		2173
Odgers	Monica		2131
Odom	Lorrie		2131
Odoms	Taryn		2031
ODonnel	Mary		2131
ODonnell	Lisa		2173
O'Donnell	Dara		2000, 2173
O'Donnell	Dawn		2173
O'Donnell	Deanne		2000, 2131(1), 2173
O'Dowd	Patricia		2173(u)
O'Driscoll	Maggie		2173
Odry	S.		2173
Ody-Miller	Janine		2173
Oefinger	Barbara		2173
Oei	Tamara		2173
Oele	Mary		2173
Oerth	Pamela		2173
Officer	Shandra		2173
Offutt	Lynn		2000
O'Field	Karen		2173
Oganesoff	Nobuko		2173
Ogborn	Terry		2173
Ogella	Edith		2000, 2173
Oggiono	John		2000
Oggiono	Nanette		2000, 2173
Ogle	Alice		2173
Ogle	Anastasia		2131, 2173
Ogle	John		2173
Ogle	Karen		2131, 2173
Ogle	Marylou		2173
Oglesby	December		2173
O'Grady	David		2173
Ogren	Lorrie		2173
O'Hagan	Ian		2173
Ohagon	Netta		2319
O'Haire	Hugh		2173
Ohalloran	Pat		2173
O'Hare	Donal		2173
O'Hare	William		2173
O'hearn	Paul		2173
Ohland	Karen		2131
Ohline	Beverly		2173
Ohlson	Karin		2173
Ohlson	Ken		2173
Ohlsson	Dawn		2173
Ohm	Elizabeth		2131
Ohman	Michael		2031(u)
Ohmstede	Janis		2131(u)
Ohylton	Wen		2173
Okeefe	Teri		2173
O'Keefe	Brian		2173
O'Keefe	Geraldine		2173
O'Keefe	Mary Louise		2173
O'Keefe	Okeefe		2173
O'Keeffe	David		2173
O'Kelley	Celia		2131
Okinaka	Corey		2173
Okolowicz	Sofia		2173
Okubo	Audrey		2173
Okulewicz	Katherine		2173
Olafsdottir	Ruth		2173
Olan	Kay		2173
Olcott	Lori		2131
Olczak	Anatole		2173
Olden	Karen		2173
Oldershaw	Susan		2000
Oldfield	Debra		2173

Last Name	First Name	Org	CIN
Oldfield	Jane		2000, 2173
Oldham	Donna		2000
Oldham	Kathleen		2173
Oldham	Kevin		2131
Olds	Nancy J.	Sierra Club	0015, 3029
Olea	Brian		2031
O'Leary	Dan		2173
Olenick	Roberta		2000
Olenjack	Michael		2000, 2173
Oles	Mark		2173
Olguin	Ofelia		2000
Oliansky	Saul		2173
Oliva	Victor		2173
Olivares	Anne		2131
Olivas	Annette		2173
Olive	Sheila		2173
Oliveira	Ana		2000
Oliveira	Julie		2173
Oliver	Annie		2173(u)
Oliver	Bonnie		2131, 2173
Oliver	Daniel		2173
Oliver	Karen		2173
Oliver	Larry		2173
Oliver	Lorraine		2000
Oliver	Michael		2173
Oliver	Nora		2173
Oliver	Reed		2173
Oliver	Robert		2173
Olivera	Jacqueline		2173
OliverBorquez	Maureen		2131, 2173
Oliverio	Karen		2173
Oliverius	Allyson		2031(u)
Olivieri	Lynne M		2173
Olivieri	Matthew		2131
Olkowski	Karol		2173(u)
Ollom	Joan		2173
Ollove	Steve		2173
Olmstead	Christine		2173
Olmstead	Holly		2173
Olmstead	Karen		2173
Olmstead	Katherine		2173
Olmsted	Charles		2173
Olmsted	Roger		2131
Olo	Cris		2173
Olphin	Stacey		2173
Olsen	Amanda		2173
Olsen	Amy		2173
Olsen	Andrea		2173
Olsen	Corey E.		2173
Olsen	Dennis		2173
Olsen	Donna		2312
Olsen	Gail		2000(1)
Olsen	Jan		2131
Olsen	Loretta		2173
Olsen	Richard		2173(u)
Olsen	Yvonne		2173
Olsgard	Chris/Christine		2131, 2173
Olson	Allen		2000, 2131(1), 2173(1)
Olson	Amanda		2173
Olson	Anders		2031(u)
Olson	Barbara		2173
Olson	Belinda		2173
Olson	Charles		2173
Olson	Christine		2173
Olson	Diane		2131
Olson	James		2000
Olson	Jeffery		2000
Olson	Joyce		2173
Olson	Karl		3064
Olson	Katherine		2173
Olson	Larry		2173
Olson	Linda		2000
Olson	Linda		2173
Olson	Marilyn		2173
Olson	Nancy		2000
Olson	Nona		2173
Olson	Sarah		2173
Olson/O	F		2000, 2173
Olson-Knowles	Karen		2131
Olsson	Debra		2173
Olsson	Krister		2173
Oltman	M		2000
Olyschlager	Marilyn		2173
Om	Joy		2173
Omahoney	Colleen		2131
OMalley	Elaine		2173
O'Mara	Maureen		2173
O'Marra	Cornelia		2131(u)

Last Name	First Name	Org	CIN
O'Meara	Colleen & Joe - Defenders		2173
O'Meara	Patrick		2173
O'Meara	Suzanne		2173
O'Meara	Suzanne		2000
Oncley	Louise		2131
Oneal	Maureen		2173
O'Neal	Julie		2173
O'Neal	Stephanie		2173
ONeil	Julie		2173
O'Neil	Bernard		2173
O'Neil	Bob		2173
O'Neil	Brigid		2131, 2173
O'Neil	Donna		2173
O'Neil	Nicole		2000
O'Neil	Rory and Stacy		2131
Oneill	Den		2173
O'Neill	Casey		2000
O'Neill	Colleen		2173
O'Neill	Cynthia		2031(u)
O'Neill	Eamonn		2173
O'Neill	Kelsey		2031
O'Neill	Tammy		2000
O'Neill	Valjean		2173
Oney	Brian		2131
Ong	Ming		2173
Onicu	Adriana		2173
Ono	Christine		2173
Onopa	Stephanie		2173
Onsel	Greg		2173

Last Name	First Name	Org	CIN
Opel	Anna		2173
Openshaw	Sherrilee		2173
Opitz	Armin		2173
Oppenberg	Gale		2173
Oppenheimer	Aku		2131
Oppriecht	Eleanor		2173
Opria	Carol		2173
Or/O	Nancy		2000, 2131, 2173(u)
Oram	Susa		2173
Orantes	Destiny		2000
Oravec	Lora		2173
Orbino	Carol		2173
Orchloski	Gerald		2000
Orcutt	Victoria		2031(u)
OReilly	Charlie		2131
Oreilly	Maxine		2173
O'Reilly	Patricia		2173
O'Reilly	Randall		2131
Oremland	Bradley		2173
Orengo-McFarlane	Michelle		2173
Orf	Becky		2312
Orfe	Daniel		2173
Orians	Kristin		2173
Orkney	Garth		2131(u)
Orkow	Bonnie		2173
Orlando	Joanne		2131
Orlando	Marilyn		2173
Orlanski	Gabriela		2173
Ormanci	Necla		2173
Orndorff	Kata		2131(1)

Last Name	First Name	Org	CIN
Oronoa	Angel		2000, 2173
O'Rorke	Dennis		2173
Orourke	Melissa		2173
ORourke	Michael		2173
O'Rourke	Catherine		2173
O'Rourke	Marguerite		2000
Orourke/O	K		2000, 2173
Orr	Alicia		2000
Orr	Jerry		2173
Orr	Jill		2173
Orr	Judith		2173
Orr	Martha		2173
Orsatti	Jill		2131
Orser-cataldi	Elizabeth		2173
Orsetti	Anthony		2173
Ortega	Annette		2173
Ortega	Jackie		2131
Ortega	John		2173
Ortega	Maria		2173
Ortiz	Carla		2173
Ortiz	Carol		2173
Ortiz	Cathy		2173
Ortiz	Christina		2173
Ortiz	Claudia		2173
Ortiz	Dante		2319
Ortiz	Debra		2173
Ortiz	Gina		2000
Ortiz	Isabel		2173
Ortiz	Lori		2173
Ortiz	Megan		0072
Ortman	Nancy		2173

Last Name	First Name	Org	CIN
Ortolano	Dani		2173
Orton	Laurie		2173
Orton	Mary		2131
Orvin	Allison		2173
Ory	Jane		2173
Ory	Tim		2173
Orzel	Jennifer		2173
Osborn	Carole		2173
Osborn	Julie		2000
Osborn	Kathy		2173
Osborn	Mark		2000
Osborne	Charles		2173
Osborne	Martin		2173
Osborne	Pamela		2173
Osborne	Patricia		2173
Osborne	Stacey		2173
Osburn	Linda		2173
Osgood	Karen		2173
O'Shea	Carolyn		2173
O'Shea	D		2173
O'Shea	Katie		2173
OShea-Refai	Branwen		2173
Osking	Nicky		2173
Osman	Ethan		2173
Osmera	Ben		2131
Osorio	Julian		2173
Ososki	Jill		2000
Ossorio	Peter		2173
Osteen	Gwen		2173
O'Steen	Dorothea		2173
Oster	Carol		2173
Osterberg	Nils		2173

Last Name	First Name	Org	CIN
Ostlie	Susan		2312
Ostoich	Julie		2000
Ostopoff	Christine		2173
Ostrander	Bonnie		2000
Ostrander	Kim		2173
Ostrander	Ruger E.	Sierra Club	3055
Ostrander	Thorsten		2173
Ostrander, Jr.	William P.		2173
Ostrem	Emita		2173
Ostrer	Allison		2000
Ostrer	Boris		2173
Ostro	Kristen		2173
Ostrofsky	Ruth		2131
Ostrow	Hillary		2131
Ostrowski	Diane		2131
Ostrowski	Joni		2173
Ostrowski	Marcia		2000
O'Sullivan	Brett		2131
O'Sullivan	Denise		2173
O'Sullivan	Katherine		2000
Oswald	Fred		2000
Oswald	Judi		2173
Oswald	Sandra		2173
Oswald	Sarah		2173
Oswald	Staci		2173
Oswalt	Sarah		2173
Otap	Richard		2131
Otero	Carlos		2173
Otero	Christina		2131
O'Terry	Wendy		2131
O'Toole	John		2131

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Otos	Gina		2000, 2173
Ott	Domenica		2173
Otter	Elna		2131
Ottersen	Stacey		2173
Otto	Brian		2173
Otto	Joe		2131, 2173
Ottosen	Chris		2173
Ouai	Dalile		2000
Ouellet	Amber		2000
Ouellette	Georgia		2173
Ouellette	Maureen		2000
Ouellette	Rebecca		2173
Ouellette	Tracy		2000, 2173
Ouimet	Sharon		2131
Ounsworth	Charleen		2173
Ouradnik	Luke		2173
Ourchane	Nadia		2173
Ouren	Randy		2173(u)
Out	Jeanne		2173(1)
Outes	Galicia		2173
Ovall	Kelly		2173
Overacker	Kelly		2173
Overbay	David		2131
Overbeck	Leah		2173
Overbey	Roger		2131
Overby	Gary		2173
Overholtzer	Pamela		2173
Overman	Janet		2173
Overmyer	Wendi		2031(u)
Overstreet	Patsy		2173

Last Name	First Name	Org	CIN
Overton	Jesse		2131
Overton	Joyce		2173
Overton	Steve		2000
Owczarek	Robert		2173
Owen	Douglass		2173
Owen	Karyon		2173
Owen	Katharine		2173
Owen	Linda		2173
Owen	Linda		2173
Owen	Mary		2000
Owen	Patricia		2131
Owen	Stephen		2173
Owen	Sue		2173
Owen	Tammy		2173
Owens	Cindy		2000
Owens	Dorothy		2173
Owens	Gayle		2173
Owens	Kathleen		2173
Owens	Lois		2131
Owens	Mary		2173
Owens	Paje		2173
Owens	Richard		2173
Owens	Tyler		2173
Owens	William		2173
Ownby	Mary		2131, 2173
Oxley	Rhonda		2000
Oxman	Sharen		2173
Oyster	Mandi		2173
Ozaki	Kendra		2173
Ozeroff	Elaina		2173
Ozias	Julie		2173
Ozkok	Cem		2000
Ozkok	Suna		2173

P

Last Name	First Name	Org	CIN
P	Bobby		2173
P	C		2000, 2173
P	Dr		2000
P	J		2173
P	Jim		2173
P	Monica		2131
P	S		2000
P	Y		2000
P.	Sofia		2173
Pabon	Daniel		2031(u)
Pacal	Maluhia		2173
Pace	Scott		2131, 2173
Pacheco	Max		2173
Pacheco	Mike		2173
Pacheco	Rochelle		2000, 2131, 2173
Pacifico	Eva		2173
Pacifico	Maria		2173
Pack	Cathy		2000
Packer	Patricia		2173
Packer	Sandi		2173
Pacot	Karin		2131
Padalino	Gail		2173
Paddock	Tom		0130
Padelford	Grace		2000, 2173
Paden	Donald		2173
Pader	Jessica		2000
Padfield	Katherine		2173
Padgham	Mitchell		2173
Padilla	Jeanette		2031(u)
Padilla	Lynn		2173
Padilla	Melania		2000
Padilla	Monica		2000
Padilla	Pat		2000, 2173
Padilla	Rosina		2173
Padilla	Sergio		2000
Padington	Casey		2173
Padmanabhan	Urmila		2173
Padolsky	Adam		2131
Padova	Caterina		2173
Padow	Jacquie		2173
Paduhovich	Tina		2173
Paesch	David		2173
Paetow	Cynthia		2173
Paez	Linda and Abel		0198
Pagano	Georgianne		2173
Pagano	Maria		2000
Page	Cindy		2173
Page	Darren		2173
Page	Heather		2131
Page	Jacqueline		2173
Page	Mary June		2131
Page	Michele		2131
Page	Nancy		2173
Page	Scott		2031(u)
Page	Sheri		2173

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Pager	Chris		2173
Pagley	Joseph		2173
Paiano	Caroline		2131
Paige	Gina		2000, 2173
Paige	Marilyn		2173
Paige	Melissa		2173
Pailes	Richard and Roberta		2173(u)
Painter	David		2173
Paiva	Magda		2173
Paiz	Hugo		2173
Pajak	E		2173
Pajus	Pia		2173
Palacios	Edison		2173
Palacky	Tami		2000, 2131(1)
Palafoutas	John		2173
Palagano	Natasha		2131, 2173
Palenik	Gus		2173
Palenzona	Romano		2173
Palermo	Casey		2031(u)
Palic	Andy		2173
Palica	Brianna		2319
Palica	Donna		2173
Palin	Jerry		2173
Palin	Lorinda		2173
Paling	Scott		2131
Palka	Ann		2173
Palka	Dana		2000, 2131, 2173
Palka	Elena		2173
Palla	Paul		2000
Palladino	Brett		2173
Pallanes	Beatriz		2000
Paller	Lou		2173
Palleroni	Alejandro		2173
Pallett	Angie		2173
Pallini	Tony		2173
Palm	Elsie		2173
Palmater	Marcia		2000
Palmer	Barbara		2173
Palmer	Cheryl		2173
Palmer	Christina		2173
Palmer	Debra		2173
Palmer	George		2173
Palmer	Heritage		2173
Palmer	Janine		2173
Palmer	Joan		2173
Palmer	Kathleen		2312
Palmer	Kim		2031(u)
Palmer	Kim		2031(u)
Palmer	Mary		2173
Palmer	Patrice		2131
Palmer	R. Brent		2000
Palmer	Raymond		2131
Palmer	Sam		2031
Palmer	Susan		2173
Palmer	Trish		2173
Palmerton	Lex		2319
Palmquist	Elaine		2131(1)
Palmquist	James		2173
Palmquist	Wendy		2173
Palos	David		2131
Palotas	Zsuzsa		2173
Palumbo	Jean		2131
Pampaloni	Carol		2173
Pan	Dawson		2173
Panagakis	Donna		2173
Panagiotidou	Eleni		2173
Panagiotou	Bill		2173
Panagopoulos	Athanassios		2173
Panasci	Michael		2173
Panayi	Christopher		2000, 2131(1), 2131(u), 2173
Panchal	Dipak		2173
Panchuk	Donna		2173
Pandit	Sudhir		2173
Panella	Monica		2131
Panet	Kevin		3039
Pang	Benton		2312(u)
Pang	Naomi		2173
Paniagua	Roberto		2173
Pantow	Jennifer		2173
Panunzio	Thomas		2173
Paolazzi	Diane		2131, 2173
Paolini	Jessica		2173
Papay	Peggy		2131
Pape	Evelyn		2173
Papia	Cyndi		2173(u)
Papoutsi	Eva		2173
Papp	Cassandra		2131
Papp	Mary		2173
Pappaducas	Michelle		2173

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Pappano	Rachael		2000, 2173
Pappas	Betty		2173
Pappas	Carole		2173
Pappas	Marie		2000
Pappas	Robin		2173
Pappert	Edward		2173
Paprocki	Douglas		2173
Paquette	Claire		2173
Paquette	Danielle		2000, 2173
Par	Des		2000
Paradis	Bettie		2173
Paradis	Joan		2173
Parady	Janice		2000
Paragine	Jessica		2000
Parana	John		2173
Paratelli	Patrizio		2000
Paravagna	Linda		2173
Parco	Wendy Campbell		2173
Pardee	Cindy		2173
Pardew	Isabelle		2312
Pardi	Marco		2000, 2173
Pareja	Gabriela		2173
Parente	Anonymus		2173
Parente	Donna		2173
Parfitt	Denise		2173
Parhar	Pawiter		2173
Paris	Frances		2173
Paris	Joanne		2173
Paris	Melina		2173
Paris	Stanton		2173
Parish	Aggie		2131, 2173
Parish	Diana		2173
Parish	Nadine		2173
Parisi-Shaw	Eleanor		2131
Park	Phyllis		2173
Park	Richard		2131(u)
Park	Ruth		2173
Park	Susie		2173
Parke	Melinda		2173
Parker	Allison		2173
Parker	Anita		2173
Parker	Beth		2131
Parker	Caylee		2173
Parker	Chris		2173
Parker	Claudia		2131
Parker	Dagmar		2173
Parker	Dixie		2173
Parker	Doug and Jan		2131
Parker	Evelyn		2173
Parker	Genevieve		2031(u)
Parker	Gillian		2173
Parker	Jack		2000
Parker	Jane		2173
Parker	Janice		2173
Parker	January		2000
Parker	Jenna		2000
Parker	Jennifer		3017
Parker	Jim		2173
Parker	Judson		2173
Parker	Katherine		2173
Parker	Liz/Elizabeth		2131, 2173
Parker	Mary		2173
Parker	Pamela		2131(u), 2173
Parker	Pamela		2173
Parker	Sharon		2173
Parker	Stephen		2173
Parker	Thomas		2131, 2173
Parker III	Gordon		2131, 2173
Parker-Rollins	Lesley		2173
Parkhill	Peggi		2173
Parkhurst	Terry		2173(u)
Parkin	Jason		2173
Parkin	Patty		2173
Parkin	Silvina		2173
Parkins	Janet		2173
Parkinson	Kevin		0030
Parks	Brian		2131
Parks	Joan		2131
Parks	Laura		2031(u)
Parks	Pamela		2173
Parks	Stephen		2131
Parleviet	Leotien		2000
Parquet	Sandra		2131
Parr	Barbara		2131
Parr	Bobby		2173
Parr	Carmel		2173
Parr	Sarah		2173
Parr	Shannon		2131
Parra	Dolores		2173

Last Name	First Name	Org	CIN
parracho	Ana		2000
Parran	Pat		2173
Parreira	Joseph		2131
Parrini	Ralph		2173
Parris	Nancy		2173
Parrish	Olivia		2173
Parrish	Rory		2173
Parrish	Scott		2173
Parrish	SH		2173
Parrone	Cindy		2173
Parrot	Arbella		2173
Parrott	Pamela		2173
Parry	Jonathan		2173
Parry	Lauren		2031(u)
Parry	Lauren		2319
Parry	Theresa		2131
Parry	Virginia		2000
Parsegian	John		2173
Parshall	Sharon		2000
Parsley	Adina		2000, 2173
Parsley	Bobbi Jo		2000
Parson	Katharine		2131, 2173
Parsons	Ann		2131
Parsons	Denise		2173
Parsons	Don		2131(1)
Parsons	June		2131(u)
Parsons	Mary		2173
Partin	Donna		2173
Partin	Nancy		2173
Partin	Stella		2173
Partos	Vioncent		2173
Partridge	Laura		2031(u)
Partridge	Linda		2173
Party	Jaimee		2173
Parvela	Heidi		2000
Parziale	Helen		2173
Parzick	Anne		2173
Pascal	Robin		2000, 2131, 2173
Paschal	Candace		2173
Pascoe	Penny		2173
Pascone	Bradley		2173
Pascsual	Evita		2173
Pash	Eric		2173
Pashea	Joe		2173
Pashko	Laura		2173
Pashman	Chloe		2173
Pashman	Dave		2173
Pasi	David		2173
Pasichnyk	Richard		2000
Pasieniuk	Ted		2173
Pasini	Patrizia		2173
Paske	Randall		2173
Paskewitz	Joan		2131(u), 2267
Paskovich	Annie		2031(u)
Paskowitz	Nancy		2173
Pasqua	John		2028(2), 2131(2)
Pasqualini	Jude		2173
Pasqualini	Sofia		2173
Pasquinelli	Dorothy		2173(1)
Passarge	Elke		2173
Passerini	Eva		2000
Passero	Barbara		2173
Passeroni	Karen		2173
Passoa	Valerie		2173
Passty	Jeanette N.		2173
Pasternack	Jacqueline		2173
Pastin	Isabelle		2173
Pastorino	Gino		2000, 2173
Pastorkovich	David		2173
Pastula	Adam		2000
Patalina	Jillyan		2031(u)
Patapis	Isidor		2173
Patch	Carolyn		2131
Pate	Jessica		2173
Pate	Kara		2173
Pate	Nathan		2000
Patel	Alpa		2173
Patel	Sarosh		2173
Patent	Jason		2173
Paterson	Alanna		2131
Paterson	Chris		2000(1), 2173
Paterson	Suzanne		2173
Paterson	Tony		2173
Paterson	Valerie		2173
Patin	Lori		2131
Patino	Margaret		2173
Patla	Debra		0021
Patocka	Melody		2173
Patoray	Arlene		2131, 2173
Patrick	Duane		2173

Last Name	First Name	Org	CIN
Patrick	Sasha		2000
Patrick	Stacy		2131
Patrizio	Sandra		2173
Patronik	Stephen		2173
Patson	Virginia		2173
Pattawi-Gamlin	Jeff		2000
Patten	Robin		2000, 2131
Patterson	Ananda		2173
Patterson	Carol		2031(u)
Patterson	Carol		2173
Patterson	Carolyn M.		2000
Patterson	D.R.		2027
Patterson	Eugenia		2173
Patterson	Frank		2173
Patterson	Gary		2173
Patterson	George		2131
Patterson	Joan		2312(u)(1)
Patterson	Josh		2031(u)
Patterson	Katherine		2173
Patterson	Miles		2000
Patterson	Mitci		4011
Patterson	Nancy		2173
Patterson	Pam		2173
Patterson	Scott		2031
Patterson	Shay		2173
Patterson	Suzanne		2173
Patterson	Teresa		2173
Patterson	Thomas		2000
Patterson-Alford	Mandi		2000
Patti	Anthony		2173
Patti	Carmen		2173
Pattinson	Deborah		2173
Patton	Carol		2173
Patton	Gary		2131
Patton	Linda		2131
Patton	Lisa		2173
Patton	Lois		2173
Patton	Martha		2000
Patton	Megan		2131
Patton	Tanya		2173
Patton	Tim		2173
Patty	Shannon		2173
Patyk	Stacy		2173
Patzer	Allan		2173
Patzer	Kellie		2131
Paul	Alexis		2031
Paul	Brandon		2031(u)
Paul	Duongp		2173
Paul	Jackie		2131
Paul	Jane		2173
Paul	Jessie		2131
Paul	John		2173
Paul	Kelly		2131
Paul	Ki		2131
Paul	Lauren		2173
Paul	Mary		2173
Paul	Nancy		2173
Paul	Patrick		2031
Paul	Rashida		2131
Paule	Tunde		2173
Paulesc	Melissa		2173
Paulette	O		2173
Pauley	Thomas		2173
Pauling	Lynda		2173
Paulissen	Cherie		2031(u)
Paullin	Mark		2131
Paulos	Judith		2173
Pauls	Virgil		2173
Paulson	Alan		2173
Paulson	Donna		2131
Paulson	Martha		2173
Paulson	Susan		2173
Paulson	Tara		2131, 2173
Paunica	Ileana Eliza		2000
Pavan	Jacqueline		2000
Pavcovich	Michelle		2173
Pavek	Karen		2131
Pavek	Richard		2312
Pavela	John		2173
Pavicevic	Katarina		2000
Pavillard-Pitts	Perrine		2131
Pavlic	Anne		2173
Pawelko	Mary		2173
Pawlak	Janet		2173
Paxson	Michele		2173
Paxton	Greg		2000, 2173
Paxton	Michael		2173
Payette	Sarah		2173
Payne	Arthur		2173
Payne	Doris		2173
Payne	Edmund		2173
Payne	Geneine		2000, 2173
Payne	Grace		2000

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Payne	Heather		2000
Payne	Heather		2173
Payne	Janice		2131
Payne	Karen		2173
Payne	Linda		2173
Payne	Patricia		2131
Payne	Rick		2173
Payne	Shawn		2173
Payne-Virostko	Amanda		2173
Payton	Fay		2173
Peace	Tom		2131(u)
Peacock	Aimee		2173
Peacock	Michelle		2173
Peak	Tina		2000
Peake	Gerald		2173
Peale	Michael		2173
Pearce Sr	J		2173(u)
Pearce-Lipari	Carolyn		2000
Pearcy	Elizabeth		2131
Pearcy	Susan		2173
Pearl	Randall		2312
Pearlman	Michael		2173
Pearlstein	Linda		2173
Pearn	Helene		2173
Pearson	Carolyn		2173
Pearson	Craig and Melissa		2173
Pearson	Frederick		2131(u)
Pearson	Kelly		2173
Pearson	Lee		2000
Pearson	Linda		2173
Pearson	Olivia R.		2031(u)
Pearson	Sandra		2173
Pearson	Tia		2173
Pearson	Tonia		2173
Peart	Cindy		2000, 2131, 2173
Pearthree	Pippa		2173(u)
Pease	Diane		2000, 2173
Pease	Mutsuko		2173
Pease	Suzanne		2173
Peaslee	Jazmine		2131
Peaslee	Joan		2173
Peattie	Ava		2173
Pech	Jim/James		2000, 2173
Pecha	Richard		2173
Pechatsko	Patricia		2173
Peck	Bryce		2031(u)
Peck	Ellen		2173
Peck	Eva		2173
Peck	Genelda		2173
Peck	Mike		2131
Peck	Pamela		2173
Peck	Pamela		2173
Peckham	Mary		2173
Peckinpah	Melissa		2173
Peckitt	Deb		2173
Peckner	Justin		2173
Peddicord	Lisa		2173
Peddicord	Lois		2173
Peddicord	Shelly		2173
Peddy	Jan		2131
Pedersen	Anne-Mette		2173
Pedersen	Debra		2173
Pedersen	Ellen		2173
Pedersen	Lisa		2173
Pedersen	Lisa		2173
Pedersen	Mackenzie		2031
Pedersen	Suzanne		2173
Pederslie	Sharon		2173
Pederson	Christy		2173
Pederson	Sarah		2131
Pedler	Stephanie		2173
Pedone	Chris		2000, 2131
Pedro	Jacqueline		2173
Pedroza	Donna		2173
Peebles	J		2131
Peel	Thomas		2173
Peeler	Gail		2173
Peery	Irene		2173
Pegg	Helen		2173
Peha	David		2173
Peierls	Jeff		2131
Peirce	Louis		2173
Peirce	Susan		2131(1), 2173
Peitersen	Matthew		2173
Peixoto	Andrea		2173
Pelaez	Andy		2173
Pelaez-Shea	Gloria		2173
Pelath	Jeff		2173
Pelayic	Peter		2173
Pelc	Joan		2173

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Pelka	Ursula		2000, 2173(u)
Pellegrino	James		2131
Pellegrino	Maddox		2173
Pellerin	Tyra		2000, 2173
Pellerito	Catherine		2173
Pelletier	Brenda		2173
Pelletreau	Karen		2131
Pellew	Christine		2131
Pellizzeri	Kathy		2173
Pelmo	Kathy		2131
Pelton	Bonnie		2131, 2173
Pelton	Cheryl		2131
Pelton	Drew		2131
Pelzer	Ann		2000
Pelzer	Carl		2173
Pembrook	Elliot		0145
Pena	Sandra		2173(u)
Pena	Y/Yolanda		2000, 2173
Pender	Jacqueline		2131
Pendlebury	Jacob		2173
Penedo	George		2173
Penley	Patricia		2000
Penn	Casey		2031
Penn	Mike		2000
Penney	Teressa		2173
Pennington	Paula		2000, 2131
Pennington	Terry		2173
Pennisi	Andrea		2173
Penniston	Greg		2131
Penny	Diana		2173
Penny	Kelsey		2173
Penquite	Rick		2131
Peoria	Ingrid		2131
Pepin	Daniel		2173
Pepkowski	Nona		2173
Pepper	Marie		2000, 2173
Pepper	Mark		2173
Peppercorn	Margie		2173(u)
Pepperell	Pam		2173
Peppiatt-Combes	Joanne		2131
Per	Aggie		2173
Peragine	Paul		2000
Peraino	Joseph		2131(1)
Perakis	Stephen		2173
Perales	Leah		2173
Peralta	Pam		2173
Peranio-Paz	Giana		2000, 2131, 2173
Peranteau	Sophia		2031(u)
Peraza	Kate		2131
Perchak	Julia		2173
Percival	Terry		2173
Percy	Patrick		2173
Percy	Sylvia		2173
Perczak	Ewa		2173
Perdomo	Cristina		2173
Pereira	Abi		2173
Perenich	Theresa		2173
Perera	Ravi		2173
Peretto	Mike		2131
Pereyra	Aldana		2131
Perez	Carmelo		2173
Perez	Desiree		2173
Perez	Diana		2173
Perez	Donna		2131
Perez	Ellen		2173
Perez	Erica		2173
Perez	Holly		2131
Perez	Jaime		2173
Perez	Margarita		2173
Perez	Rich		2173
Perez	Robert		2173
Perez	Rosa		2173
Perez	Susana		2000
Perez-Reid	Barbara		2173
Perigon	Marie-Claude		2131
Perin	Silvana		2000
Perinchief	Jana		2000, 2173
Perino	Nina		2173
Perizzolo	Vicki		2173
Perkins	Akankha		2173
Perkins	Brandy		2173
Perkins	Caroline		2173
Perkins	David		2131, 2173
Perkins	Jane		2000
Perkins	Janet		2131
Perkins	Jean		2173
Perkins	Karen		2000
Perkins	Karen		2131

Last Name	First Name	Org	CIN
Perkins	Kathleen		2173
Perkins	Lora		2173
Perkins	Nancy		2173
Perkins	Pamela		2173
Perkins	Roberta		2173
Perkins	Sandra		2131
Perkins	Sandra		2173
Perkins	Teresa		2173
Perkins	Victoria		2031(u)
Perks	Michelle		2173
Perl	Richie		2173
Perla	Laurie		2131
Perlaki	Jennifer		2173
Perlman	Martin		2131
Perlmutter	Martha D.		2131
Perna	Betsy		2131
Perna	Gloria		2131
Perna	Joelle		2173
Perniceni	Apollonia		2173
Perona	Marilyn		2173
Perone	Eva		2000
Perrault	Lori		2173
Perreault	Nichole		2000
Perrero	Deborah		2173
Perron	Danielle		2173
Perrone	Miranda		2131
Perroni	Stacia		2131
Perry	Allison		2173
Perry	Alyx		2173
Perry	Anithra		2173
Perry	Anthony		2173
Perry	Bethany		2173

Last Name	First Name	Org	CIN
Perry	Brooke		2173
Perry	Carol		2131
Perry	Christine		2173
Perry	Dave		2173
Perry	David		2173
Perry	Deborah		2173
Perry	Ed		2131
Perry	Gala		2173
Perry	Heidi		2000
Perry	Jeannie		2173
Perry	Karen		2173
Perry	Laurie		2173
Perry	R.		2173
Perry	Thedra		2031
Perry	Vickie		2173
Perry	Yvette		2173
Pershan	Lee		2173
Pershyn	Nadine		2173
Persky	Jerry		2173
Person	Bruce		2173
Person	Martha		2173
Perstein	Angela		2173
Pertel	MPatricia		2173
Pesch	Sarah		2031(u)
Pesicka	Dawn		2173
Pesqueira	Gabriela		0240
Pesqueira	Gabriela		2131
Pessoa	Claudia		2173
Pesteanu	Loretta		2173
Petaja	Brenda		2173
Petchel	Nancy		2173
Peter	Barb		2173

Last Name	First Name	Org	CIN
Peter	Judith		2173
Peterangelo	Stephen		2173
Petermann	Janet		2000
Peter-Raman	Andrew		2131
Peters	Alexander		2173
Peters	Alexandra		2173
Peters	Brian		2173
Peters	Brittany		2000
Peters	Christopher		2173
Peters	Elaine		2173
Peters	Gene and Dori		2131
Peters	Heidi		2173
Peters	Jana		2173
Peters	Jeff		2131
Peters	Judith		2173
Peters	Kathleen		2173
Peters	Loretta		2131
Peters	Lydia		2173
Peters	Matt		2131
Peters	Melody		2131
Peters	Michael		2173
Peters	Rhonda		2131
Peters	Sarah		2173
Peters	Susan		2131
Peters	Susan		2173
Peters	Suzanne		2173
Peters	Thom		2000, 2173(u)
Petersen	Alice		2173
Petersen	Beverly		2312
Petersen	Carol		2173
Petersen	Craig		2131

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Petersen	Haven		2173(u)
Petersen	Jeri		2173
Petersen	Nancy		2131
Petersen	Stephen and Nancy		2173
Petersen	Susan		2000
Petersen, M.D.	Robert		2173, 2312
Peters-Johnson	Adele		2173
Petersman	Mary		2173
Peterson	Alan		2312(u)
Peterson	Amy		2173
Peterson	Anna		2173
Peterson	Anne		2173
Peterson	Barry		2131
Peterson	Bill		2131
Peterson	Bryce		2031(u)
Peterson	Carol		2131
Peterson	Chelsea		2131
Peterson	Christopher		2031(u)
Peterson	Dale		2131
Peterson	David P.		2000, 2173
Peterson	Davin		2000, 2173
Peterson	Diane		2173
Peterson	Dick		2131
Peterson	Elaine		2000
Peterson	Elisabeth		2000
Peterson	Eric		2173
Peterson	Fawn		0035
Peterson	Gary		2173
Peterson	Gayle		2173
Peterson	Georgie		2173
Peterson	J		2173
Peterson	J. Thomas		2031(u)
Peterson	Janet		2000, 2173
Peterson	Jessica		2000
Peterson	John		2000, 2131(1), 2173
Peterson	Julie		2173
Peterson	Karen		2000
Peterson	Karen		2131, 2173
Peterson	Kelly		2173
Peterson	Kim		2000, 2173
Peterson	Kristina		2173
Peterson	Kyle		2000, 2173
Peterson	Lydie Mae		2000
Peterson	Margaret		2173
Peterson	Mary		2173
Peterson	Michael		2173
Peterson	Mona		2173
Peterson	Nathan		2173
Peterson	Pamela		2000(1)
Peterson	Paul		2131
Peterson	Pete		2173
Peterson	Rachel		2173
Peterson	Richard		2173
Peterson	Robin		2000
Peterson	Samantha		2000, 2173
Peterson	Sandy		2173
Peterson	Susan		2173
Peterson	Theresa		2173
Peterson	Thomas		2131
Peterson	Tony		2173
Peterson	Tracey		2131, 2173
Peterson	Wendy		2173
Peterson	Yvonne		2131
Petit	Laëtitia		2000
Petit	Nicole		2000
Petitt	Denis		2000
Petitt	Holly		2131
Petiya	Beverly		2131
Petraitis	Dorothy		2173
Petrak	Teresa		2173
Petranek	Leilani		2173(u)
Petrella	Susan		2173
Petri	Annabel		2131
Petri	Natsumi		2173
Petrichevich	Renee		2173
Petrick	C		2173
Petrillo	Diane		2000, 2173
Petrizzo	Amy		2173
Petro	Mary Ann		2000
Petro	Pat/Patricia		2000(1), 2173
Petro	Patricia		2173
Petrokubi	Anne		2131
Petrone	James		2173
Petronzio	Mark		2173
Petrova	Dobrinka		2173
Petrovic	Carolyn		2173

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Petrovich	Marian		2173
Petrozzo	Rocco		2173
Petrucci	William		2173
Petryk	Rebecca		2173
Pettersson	Ninethe		2173
Pettinato	Angele		2173
Pettis	Carolyn		2173
Pettis	Courtney		2173
Pettit	Kimberly		2173
Pettus	Wanda		2173
Petty	Gina		2000, 2173
Petty	Kevin		2173
Petyovszki	Carrie		2173
Petzak	Jamaka		0291, 2000(u)
Petzel	Cheryl		2173
Pevide	Janice		2131
Pew	Don		2173
Peyser	Victoria		2000, 2131, 2173
Peyton	Carolyn		2131
Peyton	Tracy		2173
Pezzella	Lisa		2173
Pfarr	Jane		2131
Pfeffer	Dorothy		2173(u)
Pfeffer	Jo		2000, 2173
Pfeffer	Mark		2173
Pfeifer	Gwynne		2173
Pfeifer	Ivan		2131
Pfeifer	Susan		2173
Pfeiffer	Andy		2173
Pfeiffer	Kimberley		2173
Pfeiffer	MiÃ§helle		2173
Pfeiffer	Monique		2031(u)
Pfeiler	Sandra		2131
Pfenninger	Mary Ann		2131
Pferdehirt	Darren		2031(u)
Pfister	Sylvia		2173
Pflugrad	Ken		2000
Pflugrad	Linda		2173
Pfost	Leslie		2000
pfutzner	angelika		2000
Phalen	Julie		2173
Pham	Kelly		2173
Pham	Xuanmai		2173
Phelan	Ann		2173
Phelan	Rebecca		2173
Phelan	Terrance		2173
Phelan	William		2312
Phelps	Bonnie		2173
Phelps	Cody		2000
Phelps	David		2173
Phelps	Gretchen		2173
Phelps	Karen		2131
Phelps	Leslie		2000
Phelps	Michael		2173
Phelps	Stella		2173
Phelps	Tami		2173
Phenix	Lisa		2173
Philips	Irene		2000
Phillipps	Justin		2173
Phillips	Anne		2173
Phillips	Annie		2173
Phillips	Barbara		2173
Phillips	Cindy		2131
Phillips	Darcy		2173
Phillips	Daryl		2173
Phillips	Dianne		2173
Phillips	Frances		2173
Phillips	George		2131
Phillips	George		2131
Phillips	Holly		2173
Phillips	Hope		2173
Phillips	Hugh		2131
Phillips	Jan		2173
Phillips	Jason T		2031(u)
Phillips	Jeff		2173
Phillips	Jim		2131
Phillips	JoDee		2031
Phillips	Joe		2173
Phillips	John		2131, 2173
Phillips	Judith		2173
Phillips	Linda		2173
Phillips	Linda		2173
Phillips	Margaret		2131, 2173
Phillips	Martin		2131
Phillips	Mike		2173
Phillips	Monica		2131
Phillips	Monica		2031
Phillips	Nancy		2173
Phillips	Nguyen		2173
Phillips	Paul		2173
Phillips	Raven		2173
Phillips	Richard		2000

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Phillips	Robyn		2173
Phillips	Sean		2173
Phillips	Sheila		2173
Phillips	Shirley		2173
Phillips	Susan		2173
Phillips	Tanya		2173
Phillips	Teresa		2173
Phillips	Terry		2131
Phillips	Tom		2131
Phillips	Weslie		2163, 2173(u)
Phillips	William		2173
Phillips-Calapai	Jean		2173
Phinney	Maureen		2173
Phinney	Sarah		2000
Phipps	G.		2173
Phipps	Randall T.		2131
Phlaum	Stephen		2131
Phoenix	Angela		2000
Phoenix	Chris		2173
Phoenix	Jasmine		2173
Phon	Renee		2173
Pi	Bl		2131
Piascik	Ellen		2173
Piasecka	Ewa		2000
Piasecki	Mark		2173
Piatek	Alice		2173
Piazza	Dani		2173
Picard	John		2173
Picard	Nathalie		2173
Picardi	Julie		2131, 2173
Picchetti	Gloria		2000, 2173
Picchioni	George		2173
Picciano	Leah		2000, 2173
Piccione	M. S.		2173
Piccolo	Kristen		2173
Piche	Jennifer		2173
Pichugin	Valentina		2173
Pick	Jennifer		2173
Pickens	Mike		2173
Pickering	Steven		2173
Pickett	Cathy		2173
Pickett-Gies	Cheryl		2173
Picketts	Sherra		2173(u)
Pickles	Evelyn		2000
Pickles	Penny		2173
Pickworth-Campbell	Carole		2173
Picton	Rebecca		2000
Piecora	Lisa		2173
Piehl	Deann		2173
Pieniazek	Annette		2173
Pierce	Betty		2173
Pierce	Brian		2173
Pierce	Diane		2131
Pierce	Diane		0194
Pierce	Harley		2173
Pierce	Katherine		2131
Pierce	Kathryn		2173
Pierce	Nancy		2000
Pierce	Patricia		2173
Pierce	Tanya		2000
Piercy	Jen		2173
Piercy	Terrilyn And Jack		2131
Pieretti	Valente		2173
Pieri	Julie		2173
Pierotti	Nicholas		2173
Pierro	Kathryn		2173(u)
Pierro-Greene	Kim		2173
Pierrottet	Andrea		2173
Piersol	Jon		2173
Pierson	Barbara		2173
Pierson	Neilia		2173
Pies	Jennifer		2173
Piestrak	Bonnie		2173(u)
Pietrobon	Giovanni		2173
Pietsch	Markita		2173
Pigeon	Laurie		2173
Pigford	Terri		2173
Pignati	Jessica		2173
Pignato	Stephanie		2173
Pigovat	Rebecca		2173
Pike	Brian		2173
Piker	Tanya		2131, 2173
Pilafian	Mary A		2173
Pilch	Mary		2173
Pilcher	Geri		2173
Pilger	Carrie		2173
Pilgrim-Little	Lynn		2131
Pilholski	Frank		2173
Piller	Brigitte		2173
Pillie	John		2173
Pillon	Myriam		2000

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Pillsbury	Polly		2173
Pilon	India		2173
Pilon	Thomas		2173
Pimentel	Karen		2131
Pimento	Patti		2173
Pimm	Rosalia		2173
Pina	Rene		2173
Pina	Rui		2173
Pincetich	Christopher		2000, 2173
Pinches	Elaine		2000, 2173
Pineda	Annalee		2173
Pineda	Faye		2173
Piner	Kenneth		2131
Piner	Lisa		2173
Ping	Barbara		2173
Pingel	Alva		2173
Pingel	Pat		2173
Pingitore	Dianne		2173
Pingle	Vikki		2173
Piniotes	Betty		2173
Pink	Haley		2173
Pinkstaff	Pamela		2173
Pinkston	Pam		2173
Pinkus	Walter		2131
Pinneo	Janet		2173
Pino	Pierre		2000
Pinque	Meryl		2000, 2173
Pinsky	Ellen		2131
Pinson	Luan		2312
Pintagro	Thomas		2000
Pinto	Anna		2000
Pinto	JoAnne		2131, 2173
Pinzon	Marcia		2131
Pio	Carol		2173
Piocos-Lehman	Stephanie		2131, 2173
Piotrowski	Michael		2173
Pipal	Tom		2131
Piper	Janna		2173
Piper	Susan		2131
Pipitone-Oliveto	Cecilia		2173
Pippin-Emanuel	Patricia		2173(u)
Pippins	Adriane		2131
Pirazzi	Tina		2000
Pirie	Cynthia		2173
Piro	Valerie		2131
Pirolo	Susan		2173
Pisa	Haydee		2000
Pisani	Judyth		2173
Pisano	Lisa		2173
Pistolesi	Linda		2000
Piszczek	Barbara		2173
Piszczek-Sheffield	Carole		2131
Pitcher	Jan		2173
Pitchford	Guy		2173
Pitchford	Jayne		2173
Pitchford	Kim		2173
Pitman	Sandy		2173
Pitsch	Trisha		2173
Pitt	Jon		2173
Pittenger	Fred		2173
Pittman	Jawara		2131, 2173(u)
Pittman	Jennifer		2173
Pitts	Barbara		2173
Pitts	Carol		2173
Pitts	Susan		2031(u)
Pivaral	Omar		2173
Piven	Jerry		2173(1)
Piver	Michele		2173
Pivirotto	John		2173
Pizarro	Judy		2000, 2173
Pizarro	Vanessa		2131
Pizzimenti	Michael		2173
Pizzo	J		2000
Pizzo	Peter		2173
Pizzo	Rene		2173
Pjevic	Keti		2173
Plagge	Angela		2173(u)
Plagmann	James		2131, 2173
Plaisted	Nancy		2131
Plaitakis	Gina		2173
Planeta	Jennifer		2173
Plankinton	Abbey		2173
Plant	Eleanor		2131, 2173
Plant	Marcella		2173
Plante	Marie		2173
Plasky	Paula		2173
Plathey	Jocelyne		2000
Platt	Heather		2173
Platt	Marilynplatt		2131

Last Name	First Name	Org	CIN
Platter	Susan		2173
Platter-Rieger	Mary		2173
Plaxen	Barry		2173
Plazonja	Alisa		2000
Pleasance	Norma		2173
Pleasant	Debra		2173
Pleasant	Kendall		2173
Pleasant	L		2077
Plenert	Marvin		2312
Plesha	Marykay		2131
Pless	Naomi		2131(u)
Plessow	Manuel		2173
Pletscher	L. Susan		2173(u)
Plewa	Coreen		2131
Plimier	Maureen		2173
Plimpton	Lease		2173
Plishka	Debra		2173
Plog	Malinda		2000
Ploger	James		2173
Ploger	Scott		2000
Plotkin	Adele		2131
Plotnik	Jeffrey		2131
Plouffe	Georgia		2173
Plourde	Carole		2000
Plovnick	Isaiah		2173
Plucinski	Wanda		2173
Plumb	Sonja		2173
Plummer	Carmen		2173
Plummer	Pam		2173
Pluth	Allen		2173
Plutschuck	Donna		2131
Plyler	Michael		2120

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Poage	Darin		2173
Pocius	F.		2173
Podboy	Patricia		2173
Poder	Edward		2173
Podewell	Roger		2173
Podleski	Jeremiah		2000
Podolsky	Paula		2173
Poe	Virginia		2131(u)
Poessel	Sharon		2173(u)
Poggi	Pat		2131
Pohl	Kari		2131
Pohle	Linda		2131
Pohlman	Mark		2173
Poindexter	Jennifer		2173
Poindexter	Lee		2000, 2173
Pointer	Nancy		2173
Poisl	Donna		2131
Poklemba	Jane		2000, 2173
Pokorosky	Kim		2173
Pokrop	Mary		2173
Polacsek	Alyssa		2173
Poland	Barbara		2173
Poland	Mark		2173
Polanycia	Jill		2173
Polczynski	Eric		2000, 2131, 2173
Polczynski	Jamie		2173
Polesky	Alice		2173
Polich	David		2131
Polick	Melissa		2000, 2173

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Polino	Margaret		2173
Polinski	Linda		2173
Polis	Tony		2173
Polish	Bret		2173
Politis	Lori		2173
Polito	Gene		2173
Politzer	Andrew		2173
Politzer	Eric		2173
Polk	Danne		2131
Polk	Nora		2000, 2173
Polk	Sandra		2173
Pollack	Sanford		2131
Pollan	Deborah		2173
Polland	Kathy		2173
Pollard	Brandon		2173
Pollard	Stephanie		2173
Pollett	Mary Ann		2173
Polley	JoAnn		2000
Polley-Augente	Beverly		0252
Pollock	Exie		2000
Pollock	Sarah		2000
Pollock	Tammy		2173
Polonka	Jack		2000, 2173
Polson	Candie		2131
Polson	Donna		2173
Polya	Lance		2173
Pom	Al		2000
Pomerantz	Ted		2131, 2173
Pomeroy	Christopher		2131
Ponce	Dora		2173

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Ponce	Maria		2031(u)
Ponce	Sharon		2131
Ponce	Silia		2173
Pond	Katherine		2173
Ponder	Fred		2173
Ponessa	Ramona		2173
Pongallo	Dan		2173
Ponsford	Sharon		2000
Ponte	Jennifer		2000(1)
Poock	Patricia		2173
Pool	Joan		2173
Pool	Kevin		2031(u)
Poole	Carol		2131
Poole	Carolyn		2173
Poole	Diane		2173(u)
Poole	Judy		2173
Poole	Kathleen		2173
Poole	Marlon		2131
Pooler	Carole		2173
Pooler	Ida		2173(u)
Poor	Karen		2173
Pope	Kathy		2131
Pope	Kelly		2173
Pope	Sarah		2312
Popielarczyk	Ed		2173
Popken	Jennifer		2173
Popodi	Ellen		2173
Popoff	Dave		2131
Popp	Daniel		2173
Poppe	Dorothy		2173
Poppe	Robin		2000
Poppenk	Rita		2173
Poppink	Joanna		2173
Porcelli	Maureen		2173
Porcelli	Tim		2173
Porcelli	Virva		2131, 2173
Porch	Delores		2312
Porcher	Janeene		2131, 2173
Porciello	Eleanor		2173(u)
Poremba	Charles		2173
Porges-Kyriakou	Theodore		2131
Porreca	Audrey		2173
Porrello	Christine		2173
Port	Julie		2000, 2173
Port	Karen		2131
Porter	Betsey		2173
Porter	Candace		2000, 2131
Porter	Debbie		2173
Porter	Drew		2173
Porter	Jenise		0181
Porter	Joelle		2131(1)
Porter	Joelle		2000
Porter	Karen		2173
Porter	Kenneth		2131, 2173
Porter	Kimberly		2173
Porter	Linda		2173
Porter	P.		2173
Porter	P.		2131
Porter	Sandra		2173
Porter	Scott		2131
Porter	Sharon		2173
Porter	Sheryl		2000
Porter	Sonia		2173
Porter	Ted		2000
Porter	Timothy		2131(1)
Porterfield	Allison		2131
Porterfield	Holly		2131
Porterfield	Joseph		2173
Porterfield	Nan		2131
Portka	Keith		2173
Portnoy	Mike		2173
Ports	Mark		2099
Posch	Robert		2173
Posch	Russell		2173
Posey	Robert		2173
Poshka	Ann		2173
Poskiene	Lina		2173
Poskus	Cheryl Blehm		2131
Poss	Barbara		2173
Post	Heath		2173
Post	Joanie		2131
Post	Joseph		2102
Post	Lara		2269
Post	Sheryl		2173(u)
Post	Timothy		2173
Poston	George		2031
Potash	Chester		2173
Potash	Marlene		2173
Poteet	Elizabeth		2000
Poti	Britney		2131
Potocnik	Andrea		2173
Potori	Grace		2000

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Potter	Brandon		2173
Potter	Doris		2000
Potter	Elizabeth		2000
Potter	John		2173
Potter	Terrie		2131
Potterat	Susan		2131
Pottle	Judith		2131
Potts	Barbara		2173
Potts	Lisa		2000
Potts	Paul		2173
Potts	Richard		2173
Potts	Ruth		2173
Potvin	Raymond		2000
Potyen	Paul		2131
Potzka	Tedric		2131
Poulin	Patricia		2173
Poulos	Peter		2173
Poulsen	Scott		2131
Poulson	Andi		2131
Poulson	Judi		2000
Poulvelarie	Marina		2173
Pound	Michael		2173
Poupardin	Gilles		2173
Pouttu	Deanna		2131
PoveaMaciel	Sylvester		2173
Povill	Jonathan		2173
Powanda	Kim		2173
Powell	Amanda		2173
Powell	Barb		2173
Powell	Cynthia		0162
Powell	Deborah		2173
Powell	Gail		2131
Powell	James		2173
Powell	Jeff		2173
Powell	L		2173
Powell	Mary		2173
Powell	Michael		2031(u)
Powell	Mike		2173
Powell	Miyuki		2173
Powell	Peggy		2173
Powell	Regina		2131
Powell	Ronald		2173
Powell	Tom		2173
Powell	Tyger		2131
Power	Grant		2173
Power	Matthew		2173
Powers	Colin		2173
Powers	Cynthia		2031
Powers	Damien		2131, 2173
Powers	Ed		2173
Powers	Ed		2173
Powers	Inara		2173
Powers	Judy		2000
Powers	Kara		2000
Powers	Laurel		2173
Powers	Lem		2131
Powers	Martha		2173
Powers	Paula		2173
Powers	Tom		2131
Poynter	Robyn		2131
Pozsgai-Kises	Szilvia		2173
Pozzali	Adele		2173
Pradelt	Meg		2131
Prakash	Karan		2173
Prasad	Denesh		2173
Prasser	Rosa		2031(u)
Prate	Gloria		2173
Prater	Neil		2173
Prather	Brooke		2000
Prather	Lonnette		2173
Prather	Zalyssa		2031(u)
Pratt	Anna		2173
Pratt	Carol		2312
Pratt	Edward		2173
Pratt	Kathleen		2173(u)
Pratt	Mary		2173
Pratt	Michael		2173(u)
Pratt	Sarah		2173
Pratt	Theresa		2173
Pratt	Yvonne		2173
Pray	Barbara		2000
Pray	Lauren		2173
Pray	Peter		2173
Prefontaine	Joan		2131, 2173
Pregenzer	Arian		2131
Preinesberger	Helga		2173
Preister	Don		2173
Preli	Maryanne		2173
Prellwitz	Carl		2173
Prendergast	Nancy		2173
Prentiss	Alex		2000
Prescott	Karen		2131
Prescott	Nicole		2173
Presser	Irving		2173

Last Name	First Name	Org	CIN
Pressman	Catherina		2173
Preston	Apryl		2173
Preston	Elaine		2173
Preston	Elicia		2173
Preston	Lynne		2000, 2173
Preston	Susan		2131
Prestridge	Laura		2173
Presutti	Debra		2173
Prettyman	Robert		2173
Prewit	Elizabeth		2173
Pribanic	Carl		2173
Price	Angela		2173
Price	Cheri		2173
Price	Christine		2173
Price	Deborah		2173
Price	Elisabeth		2131, 2173
Price	Janina		2173
Price	Judy		2131
Price	Karen		2131
Price	Karla		2131, 2173
Price	Katharine		2000
Price	Linda		2173
Price	Marilyn		2000
Price	Mary Ellen		2131
Price	Michael		2131
Price	Michael		2131
Price	Nadine		2173
Price	Rhenda		2173
Price	Roberta		2031(u)
Price	Stan		2131

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Price	Tod		2131
Priddy	Brenda		2131
Priebe	Matthew		2000
Priebe	Rick		2173
Priefert	Karin		2173
Prifte	Martha		2173
Prifti	Marina		2173
Prigge	Diane		2173
Prigozen	Marc		2173
Primiano	Bob and Carolyn		2173
Primrose	Candace		2173
Primrose	John		2131
Prince	Janet		2173
Prince	Perry		2173
Prince	Sandey		2173
Prince	Steven J.		2131
Prine	Nancy		2173
Pring Pring	Joyce		2000
Prinz	Jovita		2173
Priskich	Fiona		2173
Prisock	Celeste		2031(u)
Pristavec	Carl		2173
Pritchard	Adrienne		2173
Pritchard	Arthur		2131
Priyanath	Divya		2173
Probert	Matt		2000
Proc	Joe		2173
Prochaska	Ruth		2131
Prochazka	Penelope		2173
Procter	Patricia		2173
Proffer	Carl		2173

Last Name	First Name	Org	CIN
Proffitt	Brenda		2131
Prokop	Joe		2173
Prola	Jim and Hon Diana		2131
Propen	Beverly		2173(u)
Proske	Ted		2173
Prosser-Watson	Lisa		2173
Prost	Anne		2173
Prostko	Linda		2000
Proubasta	Dolores		0159
Proudfire	Anne		2173
Proulx	Robert		2173
Prouse-Roybal	Kristie		2173
Prouty	Suzanne		2000
Prouty	Tracy		2173
Provance	D		2000
Provenzano	Brandy		2031(u)
Provenzano	Pierina		2173
Provost	Tricia		2173
Prsha	Nick		2031(u)
Pruess	Warren		2312
Pruett	Mike		2131
Pruett	Nicholas		2173
Pruett	R Cynthia		2131(u)
Prugo	Melva		2173
Pruitt	Carolyn		2000
Pruitt	CJ		2131
Pruitt	Daniel		2173
Pruitt	Geoffrey		2173
Pruitt	Lee		2131
Pruitt	Patricia		2173
Pruitt	Steve and Alicia		2131

Last Name	First Name	Org	CIN
Prusha	Linda		2000
Prushinski	Laura		2173
Prust	Lauren		2000
Pruvenok	Dorothea		2173
Prybylski	John		2173
Pryich	Ann		2000, 2173
Pryor-Luzier	Maresa		2000, 2173
Prystupa	Nanette		2173
Przyby?owicz	Anna		2173
Przybylski	Laurel		2000
Przysiezny	Victor		2173
Psychas	Sherry		2173
Psyllos	Eleni		2173(u)
Ptaszek	Paula		2173
Puaoi	Richard		2173
Public	Jean		2173
Publicover	Elizabeth		2173
Puc	Rob		2289
Pucci	Elena		2173
Pucci	Joshua		2173(u)
Pucci	Vince		2131
Puchli	Robert		2000, 2131, 2173
Puchyr	Carol		2173
Puckett	Mary		2000, 2131
Puckett	Neil		2000, 2131
Puckett	Patricia		2173
Pudewell	Lalla		2173
Pudwill	Jodi		2045
Pudzianowski	Andrew		2173
Puentes	Felena		2131
Puentes	Talisa		2131
Puerta	Jeanne		2131
Puerto	Leilani		2173
Pugh	Chuck		2173
Pugh	Debi		2173
Pugh	Lindsay		2173
Puglia	Mary		2000, 2173
Pugliani	Paul and Joanne		2173
Puglisi	Richard		2173
Pugmire-Skidmore	Christine		2131
Pugner	Jennifer		2173
Pugsley	Jemma		2131
Puhr	Cheryl		2173
Pulis	Ariel		2131
Pullen	Daryl		2173
Pullen	Shirley		2173
Pum	Wendy		2173
Pun	Sangita		2173
Punday	Nicole		2000
Punia	Candy		2000
Purcell	Briana		2173
Purcell	Gary		2173
Purcell	Mark		2173
Purcell	Stacey		2173
Purdon	Claudia		2173
Purdy	Kaitlin		2000
Purificato	Scott		2173
Purington I I	Kenneth		2173
Purmal	Tia Naomi		2031(u)
Purpura	Joanne		2173
Purrmann	Sigrid		2173
Purvis	Bronwen		2173
Purvis	Gary		2173
Purvis	Jennifer		2173(u)
Purvis	Paula		2173
Purvis	Virginia F		2012
Puso	Diane		2000
Putman	Holly		2173
Putnam	Elizabeth S.		2173
Putnam	Krista		2173
Putnik	Alexander		2031(u)
Putrich	Steve		2000, 2173(u)
Putt	Danielle		2173
Puzey	Babette		2173
Pyers	Randal		2131
Pyevich	Danielle		2131
Pykare	Nina		2173
Pyle	A. Michele		2173(u)
Pyle	Alexandra		2131
Pylypowycz	Christine		2173(u)
Pyrs	S.		2173

Q

Last Name	First Name	Org	CIN
Qadeer	Umair		2173(u)
Quackenbush	Kay		2173(u)
Quail	Radojka		2000
Quaintance	Joel		2173
Quarella	Loretta		2173

Last Name	First Name	Org	CIN
Quayle	Jacquelyne		2131
Queen	Nancye		2131
Quelch	Roger		2173
Quenichet	Leslie		2131
Quercia	Valerie		2173
Querner	Kathleen		2204
Querze	Susan		2173
Quesnel	Nathalie		2000, 2173
Quest	Wendi		2173
Quevillon	Pinki		2031(u)
Quezada	Marin		2000, 2173
Quick	Brianna		2173
Quick	Carol		2131
Quick	Holly		2000, 2173(u)
Quick	Justin		2000, 2131
Quievreux	Anne		2173
Quigley	Ed		2173
Quigley	Louise		2000
Quigley	Peggy		2131, 2173
Quiles	Amy		2000
Quillen	Christopher		2173
Quillin	Karen		2173
Quinlin	Alesandra		2000
Quinn	Charles and Mrs Diana		2131
Quinn	Clark		2173(u)
Quinn	Joan		2131, 2173
Quinn	Melynda		2173
Quinn	Michael		2173
Quinn	Michael		2173
Quinn	Michele		2173
Quinn	Michele		2131, 2173
Quinn	Pat		2000
Quinn	Peter		2173
Quinn	Sherry		2131, 2173
Quinn	Tom		2173
Quinn	Verna		2173
Quinones	Tatiana		2173
Quintana	Isabel		2173
Quintana	TommyLee		2173
Quintas	Sarah		2173
Quintero	Esperanza		2173
Quintero	Gerry		2173
Quinto	Heather		0327
Quintus	Patsy		2173
Quirk	Gerry		2173
Quiros	Donna		2173
Quisenberry-Pence	Deborah		2173(u)
Quispe-Austin	Tiffany		2000
Quist	Erin		2173
Quist	Karen		2312
Quong	Angela		2173
Qurashi	Sheeza		2173
Qureshi	Abrar		2173
Qureshi	Darian		2000

R

Last Name	First Name	Org	CIN
R	J		2000
R	Jennifer		2000
R	Jessica		2131
R	Justin		2000
R	Lenora		2173
R	Ryan		2000
R	S		2173(u)
R	S		2000
R	Vida		2173
R.	Adriana		2173
R.	D.		2173
Raasch	Carolyn		2173
Raatz	Annette		2173
Rabb	David		2131
Rabbino	Michael		2173
Rabey	Karen		2173
Rabjohns	Paul		2173
Raccio	Karen		2173
Race	Adam		2131
Race	Sonya		2031(u)
Racer	Tonia		2173
Rachford	Maryann		2173
Racicot	Paul		2000
Racine	Robert		2131
Racinskas	Gitta		2173
Rackley	Jim	Nevada Muleys	6016
Racz	Dan		2131
Rad	Isabelle		2173
Radcliff	Carol		2031(u)
Rade	Rachel		2173
Rademacher	Kristin		2173
Rademacher	Lisa		2000

Last Name	First Name	Org	CIN
Rader	Lynda		2173
Radford	Jeannette		2173
Radford	Nancy		2131
Radford	Pam		2000
Radieve	Gina		2031(u)
Radke	James		2131
Radko	Danuta		2173
Radosta	John		2173
Radtke	Nicholas		2173
Radwany	Julia		2000
Radwr	Audrwh		2031(u)
Rae	B. Kate		2173
Rae	Eleanor		2173
Rael	Jill		2131
Raeon	Charlie		2173
Raepple	Eva Maria		2131
Raffel	Sarah		2173
Rafferty	Bernard		2173
Rafferty	Jo		2000
Rafferty	Teresa		2173
Rafkin	Dru		2173
Raftery	Rita		2000
Rafuse	Shannon		2173
Ragalyi	Sarah		2173
Ragan	Peter		2131
Ragan	Sandy		2131
Ragana	Lollie		2173
Ragazzo	Jacob		2173
Ragin	Howard		2131
Rago	Kristin		2173
Rago	Marie		2173
Ragsdale	Mary		2173
Raha	Cynthia		2173
Rahgo	William		2173
Raible	Annette		2000, 2173
Raich	Peter		2131
Raiman	Kris		2131
Raimond	Janet		2173
Raimonda	Loredana		2000
Raimondi	Ted		2173
Raimondo	Terri		2000, 2173
Raineri	Donna		2173
Rainey	Barbara		2131
Rainey	John		2131
Rainey	Maya		2173
Rainey	William and Cynthia		2131
Rains	Nadia		2131
Rais	Alexandra		2173
Raish	Carol		2131
Raisor	Lisa		2173
Raitman	Brian		2173
Rajcic	Debbie		2173
Rajkovic	Kelly		2173
Rakaczky	Rachel		2000(1), 2131
Rakestraw	Sandra		2000(u)
Rakoczy	Teresa		2173
Rakow	Tamara		2000, 2131
Rall	Carol		2173
Rallo	James		2173
Ralph	Carol		2173
Ralph	Cecil		2173
Ralph	Sarah		2173
Ralston	Aron		2000, 2131
Ralston	Joseph		2173
Ramacher	Karen		2131, 2173(u)
Ramaci	Lisa		2173(u)
Ramage	Christian		2131
Ramage	Sheryl		2173
Ramaker	Julianne		2173(u)
Ramakrishnan	Ananthan-arayan		2000
Ramar	Steven		2173
Ramaswami	Srinivasan		2173
Ramauro	Michelle		2173
Rambert	Joëlle		2000
Ramble	Kirk		2173
Rambo	Reno		2173
Rambo	Susan		2072
Ramias	Chris		2031
Ramin	Sue		2173
ramirez	Ana		2000
Ramirez	Angela		2173
Ramirez	Barbara		2173
Ramirez	Carmen		2000
Ramirez	Darla		2131
Ramirez	Emmanuel		2173
Ramirez	Esteban		2131
Ramirez	Gabriela		2173
Ramirez	Grace		2173
Ramirez	Janet		2173
Ramirez	Jessica		2000, 2173

Last Name	First Name	Org	CIN
Ramirez	Jesus		2173
Ramirez	Karen		2173
Ramirez	Maria		2131
Ramirez	Monica		2173
Ramirez Garcia	Amalia		2173
Ramis	Anna		2173
Ramlow	Bob		2173
Rammel	Josh		2173
Ramon	Alberto		2173
Ramon	Laura		2173
Ramoni	Elizabeth		2173
Ramos	Joann		2000
Ramos	Miguel		2000
Ramos	Paul		2173
Ramos	Tom		2000
Ramos	Venessa		2000
Rampolla	Leah		2173
Ramsay	Colin		2173
Ramsay, MEd, JD	Constance		2173
Ramsdell	Sean		2312
Ramsey	Dale		2173
Ramsey	Dawn		2131
Ramsey	Elizabeth		2000, 2131
Ramsey	Helen		2031(u)
Ramsey	Holly		2000
Ramsey	Lezlie		2173
Ramsey	Walter		2173
Ramsey, ph.d.	Patricia		2173
Ramstedt	Joan		2173
Rand	Jocelyn		0097
Rand	Robert		2173

Last Name	First Name	Org	CIN
Randall	Becky		2031(u)
Randall	David		2173
Randall	Dee		2131
Randall	Jeffrey		2173
Randall	Karen		2173
Randall	MaryRose		2173(u)
Randall	Mel		2131
Randall	Phillip		2173
Randall	Sheri		2173
Randall	Stephanie		2173
Randall	Victoria		2173
Randazzo	Philip		2173
Randle	Natalie		2173
Randolph	Amanda		2173
Randolph	Anne		2173(u)
Randolph	Douglas		2173
Randolph	Rosemary		2173
Randolph-Frye	Mary		2173
Randow	Alex		2173
Raneir	G		2173
Raney	Gary		2131(1)
Rang	Tiffany		2173
Rang	Zach		2173
Range	Linda		2173
Rangne	Monica		2173
Rangnow	Margaret		2173
Ranieri	Gina		2173
Ranieri	Nancy		2173
Ranieri	Rich		2131, 2173
Rankin	Jennifer		2173
Rankin	Sara		2173

Last Name	First Name	Org	CIN
Ranne	Valerie		2173
Rano	Elena		2173
Ranscombe	Sally Hood		2173
Ransier	Kathy		2173
Ransom	Rita		2136
Ransom	Rosalie (Sara)		2141, 2173
Ranz	Gary		2301
Ranz	Lauren		2173
Rapallo	Karen		2173
Raper	Connie		2000, 2173
Rapice	Robert		2000
Raposo	Cesar		2173
Rapoza	Rebecca		2173
Rapp	Julia		2131
Rapp	Kevin		2131, 2173
Rapp	Melissa		2173
Rapp	Tanja		2173
Rapp	Tera		2173
Rappaport	Alex		2000(1)
Rapplean	Tiffany		2131
Rappolt	Chrissie		2131
Rapport	Phyllis		2000
Rarey	Tom		2173
Rasich	Sandy		2131
Rasker	Gerda		2173
Raslton	Dalya		2173
Rasmussen	Brande		2173
Rasmussen	David		2173
Rasmussen	Donna		2173
Rasmussen	Jamie		2000

Last Name	First Name	Org	CIN
Rasmussen	Lillian		2031(u)
Rasmussen	Lisa		2031(u)
Rasmussen	M/Margaret		2000, 2173
Rasmussen	Shannon		2173
Rasmussen	Timothy		2173
Rasset	Patty		2173
Rast	Mechthild		2173
Rast	Megan		2131(1)
Rastatter	Lisa		2173
Rastetter	William		2173
Rasulo	Jeri		2173
Ratajczyk	David		2000
Ratchford	Jane		2173
Ratcliff	Charline		2173
Ratcliff	Philip		2000, 2173
Ratcliffe	Thomas		2131, 2173
Rathbone	Marjorie		2173
Rathvon	Peter		2173(u)
Ratko	Erik		2173
Ratko	Gail		2131
Ratliff	Joe		2284
Ratner	Ronald		2131(1)
Rattigan	Christine		2173
Rattner	Jeffrey		2173
Ratz	Rosemarie		2173
Ratzenberger	Desiree		2173
Ratzlaff	Karen		2173
Ratzlaff	Maxine		2131
Rau	Heather		2173
Rauch/4115	Sequoia		2131, 2173
Rauhut	Amy		2000
Rauter	Linda		2173(u)
Rauter	Ruth Ann		2173
Rauworth	Steve		2000
Rava	Lance		2000, 2131, 2173
Raven	Jackie		2000
Ravenscraft	David		2131
Ravetto	Lisa		2173
Rawls	James		2031(u)
Rawson	Brandi		2173
Ray	Amy		2173
Ray	Bobby		2173
Ray	Carol		2000
Ray	Glynda		2173
Ray	Janice		2173
Ray	Kathleen		2173
Ray	Michelle		2131
Ray	Stephanie		2173
Ray	Susan		2173
Ray	Susan		2173
Ray	Tim		2173
Ray	Tom		2173
Ray	Tom		2173
Rayburn	Bob		2000
Rayford	Billie		2031
Rayhill	Ashley		2173
Rayl	Chelsea		2031(u)
Raymond	Catherine		2173
Raymond	Christine		2000(1)
Raymond	Michael		2173
Raymond	Nancy		2000
Raynaud	Valérie		2000
Raynis	Beth		2173
Razumovskaya	Ann		2000
Razzano	Larry		2173
Rea	Brad		2173
Rea	David and Linda		2131
Rea	Lennon		2153
Rea	Linda		2173
Rea	Rachelle		2173
Read	Anne-Marie		2173
Read	Frank		2131
Read	Gina		2131
Read	Maria		2173
Read	Seth		2173
Reader	Charlene		2131
Reading	Richard		2173
Reading	Shiloh		2031(u)
Readinger	Lori		2173
Ready	Terry		2131
Reagan	Paul		2173(u)
Reagan	Ron		2173
Reagan	Shelley		2173
Reagel	Ruth		2173
Ream	Catherine		2000
Ream	Cathy		2173
Ream	Tarn		2000
Reams	Shirley		2173(u)
Reams	Shirley		2173
Reardon	Peter		2173

Last Name	First Name	Org	CIN
Reaves	Heidi		2173
Reback	Anna		2173
Reback	Mark		2000
Rebel	Daryl		2131
Rebello	Scot		2173
Reber	Katharine		2173
Rebl	Bob		2173
Rebollo	Eric		2031(u)
Recchia	Michael		2173
Rech	John		2173
Reck	Jahnna		2173
Reckleff	John		2173(u)
Reckling	John		2000, 2131, 2173
Rector	Mary		2000
Reda	Julia		2173
Reddaway	Milo		2173
Redder	Bruce		2173
Redding	James		2173
Redding	Jessica		2173
Redding	Patrick		2131
Redding	Yardley		2173(u)
Reddington	Rebecca		2173
Reddoch	Ian		2131
Reddy	Kessie		2173
Redeker	Martha		2131
Redenbach	Chris		2173
Redenbaugh	Linda		2173
Redhorse	Dorothy		2131
Redish	Ellen		2173
Redman	Julie		2312
Redman	Sandi		2000, 2173
Redmond	Roz		2031
Redmond	Scott		2173
Redner	Diane		2173
Redondo	Steven		2173
Redus	Joi		2173
Reed	Ann		2000
Reed	Anna		2000
Reed	Bonnie Graham		2131
Reed	Charles		2173
Reed	Claudia		2173
Reed	Dalton		2131
Reed	David		2173
Reed	Dirk		2173
Reed	Donald		2173
Reed	Donna		2173
Reed	Elena		2173
Reed	Elizabeth		2131
Reed	Gordon		2173
Reed	Heather		2173
Reed	Jennifer		2192
Reed	Jennifer		2173
Reed	Kelly		2173
Reed	Marney		2000, 2173
Reed	Mary		2173
Reed	Mary S.		2000(u), 2173(u)
Reed	Pamela		2173
Reed	Patricia		2173
Reed	Robert		2173
Reed	Robert M/Carol G		2000, 2173
Reed	Robin		2131, 2173
Reed	Sharla		2173
Reed	Tamara		2131
Reed	Timothy		2131
Reeder	Christine		2173
Reeder	Wilma		2173(u)
Reeger	Tamara		2173
Reek	Margaret		2131
Reel/Friend of Defenders	Joseph		2000, 2173
Rees	Janet		2131
Rees	Judy		2000
Rees	Melissa		2173
Rees	Michael		2131
Rees	Oreet		2173
Reese	Drew		2131, 2173
Reese	Homer		2173
Reese	Linda		2173
Reese	Montgomery		2131
Reese	Nancy		2173
Reese	Sarah		2173
Reeson	Paulo		2000(1)
Reeves	Ken		2173
Reeves	Lenore		2000(1), 2131(1), 2173
Reeves	Luna		2173
Reeves	Naomi		2131
Reeves	Peggy		2131
Reeves	Rae		2173

Last Name	First Name	Org	CIN
Reeves	Robert		2173
Reeves	S		2173
Reeves	Sally		2173
Reeves	Sandra		2173
Reeves	Sandra		2173
Reffalt	William		2312
Reffalt	William	The Blue Goose Alliance	6026
Regalado	Geoff		2173
Regalado	Ray		2131
Regallis	Joseph		2131
Regan	Amy		2173
Regan	Colleen		2173
Regan	Laura		2000, 2173
Regan	Michael		2173
Regazzi	Rick		2173
Regen	Hamilton		2173
Regina	Shelley		2173
Regina	Victoria		2173
Register	Charlotte		2173
Regni (Lt Gen USAF ret)	John F	Southwest Defense Alliance	6024
Rego-Ross	Sande		2173
Rehberg	Jeri		2173
Rehn	Debra		2173
Rehnberg	Eva		2173
Rehus	Jessica		2173
Reibman	Philip		2173
Reich	Karen		2173
Reich	Lisa		2173
Reich	Rikki		2173
Reichel	Tom		2173
Reichenbqch	Phyllis		2173
Reichert	Charlotte		2173
Reichman	Annette		2173
Reichow	Debbie		2131
Reichter	Susan		2173
Reid	Brian & Carole		2173
Reid	Cheryl		2173
Reid	John		2000, 2173
Reid	Kelli		2173
Reid	Marilynn		2173
Reid	Richard		0287
Reid	Ruth		2173(u)
Reider	Shirley		2173
Reif	Diana		2173
Reif	Misti		2173
Reiff	David		2173
Reifinger	Martin		2173
Reifman	Jamie		2173
Reigrod	Jan		2173
Reiley	Marcial		2031(u)
Reiley	Marcial		2031(u)
Reilly	Jane		2173
Reilly	Jennifer		2173
Reilly	Joe		2173
Reilly	John		2173
Reilly	Michael		2173
Reilly	Vincent		2173
Reinberg	Don		2173
Reinders	Heather		2173
Reinfried	Kay		2173
Reinhard	Iris		2000
Reinhardt	John		2173
Reinhardt	Regina		2173
Reinhart	Gabriele		2000
Reinhart	Kimberly	Southern Nevada Water Authority	6030
Reinhart	Robin		2173
Reinhart	William		2173
Reinke	Nora		2173
Reinking	Roger		2173
Reis	Jenni Lynn		2000, 2131
Reischl	Patti		2173
Reisdorf	Jennifer		2173
Reiser	Katharyn		2173
Reiser	Reba		2173
Reisig	Julie		2173
Reisinger	Jay		2173
Reisland	Melissa		2173
Reisner	Kait		2000
Reiss	Edward		2000
Reiter	Deborah		2312
Reiter	Jane		2173
Reitze	Jennifer		2173
Reitzel	Kate		0286, 2031(u)
Reitzen	Marian		2131
Rekdal	Sheila		2000
Remahl	Ulf		2173
Rembold	Venice		2000

Last Name	First Name	Org	CIN
Remedi	Patrizia		2173
Remensnyder	Sandra		2173
Remesch	Thomas		2000
Remick	Linda		2173
Remington	Margaret		2131
Remley	Ashby		2173(1)
Remme	Sarah		2131
Remmich	Margaret		2173
Rempala	Eric		2312
Remy	Casey Jo		2000, 2173
Remy	Denise		2173
Ren	Sylvia		2173
Renard	Mary		2173
Renaud	Amy		2131
Rendigs	Richard		2173
Rendoni	Piero		2173
Renee	Robyn		2000(u)
Renegar	Tona		2031
Renfro	Kurt		2173
Rengers	Edward		2173
Renken	Robin		2031(u)
Rennacker	Ann		2000
Renne	Karen		2173
Renner	Aileen		2173
Renner	Brandon		2131
Renner	Ethel		2173
Renner	Jennifer		2131
Rennhack	Holly		2173
Rennie	Edwyna		2173
Rennie	Lisa		2173
Reno	Danica		2173
Renteria	Joseph		2000, 2173
Renton	Kristen		2173
Rentzel	Sharon		2173
Renucci	Dumeini		2173
Renwand	Jodi		2173
Renwick	Beth		2173
Renzoni	Dante		2173(u)
Repak	Peter		2173
Repp	Jan		2173
Repp	S		2173
Reppucci	Louisa		2173
Resa	Gloria		2173
Resch	Petite		2173
Resek	Donna		2173
Resh	Brian		2173
Reshetnik	Michael		2131
Resley	Terri		2131
Resner	Sandra		2173
Ress	Tom		2312
Resta	Antonello		2000
Restelli	Simone		2173
Retherford	Charles		2173
Rettenmair	Anne		2173
Reuben	Alanna		2173
Reuscher	F. Carlene		2173
Reuter	Rocky		2000
Reutner	Stephanie		2173
Reutter	Laura		2173
Reutzel	Peggy		2031(u)
Reutzel	Peggy		2031(u)
Revello	Kim		2173
Revenaugh	Emma		2000
Revilla	Oscar		2000
Revord	Michael		2173
Rewinkel	Amanda		2000(1), 2173
Rex	Eli		2173
Rexha	Farah		2131
Rexhepi	Ibrahim		2000
Reyes	Bela		2031
Reyes	Bianca		2319
Reyes	Dezaray		2173
Reyes	Irma		2173
Reyes	Jessica		2173
Reyes	John		2173
Reyes	Jose		2131
Reyes	Kathryn		2131
Reyes	Kyley		2173
Reyes	Lisa		2131
Reyes	Ramon		2173
Reyes	Sara Collyer		2031(u)
Reyna	Rafaela		2173
Reynolds	Cindy		2173
Reynolds	David		2173
Reynolds	G. Diane		2173
Reynolds	Grace		2173
Reynolds	James		2000, 2173
Reynolds	Jane		2000, 2173
Reynolds	Janet and Edward		2173
Reynolds	Jeff		2173
Reynolds	Joan		2173(u)

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Reynolds	Jonelle		2131
Reynolds	Joyce K.		2173
Reynolds	K/Kelli		2131, 2173
Reynolds	Kayla		2173
Reynolds	Linda		2173
Reynolds	Lisa May		2173
Reynolds	Lloyd		2000, 2173
Reynolds	Michael		2173
Reynolds	Michele		2173
Reynolds	Nancy		2173(u)
Reynolds	Rebecca		2173
Reynolds	Rebecca		2000
Reynolds	Roy		2131
Reynolds	Stephanie		2173
Reynolds	Sue		2173
Reynolds/Reynolfd	Ronda		2000, 2173
Reynolds-Reedy	Lane		2173
Reynoso	Samantha		2173
Reznicek	Eileen		2000
Rhazi	Carolyn		2173
Rhea	Tina		2173(u)
Rheaukt	Kathy		2312
Rheder	Richard		2173
Rhee	Seul		2173
Rhees	Brad		2131
Rhein	Sandy		2000
Rheinscheld	Daniel		2173
Rheinstein	Laura		2173
Rhinier	Emily		2173
Rhoades	Diana		2173
Rhoades	Don		2000
Rhoades	Jan		2031(u)
Rhoades	Joseph		2173
Rhoades	Margaret		2173
Rhoads	Bonnie		2173
Rhoads	Jennifer		2173
Rhode	Christina		2173
Rhodemyre	Kimberly		2000(1), 2131
Rhoderick	Michael Frank		2131
Rhodes	Bruce		2173
Rhodes	Derek		2000
Rhodes	Janet		2000
Rhodes	Stephanie		2173
Rhodes	Teresa		2173
Rhood	Kris		2000
Rhue	Roy		2173
Rials	Jennifer		2173
Rian	Jill		2173
Riaza	Merce		2173
Ribeiro	Adriana		2173
Ribeliln	Rosine		2131, 2173
Ribitch	John		2031(u)
Ribner	Melissa		2173
Ribordy	Sherida		2173
Ricasa	Kristin		2173
Ricca	Bonnie		2000, 2173
Ricci	Mark		2173
Ricci	Mike		2173
Ricci	Steve		2000
Ricciardi	Anthony		2173
Ricciardi	Sue		2000
Ricciardo	Catherine		2000
Riccobene	Norma		2173
Rice	Carolyn		2173
Rice	Chas Garrick		2000
Rice	Chelsea		2173
Rice	Dan		2319
Rice	Daymyan		2173
Rice	Donna		2173
Rice	Ellen		2173
Rice	Lisa		2173
Rice	Luigina		2173
Rice	Mary		2173
Rice	Marybeth		2173
Rice	Sandra		2173
Rice	Susan		2173(u)
Rice	Susan		2173
Rice	Theresa		2173
Rice-Jones	Judith		2131
Ricewasser	Robert		2173
Rich	Melissa		2173
Rich	Mike		2173
Richard	Cynthia		2131
Richard	Georgann		2173
Richard	Jennifer		2000, 2173
Richard	Nancy		2000(1)
Richards	Daniel		2131
Richards	Emily		2173(u)
Richards	Jacob		2173
Richards	Judy		2173

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Richards	Julie		2173
Richards	Kathy		2173
Richards	Laura		2131
Richards	Loretta		2173
Richards	Melinda		2173
Richards	Robyn		2000, 2131
Richards	Susan		2173
Richards	Suzanne		2173
Richards	Thomas		2173
Richards	Tim		2173
Richards	Violet		2031(u)
Richardson	Aleda		2173
Richardson	Annie		2173
Richardson	Athena		2000
Richardson	Carole		2173
Richardson	Deanna		2173
Richardson	Fay		2173
Richardson	Gail		2173(u)
Richardson	Georgetta		2173
Richardson	Harold		2173
Richardson	Len		2173
Richardson	Leslie		2000(1)
Richardson	Lynn		2173
Richardson	Margaret		2131
Richardson	Matthew		2219
Richardson	Mauna		2131
Richardson	Pamela		2173
Richardson	Pamela		2173
Richardson	Peggy		2131, 2173
Richardson	Ralph		2173
Richardson	Sarah		2031(u)
Richardson	Tom		2131
Richer-Juraszek	Kasia		2173
Richerson	Cindy		2000
Richeson	Gene		2131
Richey	Sarah		2173
Richey	Susanne		2173
Richiardi	Loredana Raimonda		2173
Richie	Lauren		2173
Richilrau	Heather		2031(u)
Richins	Shelby		2173
Richman	Bruce		2000
Richman	Gina		2131
Richman	Gloria		2132
Richman	Kate		2173
Richman	Paul		2131
Richman	Ron and Dorene		2173
Richmond	Lonna		2173(u)
Richmond	Mark		2131
Richter	Catherine		2173(u)
Richter	Elisabeth		2000
Richter	Jess		2173
Richter	Richard		2173
Richter	Ronald		2173
Rick	T.		2131
Rickels	Katherine		2173
Ricketts	Carolyn		2173
Ricketts	Tom		2000
Rickman	Martin		2131, 2173
Ricks	Sydney		2173
Rico	William		2173
Ricordel	Didier		2173
Riddell	Judith		2173
Ridder	Lynette		2173
Riddle	Carolyn		2173
Riddle	Danny M		2000(u)
Riddle	Robert		2173
Ridel	Frank		2173
Ridella	Gerard		2173
Ridenour	Rod		2173
Rider	Alan		2131
Rider	Dara		2131, 2173
Rider	Ghost/ Ghostgr		2173(1)
Ridgway	Kamey		2173
Ridgway	Kathi		2000(2)
Ridler	Kathy		2103
Ridley	Andy		2131(1)
Ridley	Donna		2000
Ridolfo	Angela		2000
Rieck	Michael and Alyce G.		2173
Riedel	Bernard		0098
Riedel	Rima		2173
Rieder	Tami		2131
Riederer von Paar	Christiane		2173
Riedlmayer	Beata		2173
Rieger	Amanda		2031(u)
Rieger	Amber		2000(1), 2131
Rieger	Myra		2173
Riehl	Everett and Jean		2173

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Rieman	Eric Glick		2031(u)
Rierson	Joalynn		2131
Ries	Caroline		2173
Riesberg	Jody		2173
Riesenburger	Regina		2173
Rifelj	Jami		2173
Riffe	Adele		2131
Rigano	Kimberly		2173
Rigaud	Beatrice		2173
Rigby	Cheryl		2000
Riggione	Maria		2173
Riggleman	Jessica		2319
Riggs	Lee		2173
Riggs	Shari		2173
Righter	Jean		2131
Rigler	Sue		2173
Rigney	Michelle		2173
Rigoli	Robin		2173
Rigrod	Carol		2173
Rikard	Bradley		2173
Riley	Amber		2173
Riley	Cynthia		2131
Riley	Deirdre		2173
Riley	Eleanor		2131
Riley	Joann		2173
Riley	Kate		2173
Riley	Kelly		2173, 2312
Riley	Nancy		2173
Riley	Paul		2312
Rimar	Lee Anne		2173
Rimes	Connie		2173
Rimesso	Gerard		2173
Rinaldi	Anita		2173
Rincon	Anna		2000
Rincon	Tonya		2173
Rindler	Joseph		2173
Rindy	Patricia		2173
Rinear	Charles		2173
Rinegar	Margaret		2131
Rinesmith	Judith		2173
Ringgaard	Line		2000, 2312
Ringle	Dave		2000
Ringle	David		2173
Ringler	Ronald		2173
Rings	Sally		2131, 2173
Ringuette	Lorraine		2173
Rinne	Fred		2000, 2173
Riordan	Jonn		2173
Rios	Carlos		2173
Rios	Elisa		2000, 2131
Rios	Eric		2031(u)
Rios	Jean		2131
Rios	Rose		2131
Rios	Virginia		2173
Rioux	Noelle		2173
Ripley	Betty		2173
Ripley	Paul		2173
Rippberger	Ada		2131
Riquetti	Loretta		2173
Risberg	Deborah		2131
Riscaldino	Carla		2173
Rischel	Denise		2173
Riser	Marianna		2215
Riser	Merry		2131
Rishavy	Jake		2131
Rising	C. Ahnie		2173
Risinger	Deb		2131
Riske	Vicki		2131
Risselada	Heather		2000
Risso	Alisa		2000
Risso	Patricia		2173
Rissone	Rudy		2031(u)
Ristau	Matt		2173
Ritchie	Ann Marie		2173
Ritchie	Christine		2173
Ritchie	Dave		2173
Ritchie	Shanna		2173
Riti	Christopher		2000, 2131, 2173
Rittenberg	Laurie		2173
Ritter	Art		2173(u)
Ritter	Brice		2173
Ritter	Clinton		2173
Ritter	Nadine		2173
Ritter	Philip		2131, 2173
Ritter	Shirley		2000
Ritz	John		2031
Ritzel	Stephen		2173
Ritzheimer	Barbara		2173
Ritzman	Dan		2131(u)
Riva	Jessica		2000

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Rivalsi	Douglas		2173
Rivas	Alejandro		2173
Rivas	Linda		2173
Rivas	Mario		2173
Riveles	Christiane Kelley		2131
Rivenburg	Janice		2173
Rivera	Abel		2173
Rivera	Fhilly		2173
Rivera	Gabriela		2131
Rivera	Javier		2000, 2131(2), 2173
Rivera	Michael		2173(1)
Rivera	Rebeca		2319
Rivera	Rhonda		2131
Rivera	Sergio		2173
Rivera	Victor		2319
Rivera	Zaida		2173
Rivera	Zurisadai		2173
Rivera-Herrera	Luis Jorge		2000
Rivero	Analise		2173
Rivero	Maria		2173
Rivers	Jennifer		2131
Rivers	Jerry		2173
Rivers	Margaret		2173
Rivers	Michelle		2173
Rives	Douglas		2173
Rizzi	Tricia		2173
Rizzo	Barbara		2000
Rizzo	Marilyn		2173
Rizzo	Richard		2000
Rizzo	Sarah		2173
Rizzolo	James		2173
Roach	Bob		2131
Roach	Terry		2173
Roach	Wanda		2131
Roalstad	Melinda		2173
Roane	Christine		2173
Roark	Dan		2173
Roarty	Patrice		2173
Robb	Aaeron		2000
Robb	Michael		2173
Robb	Victoria		2031(u)
Robb Jr.	Charles		2173
Robbins	Alice		2173
Robbins	Amy		2173(u)
Robbins	Anthony		2173
Robbins	Chris		2173
Robbins	E		2000
Robbins	Linda		2000(u), 2173
Robbins	Maria		2173
Robbins	Marsha		2173
Robbins	Sandy		2173
Robbins	Valerie		2173
Roberson	Gracie		2173(u)
Roberson	Lynne		2173
Roberson	Rachel		2173
Roberson	Robert		2173
Roberson	Suzanne E Webster		2000
Roberson	Tamela		2173
Roberson	Tamela		2000
Roberson	William		2000
Robert	Alain		2173, 2312
Robert	Chris		2173
Robert	Claude		2000(1)
Robert	Virginia		2131
Roberto	Rob		2000
Roberts	Amy		2173
Roberts	Archana		2173
Roberts	Charlene		2173(u)
Roberts	Dan		2173
Roberts	Donna		2131
Roberts	Duane		2173
Roberts	Elizabeth		2173
Roberts	Eric	SH Architecture	3030
Roberts	Gabi		2173(u)
Roberts	Gail		2173
Roberts	George		2173
Roberts	Graham		2173
Roberts	Hugh		2131(1)
Roberts	Jan		2173
Roberts	Janie		2173
Roberts	Jean		2173
Roberts	Jeannie		2173
Roberts	Jo		2173(u)
Roberts	Joan		2000
Roberts	John		2173
Roberts	Judith		2000, 2173(u)
Roberts	Kim		2173
Roberts	Krysta		2131(u)
Roberts	Laney		2173

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Roberts	Les		2000, 2173
Roberts	Lisa		2173
Roberts	Mark		2173
Roberts	Martyn		2000
Roberts	Michele		2173
Roberts	Nancy		2173
Roberts	Nancy		2000
Roberts	Nancy		2131
Roberts	Pat		2173
Roberts	Patrice		2173
Roberts	Patricia		2173
Roberts	Robert		2173
Roberts	Stacy		2173
Roberts	Susan		2173
Roberts	Suzanne		2000
Roberts	Victoria		2173
Roberts	Virginia		2173
Robertson	Bruce		2031(u)
Robertson	Juliet		2173
Robertson	Kathleen		2173
Robertson	Leslie		2131
Robertson	Lisa		2173
Robertson	Michael		2131
Robertson	Mike		2000(1)
Robertson	S		2000
Robertson	Shawn		2173
Robertson	Sherri		2173
Robertson	Terri		0018, 2031(u), 3015
Robertson	Tom		2173
Robeson	Anita		2173
Robey	Steve		2000
Robichaud	Shannon		2131
Robinett	Joe/Joseph		2131, 2173
Robinett	Susan		2173
Robinette	Gary		2312
Robins	Jayne		2173
Robinson	A. Bernard		2173
Robinson	Beth		2173
Robinson	Chelsea		2031
Robinson	D		2131, 2173
Robinson	Dameta		2173
Robinson	Dana		2173
Robinson	Dawn		2173
Robinson	Don		2173(u)
Robinson	Dvora		2000
Robinson	Ellen		2131, 2173
Robinson	Eric		2173
Robinson	Gayanne		2131
Robinson	Harold		2173
Robinson	Jacqueline		2000
Robinson	Janet		2131, 2312
Robinson	Karmel		2000
Robinson	Kelley		2173(u)
Robinson	Laurie		2173
Robinson	Linda		2173
Robinson	Mark		2312
Robinson	Michael		2173
Robinson	Michael		2173
Robinson	Michelle		2173
Robinson	Nancy		2173
Robinson	Nick		2173
Robinson	Pam	Office of Governor Brian Sandoval	5003(1)
Robinson	Pamela		2173
Robinson	Rebecca		2173
Robinson	Richard		2131
Robinson	Sam		2173
Robinson	Sharon		2173
Robinson	Tammy		2173
Robinson	Tara		2031(u)
Robinson	Yosef		2173
Robison	Cheryl		2173
Robison	Jill		2173
Robison	Joy		2173
Robison	Susan		2131
Robledo	Iris		2173
Robles	Carolina Ulloa		2173
Robles	Fernando		2173
Robles Jr	Thomas		2000
Robnett	Christie		2000
Robnett	Sam		2000, 2131(2)
Robrahn	Joanne		2173
Robson	Eric		2173
Robusto	Diana		2173
Robyn	Laura		2173
Roc	Wes		2131
Rocca-Butler	Suzanne		2173
Rocha	Candace		2000(1)

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Rocha	Margo		2131
Rocha	Nes		2173
Rochat	Carol		2173
Roche	Carol		2173
Roche	Lauretta		2173
Roche	Maureen		2000, 2312
Roche	P.		2173
Roche	Peter		2131
Rocheleau	Jessica		2173
Rochester	Ingrid		2000, 2131, 2173
Rochester	Mark		2131
Rochkind	Iris		2000
Rock	Daniel		2131
Rock	Grace		2173
Rock	Paula		2173
Rock	Richard		2173
Rockel	Blake		2131
Rockers	Kay		2173
Rockne	Judy		2173
Rocksund	Justin		2173(u)
Rockwell	Abigail		2173(u)
Rockwell	John		2173
Rodarte	MaryKay		2000, 2173
Roddis	Marya		2131(u)(1)
Rode	Dolores		2131
Rode	Edward		2173
Rodewald	Theresa		2173
Rodgers	Camie		2173
Rodgers	Holly		2173

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Rodney	Ray		2173
Rodoyianni	Victoria		2173
RodrÃÃguez Ferre	Sylvia		2173
Rodrigues	Dawn		2173
Rodriguez	Belkys		2131
Rodriguez	Blanca		2031(u)
Rodriguez	Carmen		2173
Rodriguez	Carolina		2173
Rodriguez	Claudia		2031
Rodriguez	David		2173
Rodriguez	Graciela		2173
Rodriguez	Jeanie		2173
Rodriguez	Jinda		2173
Rodriguez	Joseph		2173
Rodriguez	Keia		2173
Rodriguez	Linda		2173
Rodriguez	Louie		2173
Rodriguez	Rachel		2173
Rodriguez	Rick		2131
Rodriguez	Rosa		2173
Rodriguez	Sue		2173(u)
Rodriguez	Sylvia		2173
Rodriguez	Talia		2173
Rodriguez	Tanya		2000
Rodriguez	Wil		2000
Rodríguez	Victoria		2000
Rodriguez-Zimmerer	Diana		2031
Rodriquez	Analza		2319
Roe	Aarahwanna		2173
Roe	Dee		2173
Roe	M		2173

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Roebuck	Margaret		2173
Roedeinger	Erin		2173
Roeder	Al		2173
Roeder	Dorothy		2131(u)
Roeffen	Christine		2000
Roehr	Sabine		2173
Roehrig	Mary		2173
Roessler	James		2031(u)
Roff	Alanna		2131
Roffler	Robert		2131
Rogal	Michael		2173
Rogan	Joan		2173
Rogan	Robert J	Eastern Chapter of the Wild Sheep Foundation	0326
Rogat	Margo		2000
Roger	Édouard		2173
Rogers	Anne		2131
Rogers	B.		2173
Rogers	Barbara		2000(1), 2173
Rogers	Beau		2031
Rogers	Charlene		2131
Rogers	Cody		2031(u)
Rogers	Danny		2173
Rogers	David		2131
Rogers	Dennis		2173
Rogers	Diane		2173
Rogers	Eric		2131
Rogers	Irene		2131
Rogers	Jeanne		2131(1)

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Rogers	Jim		2173
Rogers	Joseph L		2173
Rogers	Joslyn		0092
Rogers	Judy		2173
Rogers	Karen		2000
Rogers	Kelly		2173
Rogers	Laurel		2173
Rogers	Linda		2173
Rogers	Lydia		2173
Rogers	Maureen		2312
Rogers	Page		2173
Rogers	Pamela		2173
Rogers	Pamela		2173
Rogers	Patsy		2173(u)
Rogers	Roz		2000
Rogers	Ruth		2131(1), 2173
Rogers	Shannon		2173
Rogers	Susan		2000
Rogers	Suzette		2173
Rogers	T/Tina		2000, 2173
Rogers	Thomas		2131(1)
Rogers	Thomas		2173
Rogers	William		2173(u)
Rogers-Perry	Mary		2131
Rogler	Lynn		2173
Roh	Gabrielle		2131
Rohde	Jeannette		2173
Rohde	Soraya		2131
Rohe	Christine		2173
Rohl	Stephen		2173
Rohloff	Rosalyn		2131
Rohmer	Stephanie		2000(2)
Rohn	Douglas		2173
Rohr	Andrea		2000
Rohr	Joyce		2173
Rohrer	Cathy		2173
Rohrer	Stephanie		2173
Rohrkemper	Geraldine		2173
Roig	John		2131, 2173
Rojas	Elana		2173
Rojeski	Mary		2173
Rokaw	Catherine		2173
Roland	James		2173
Roland	Jelica		2000(1)
Roland	Matthew		2173
Roland	Sarah		2000
Roland	Tisa		2000
Roldan	Joan		2173
Roldan	Kalyani		2173
Roles	Reed		2131
Rolf	Erin		2131
Rolfe	Justine		2000
Rolfe	Michele		2173
Rolfes	Kevin		2173
Rolf-Jansen	Belllinda		2000
Rolka	Jeffrey		2173
Rolle	Tim		2131
Roller	Ben		2173
Roller	Darrell		2173
Rollheiser	Joseph		2173
Rollie	Peggy		2173
Rollin	Gail		2173
Rollings	Trisha		2173
Rollins	Kathleen		2000
Rollins	Ned		2173(u)
Rollins	Susan		2173
Roloff	Susan		2173
Rolofson	Mark		2131, 2173
Rolofson	Tom		2131, 2173
Rolstad	Anne		2031(u)
Romagnoli	Federica		2173
Romaine	Caridad		2173
Roman	Dan		2131
Roman	Kathleen		2173
Roman	Paul		2131
Romanchuk	M		2173
Romann	Joanne		2173
Romanowski	Linda		2173
Romans	Jennifer		2173
Romberger	Cynthia		2000, 2173
Romens	John		2000
Romeo	Alessandro		2173
Romeo	Ferruccio		2173
Romeo	Rosalie		2031
Romer	Richard		2173
Romero	Deletta		2000
Romero	Felix		2173
Romero	Greg		2173
Romero	Valerie		2173
Romesburg	Denise		2131
Romich	Beth		2173
Romine	Janet		2173

Last Name	First Name	Org	CIN
Romkey	Bryan		2173
Rommvan-vranken	Jennifer		2131
Romo	Roberto		2173
Romppanen	Christa		2173
Ronaldson	Mitchell		2173
Roneo	Rosalie		2319
Rongo	Joanne		2173
Ronning	Sheila		2173
Rood	Ginger		2173
Rood	Lisa		2131
Rood	Steve/ Steven		0045, 0247, 2131
Rook	Bathsheba		2173
Rook	Susan		2173
Rooney	Flo		2173
Rooney	Scott		2173
Roos	Julie		2031(u)
Root	Barbara		2173
Root	Beverly		2173
Root	Edith		2173
Root	Jessie		2173
Root	Nancy		2000, 2173
Roper	Renee		2131
Roppe	Robert		2173
Rorabaugh	Pat		2131
Rorex	Patricia		2131
Rork	Jeannette		2173
Rorke	Linda		2173
Rosa	Matthew		2000, 2173
Rosa	Michael		2173
Rosado	Eridania		2173
Rosa-Re	Samantha		2000, 2173
Rosario-Bird	Helen		2173
Rosas	Angelica		2131
Rosas	Flora		2173
Rosas	Robert		2131
Rosati	Anne		2173
Rosati	Patricia		2173
Rosato	Graciela		2000
Rose	B.		2000
Rose	Brian		2131
Rose	Bruce		2131, 2173
Rose	David		2131
Rose	Donna		2173
Rose	Ed		2173
Rose	Erica		2000
Rose	Hannah		2000
Rose	Heather		2000
Rose	Jay		2173
Rose	K		2173
Rose	Kathryn		2131
Rose	Kenneth		2173
Rose	Marilyn		2173
Rose	Michael		2131(u)
Rose	Pst		2173
Rose	Rachel		2131
Rose	Rebecca		2131(1)
Rose	Teri		2131
Rose	Tona		2173
Rose	Tonya		2173
Rose-Fortmueller	Laura		2000
Roseman	David		2131
Rosemier	Donna		2173
Rosen	Andrea		2173
Rosen	Barbara		2000
Rosen	Helene		2173
Rosen	John		2131
Rosen	Karen		2173
Rosen	Kevin		2173
Rosen	Lynn		2173
Rosen	Michael		2173
Rosen	Mina		2131
Rosen	Richard		2173
Rosen	Sara-Ann		2173
Rosenau	Tamara		2173
Rosenbaum	Harold		2173
Rosenberg	Amanda		2173
Rosenberg	Hanne		2173
Rosenberg	Jayne		2173
Rosenberger	Todd		2173
Rosenberry	Gayle B.		2131, 2173
Rosenbertg	GJ		2000
Rosenblatt	Helene		2173
Rosenblatt	Joel		2173
Rosenblood	Jamie		2173
Rosenbloom	Richard		2173
Rosenblum	Ed		2173
Rosenblum	Roanne		2173
Rosenblum	Sheldon		2173
Rosencranz	Linda		2131
Rosenfeld	Mimi		2173

Last Name	First Name	Org	CIN
Rosenfeld	Wendy		2173
Rosenfield	Anita		2173
Rosenfield	Lynne		2173
Rosengarten	Linda		2173
Rosengrant	Deb		2173
Rosenkoetter	Lisa		2131
Rosenkotter	Barbara		2000, 2173
Rosenkranz	Diane		2173
Rosenkranz	Larry		2131
Rosenqvist	Kristin		2000, 2131
Rosensimon	Barbara		2131
Rosenstein	Iris		2173
Rosenstein	Julia		2026
Rosenstraus	Maurice		2000, 2173
Rosenthal	Dan		2131
Rosenthal	Steve		2131
Rosentreter	Kyle		2131
Rosenzweig	Aline		2131
Rosenzwog	Janet		2131
Rosinski	Eugene		2173
Rosinski	Katrin		2000, 2173
Roske	Adam		2173
Rosland	Linda		2173
Rosmaita	Gregory		2173
Rosmarino	Nicole		2173
Ross	Adrienne		2131
Ross	Angela		2173
Ross	Beilah		2173
Ross	Blanca Luz M.		2173
Ross	Catherine		2173
Ross	Darin		2131
Ross	David		2173
Ross	Ellen		0127
Ross	George		2173
Ross	Jacquelyn		2173
Ross	Jean		2000
Ross	Kat		2173
Ross	Katherine		2173
Ross	Ken		2173
Ross	Lilli		2131(1)
Ross	Linda		2173
Ross	Lisa		2131
Ross	Mary Ellen		2131
Ross	Melanie		2000
Ross	Pat		2131
Ross	Robert		2000
Ross	Robert		2131
Ross	Sara		2173
Ross	Susan		2173
Ross	Tiffany		2173
Ross	Trudy		2173
Ross	Valerie		2173
Ross	William		2173
Rossen	Joel		2173
Rosser	Ellen		2173
Rossetter	Zsuzsanna		2131
Rossi	Bettina		2000
Rossi	Daniela		2000
Rossi	Greta		2173
Rossi	Laura		2000
Rossi	Mark		2173
Rossi	Mike/Michael		2131, 2173
Rossi	Patricia		2312
Rossin	Linda		2000(u), 2173
Rossini	Faye		2131
Rossman	Ann		2131
Rossman	Jeremy		2000
Rosso	Brit		2131
Rossow, MSgt (retired)	Mark		2110
Ross-Quick	Randi		2000
Rossum	Deborah		2131
Rost	Judith		2131
Rostagno-Lasky	Michael		2173
Rostamian	Maryam		2173
Roston	Chanit		2173
Roswell	G.		2173
Rotaru	Bianca		2173
Rotcher	Michael		2000, 2173
Roth	Beverley		2173
Roth	Ellen		2173
Roth	Eric		2131
Roth	Jerome		2131, 2173
Roth	John		2131
Roth	Matthew		2173
Roth	Mikki		2173
Roth	Pam		2173
Roth	Shannon		2173
Rothbart	Eileen		2173
Rothera	Malcolm		2000
Rothman	Emily		2131

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Rothman	Robert		2131
Rothman-Denes	Lucia		2173
Rotholz	Abigail		2000
Rothstein	Cary		2173
Rothstein	Jamie		2173
Rothwell	Maureen		2173
Rotondi	Jenna		2173
Rott	Logan		2000
Rottelo	Cassandra		2173
Rouff	J		2173
Roulier	Sonrisa		2173
Rounds-Atkinson	Valerie		2131
Rourke	Joyce		2173
Rouse	Frank		2000
Rouse	Gregory		2000
Rouse	Rena		2173
Rouse Leath	Jan		2173
Roush	Christine		2131
Roush	Ethan		2173
Rousseau	Kathy		2000
Roussel	Jamie		2173
Roussell	Pam		2173
Roux	Dot		2173
Roverud	Susan		2173
Rovi	Carmen		2173
Rovito	Marie		2131, 2173
Rovner	Anne		2173
Rovner	Michelle		2173
Rowe	George T.		3000
Rowe	Gretchen		2000, 2173
Rowe	Julia		2131
Rowe	Kenneth		2131
Rowe	Linda		2173
Rowe	Philip		2131
Rowe	Sarah		2173
Rowe	Victoria		2173
Rowedder	Kathryn		2173
Rowe-Drake	Helen		2173
Rowell	Ed/Edward		2000, 2173
Rowell	Patricia		2173
Rowen	Erik		2131, 2312
Rowen	Laurel		2173
Rowinski	Jake		2131
Rowinski	Wojciech		2173
Rowland	Amanda		2173
Rowland	Chris		2173
Rowland	Joan		2131
Rowland	Leslie		2173
Rowlette	Catherine		2173(u)
Rowley	Bob		2031(u)
Rowley	Cassandra		2173
Rowley	Gregory		2173
Rowley	Kris		2131(u)
Roy	Brenda		2173
Roy	Hildy		2173
Roy	Joe		2173
Roy	Raja		2173
Royce	Celeste		2173
Royer	Carol		2131
Royer	Donna		2131
Royston	Marlin		2173
Roza	Terri		2131
Rozenberg	Jenifer		2173
Rozner	Tom		2173
Rozzisi	Amber		2131
Ruane	Jennifer		2173
Rubar	Mary		2173
Rubel	David		2173
Rubel	Mark		2173
Rubel	Scott		2173
Rubin	Leonard		2173
Rubin	Luana		2131
Rubin	Marc		2131
Rubin	Stanley		2173
Rubino	Karen		2173
Rubinow	Stuart		2173
Rubinsky	Carl		2173
Rubinstein	Sherry		2131, 2173
Ruby	Jacki		2173
Ruby	Kenneth		2000
Ruckdeschel	Jenny		2173
Ruckdeschel, PhD	Katy		2173
Rucker	Barbara Layton		2131
Ruckl	Gunther		2173
Ruckman	Heather		2131, 2173
Rudd	Laura		2173
Rudd	Thomas		2173
Rudd	Vickie		2173
Ruddle	Kris		2173
Ruddock	J		2173

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Rudert	Karen		2173
Rudin	Lee		2000
Rudner	Barbara		2173
Rudnicki	Donna		2173
Rudnicki	Susan		2174
Rudolph	Jo Ellen		2131, 2173
Rudy	Karen		2173
Rue	Carol		2173
Rueda	Eddie		2319
Ruedemann	Diane		2173
Ruelas	Vanessa		2131
Rueppel	Kathleen		2173
Rues	Alicia		2173
Ruesink	Robert		2312
Ruff	Bryan		2173
Ruff	John		2000, 2131, 2173
Ruff	John		2173
Rugg	Andrea		2173
Ruggeri	Wendy		2000
Ruggieri	Meghan		2173
Ruggles	Patricia		2173
Ruhl	John		2000, 2131
Ruiz	Antonio		2173
Ruiz	Doris		2000, 2173
Ruiz	George		2173
Ruiz	Kathleen		2000
Ruiz	Marcia		2173
Ruiz	Michael		2173
Ruiz	Moira		2173
Ruiz	Romie		2173
Ruiz-Johnson	Alisa		2173
Rukavina	Betty		2173
Ruland	Kate/ Kathleen		2000, 2173
Rule	Juli		2173
Rule	Michele		2173
Rulli	Nicholas		2173
Rumbaoa	Kristen		2173
Rumford	Syd		2173
Rumiantseva	Elena		2173
Rummel	Thomas		2131
Rumph	Susan		2131
Runer	Evelyn Rosario		2173
Runge	Erica		2000
Runion	Keith		2173
Runion	Paul		2000
Runk	Kathy		2173(u)
Runkel	Barbara		2173
Running	Shelly		2131
Rupert	Greg		2000
Rupert	Jill		2173
Ruperti	Catherine		2173
Rupke	Nicole Anne		2173
Rupnicki	Mike		2000
Rupp	Cathy		2000(1), 2131(1), 2173
Rupp	Mary		2173
Rupp	Nancy		2000, 2173
Ruppel	Christie		2173
Ruppel	Kathleen		2173
Ruppert	Debra		2173
Ruppert	Melissa		2173
Rury	Jewelle		2319
Rusch	Everett		2173
Rusch	Vincent		2000, 2173
Ruscoe	Dean		2173
Rush	Ben		2031(u)
Rush	Char		2173
Rush	Charlene		2173
Rush	Dave		2173
Rush	Jake		2173
Rush	James		2173
Rush	Judi		2173
Rushatz	Wendy		2173
Rushbrook	Dereka		2131
Rusher	Marna		2173
Rushford	Bob		2173
Rushing	Bettie		2131
Rushing	Laura		2000, 2173
Rushing	Rhonda		2173
Rushton	Tammy		2173
Rusiniak	Karen		2000
Rusk	Carol		2173
Rusk	Sara		2131
Ruskell	Susan Carter		2131
Rusnak	Cathy		2173
Russell	Angela		2000
Russell	Autumn-Ray		2131
Russell	Brian		2173
Russell	C.		2173

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Russell	Candace		2000, 2131
Russell	Claire		2173
Russell	Coralie		2173
Russell	Donna		2173
Russell	Donna		2173
Russell	Douglas		2173
Russell	Elgrit		2173
Russell	Gail		2173
Russell	Greg		2031
Russell	Ingi		2131
Russell	Ivan		2131
Russell	Jonda		2031(u)
Russell	Kat		2173
Russell	Robin		2173
Russell	Robin		2173
Russell	Ruth		2173
Russell	Sarah		2031(u)
Russell	Sibrina		2173
Russell	Vicky		2173
Russell	Wanda		2000, 2131
Russell	William		2173
Russell	Wilson		2173
Russick	Sharon		2131, 2173
Russo	Adrienne		2173
Russo	Cara		2173
Russo	Diane		2173
Russo	Janet		2173
Russo	Louise		2173
Russo	Marianne		2173
Russo	Melissa		2173
Russo	Samantha		2000
Russo	Selene		2173
Russo-Brown	Linda		2173
Rust	Paula		2173
Rustad	Pat		2173(u)
Rusterholz	Paula		2173
Rutar	Roger		2173
Ruth	Jayson		2173
Ruth	Jeanne		2000
Ruth	Jeanne		2131
Ruther	Michelle		2173
Rutherford	Lisa		2000, 2031(u)
Rutherford	Richard		2173
Rutherford	Valerie		2173
Ruthman	Lisa		2173
Rutkowski	Robert		2173
Rutkowski	Stacy		2173
Rutledge	Winnie		2173
Ruud	Dave		2173
Ruvo	Michael		2173
Ruyle	Stephanie		2173
Ryals	Paul		2173
Ryan	Ada		2173
Ryan	Carolyn		2173
Ryan	Chris		2173
Ryan	Coleen		2173
Ryan	Denise		2173
Ryan	Diane		2173
Ryan	Diane		2131
Ryan	Edward		2173
Ryan	Elvia		2173
Ryan	Gerald		2173
Ryan	Holley		2173
Ryan	Jason		2173
Ryan	Karen		2000
Ryan	Kathleen		2173
Ryan	Kathryn		2173
Ryan	Kim		2173
Ryan	Kimberly		2131
Ryan	Larry		2173
Ryan	Linda		2173
Ryan	Marian		2312
Ryan	Marianna		2173
Ryan	Megan		2173
Ryan	Patricia		2173
Ryan	Patricia		2173
Ryan	Shanna		2173
Ryan	Susan		2173
Ryan	Suzanne		2000, 2173
Ryan	Timothy		2173
Rybicka	Katarzyna		2173
Rybicki	John		2000
Rybka	CT		2000
Ryburn	Charles		2173
Ryburn	Ruey		2173
Ryden	Wendy		2173
Ryder	Catherine		2000
Ryder	Mary K		2173
Ryder	Oliver		2173
Ryder	Sara		2173
Ryder	William		2173
Rye	Sandra		2173

Last Name	First Name	Org	CIN
Ryerson	William		2173
Rygiel	Rose		2173
Ryland	Barbara		2000
Ryland-Anderson	Anne		2173
Ryling	Kristin		2173
Rynaski	Helen - please		2131
Rynders	Lynette		2000, 2173
Rynes	Michael		2000, 2131, 2173
Ryon	Ariel		2173
Rysavy	Robin		2173
Ryser	Kathryn		2173

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Last Name	First Name	Org	CIN
S	A		2000
S	Adi		2000
S	C		2000
S	D		2173
S	Francis		2173
S	G		2000
S	J		2000, 2173
S	Jack		2000(u)
S	John		2173
S	John		2000
S	K		2131, 2173
S	Maddy		2173
S	Mani		2000, 2173
S	Michael		2173
S	Shani		2173
S	Steve		2000
S	Sumera		2000
S	Tom		2173(u)
S.	Adrienne		2000, 2131
S.	Anju		2173
S.	Craig		2173
S.	Joyce		2173
S.	Peg		2173
S.	T.		2131
S.C.	Terry		2173
Sa'An	La'Ne		2131, 2173
Saarinen	Tamara		2173
Saarony	Tal		2173
Sabates	Donna		2173
Sabatini	Kathy		2000
Sabatini	Teresa		2173
Sabatino	Molly		2173
Sabato	Jennie		2131, 2173
Sabella	Laura		2000
Saberi	Poune		2312
Sabet	Mitra		2000, 2173
Sabetta	Al		2173
Sabia	Rebekah		2173
Sabin	Connie		2173
Sabinson	Mara		2173
Sable	Rosalie		2173
Sabo	Betty		0176, 2029
Sabo	John		2173
Sabo	Katharine		2131
Sabol	Bryan		2173
Saccardi	John		2131(1)
Sacchetti	Diane		2173
Saccone	Denise		2131
Sachanska	Anita		2000
Sachar	Lili		2131
Sacho	Rafael		2000, 2173
Sachon	Falisha		2173
Sachs	Harvey		2131
Sachs	Monette		2173
Sackette	Pasquale		2131
Sackmann	Erin		2000
Sacksteder	Richard		2173
Sadeghi	Mahmoud		2000
Sadegh-Zadeh	Babak		2000
Sadek	Carmen Sánchez		2173(u)
Sadiq	Paul		2173
Sadler	Lewis		2131
Sadler	Phyllis		2173
Sadoff	Margaret		2173(u)
Sadowskas	Bruce		2173
Sadurni	Isabel		2173
Saenz	Irene		2173
Saenz	Jose		2131
Saffren	G.		2173
Sagardua	Maria		2173
Sage	Karen		2173(u)
Sage	Maureen		2173
Sage	Zeora		2173

Last Name	First Name	Org	CIN
Sage, Sr.	James		2031(u)
Sagen-Hughes	Laura		2173
Saglietto	Eve		2000
Sahami	Yasmin		2173
Sahay	Naomi		2173
Sahl	Brad		2173
Sahlin	Tom		2173
Saia	Chris		2173
Saikevych	Irene		2173
Saikley	Scott		2131
Sailer	Regina		2173
Sain	Veronica		2173
Saint	Bob		2131
Saint-Amour	Jeanne		2173
Saja	Jean		2173
Sajdak	Mary		2173
Sajor	Kathy		2173
Sak	Henry		2000
Sak	Myrna		2173
Sakamoto	Diane		2173
Sakiyama	Cathryn		2173
Sakoff	Margaret		2173(u)
Salade	Sylvie		2173
Salamone	Marianne		2173
Salas	Chelsy		2131, 2173
Salas	Jan		2173
Salata	Brad		2173
Salata	Terry		2173
Salata/S.	G./Gary		2131, 2173
Salatino	Mary		2173
Salatrik	Gail		2000
Salazar	Alicia		2000, 2173
Salazar	Francisco J		2173
Salazar	Gabriel		2173
Salazar	Joe		2173
Salazar	Kent		2173
Salazar	Lisa		2173
Salazar	Lisa		2173
Salazar	Marlen		2173
Salazar-Shapiro	Deborah		2173
Salberg	David		2173
Saldana	Linda		2173
Saldena	Javier		2131
Saldívar	Myrna		2173
Saldutti	Michael		2131
Saleh	Marlis		2173
Salem	Tracey		2173
Salem-McCarthy	Barbara		2173
Salen	Laurie		2131
Salerno	Karen		2173(u)
Salerno	Lauren		2173
Salerno	Mary		2000, 2173
Salerno	Philip		2173
Salerno	Suzanne		2131, 2131, 2173
Saletta	Antoinette		2173
Salgado	Natasha		2000
Salgat	Michael		2173
Salido	Jenise		2173
Salier	Dede		2000
Salih	Sharon		2000
Salinas	Ana		2000
Salinas	Andrea		2173
Salisbury	Kirby		2173
Salisbury	Mary		2173
Salkin	Judith		2173
Salley	Jacqueline		2173
Salmane	Donna		2173
Salone	Margo		2131(1), 2173
Salsman	Delores		2000(1)
Salt	Max		2173
Saltalamacchia	Lisa		2173
Salter	Andrew		2173
Salter	Gay		2173
Salter	Sarah		2173
Saltzman	Susan		2173
Saltzmann	Marylis		2173
Salvano	Judy		2173
Salvas	Suzanne		2242
Salvatierra	Stefan		2173
Salvatore	Hannah		2173
Salvner	Amanda		2000, 2173
Salyer	Allen		2000, 2173(u)
Salyers	Helen		2131
Salyers	John		2173
Salz	Jodie		2173
Salzman	Julianne		2173
Salzman	Paul		2173
Salzman	Virgil		2131
Salzmann	David		2173
Saman	Victoria		2173

Last Name	First Name	Org	CIN
Samaniego	Robert		2173
Samara	Joan		2000
Samaras	Alexandra		2000
Sambrano	Barbara		2131
Sammons	Dianne		2173(u)
Sammoury	JP		2131
Samp	Cecelia		2173(u)
Sample	Joan		2173
SampleWood	Thomas		2000
Sampson	Cindy		2173
Sampson	Sonie		2000
Sams	Jennifer		2000
Samsel	Kathleen		2173
SamtenLhamo	Karma		2000
Samuelson	Georgeanne		2173
Samuelson	Staci		2131
San Martin	Ignacio		2131
San Pedro	Lygea		2131(1)
San Souci	Darryl		2173
Sanabria	Wilson		2173
Sanchez	Anthony		2173
Sanchez	Brenda		2173
Sanchez	Dana		2173
Sanchez	Dorothy		2173
Sanchez	Eric		2173
Sanchez	Fabiola		2131
Sanchez	Frank		2031(u)
Sanchez	Gaylene		2131
Sanchez	Gpe.		2173
Sanchez	Ivette		2173
Sanchez	Jody		2173
Sanchez	Ken		2173

Last Name	First Name	Org	CIN
Sanchez	Lorraine		2173
Sanchez	Maria		2031(u)
Sanchez	Mary		2131
Sanchez	Soledad		2173
Sanchez	Stella		2173
Sanchez	Susan		2173
Sanchez	Tamera		2131
Sanchez	Vince		2131
Sanchez	Virginia		2131, 2173
Sanchez	Zeke		2173
Sanchez Davidson	Andrea		2031(u)
Sand	Heather		2173
Sandage	David		2173
Sandaker	Tami		2173
Sandel	Stephanie		2173
Sandels	John		2173
Sander	M. & R.		0248
Sander	Mary		2173
Sanderfer	Kari		2131
Sanders	Amy		2131, 2173
Sanders	Brenda		2131
Sanders	Curt		2131
Sanders	Darla		2000, 2131, 2173
Sanders	Gail		2000
Sanders	James		2173
Sanders	Jeffrey		2173, 2312
Sanders	Linda		2312
Sanders	M		2173

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Sanders	Marianne		2173
Sanders	Moya		2131
Sanders	Noel		2173
Sanders	Robert		2131(1)
Sanders	Tammra		2173
Sanders	Vicky		2173
Sanderson	Kari		2173
Sanderson	Linda		2131
Sanderson	Reed		2169
Sandgrund	Robert		2173
Sandifer	Char		2173
Sandifer	Gail		2000
Sandin	Martin		2173
Sandknop	Kathleen		2173
Sando	Julie		2131, 2173
Sandoval	Eric		2173
Sandoval	Lily		2000
Sandoval	Patrick		2131
Sandoval	Sandi		2173
Sandoval	Tirzah		2131, 2173
Sandretto	Laurie		2000
Sandritter	Ann		2000, 2173
Sands	Charles		2173
Sands	Lisa		2173
Sandstrom	Monica		2131
Sandulovic	Desanka		2000(1)
Sandwell	Susan		2173
Sanfilippo	Gina		2173
Sanfilippo	Mary		2173
Sanford	Ellen		2173

Last Name	First Name	Org	CIN
Sanford	Ken		2173
Sanford	Melissa		2173
Sanford	Sonya		2173
Sanford	Tim		2173(u)
Sanford	Tracy		2000
Sangana	Marissa		2173
Sangani	Justin		2173
SanGiovanni	Jeanne		2173
Sangster	Anonymous		2173
Sanker	George		2173(u)
Sankey	Charles		2312
Sanlavun	Sawatdee		2000
Sannicandro	Lorraine		2173
Sanocki	Susan		2173
Sanoff	Elizabeth		2173
Sansone	Ellen		2173
Santamaria	Rita Caruso		2173
Santana	Marissa		2000
Santangelo	Elaine		2131
Santangelo	Roseann		2131, 2173
Santaniello	Deirdre		2173
Santantonio	Dan		2131
Santi	Harry		2173
Santi	Mirella		2173
Santiago	Cassandra		2173
Santiago	Christopher		2173
Santiago-Gamble	Tyler		2173
Santillanes	Val		2173
Santilli	Antonella		2173
Santin	Cezar		2173
Santistevan	Jeanette		2131
Santmyer	Amanda		2131(1)
Santo	Brian		2173
Santome	Ana		2173
Santopietro	Benedetta		2173
Santos	Alex		2131
Santos	Alfa		2173
Santos	Eloy		2000
Santos	Faye		2173
Santos	Jennifer		2173
Santos	Malia		2312
Santos	Maria		2173
Santos	Richard		2173
Santos	Saskia		2000, 2173
Santy	Michelle		2173
Saparnyte	Luk		2131
Saperstein	Jill		2173
Sapienza	Gian		2031(u)
Sapp	Airen		2131
Sapp	Tracey		2173
Sapsay	Karen		2173
Saraff	Philip		2131
Saraha	Ariana		2131
Saran	Harvinderjit		2173
Sarantakos	Maquel		2173
Saravanja	Natasha		2173
Sarazen	Lindsey		2131
Sardineer	Ann Marie		2131
Sardo	Carol		2173
Sargent	Jay		2173
Sargent	Pam		2173
Sargent	Robert		2173
Sargis	Susan		2173
Sarich	Jasia		2173(u)
Saridan	John		2131, 2173
Sarkesian	Jon		2173
Sarne	Sabrina		2173
Sarno	Cheryl		2173
Sarrafzadeh	Nima		2031(u)
Sarricks	David		2173
Sartie	Cinzia		2173
Sartoris	Elaine and John		2131, 2173
Sasaoka	Julie		2000, 2131
Sasek	Carolyn J.		2031(u)
Sasnett	Peyton		2173
Sass	Sandra		2173
Sasson	Gale		2173
Satchivi	Ayele		2000
Sato	Alice		2131
Sato	Nancy		2173
Sato	Rodney		2131
Sattar	Sophia		2173
Satter	John		2131
Satterfield	Caroline		2000
Satterfield	Paula		2131, 2173
Saude	Debra		2173
Sauder	Erik		2173
Sauer	Liz		2173
Sauer	Paul		2173
Sauer-Becker	Shannon		2173
Saul	Susan		2116

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Saul	Toni		2131
Saum	Karen		2173
Saunders	Andrea		2173
Saunders	Britton		2173
Saunders	Diane		2173
Saunders	Kathleen		2131(u)
Saunders	L		2000(3)
Saunders	Marilyn		2173
Saunders	Maurice		2000
Saunders	Melissa		2173
Saunders	Phyllis		2173
Saunders	Rene		2173
Saunders	Steve		2000
Saupp	Janet		2173
Sauvageau	Sue		2173
Savage	Danielle		2131
Savage	Donald		2131
Savage	Dorothy		2173
Savage	Julianne		2173
Savage	Kitty		2173
Savage	Linda		2173
Savage	Lisa	Maine Natural Guard	0231
Savage	Patricia		2173
Saville	Jason		2000, 2131
Savilonis	Melissa		2173
Savino	Karen		2173
Savla	Sneha		2173
Savlove	John		2173(u)
Savonen	Carol		0044
Sawicki	Joseph		2173
Sawicki	Karen		2173
Sawina	Jane Kennedy		2173
Sawyer	Caryl		2173
Sawyer	Dee		2173
Sawyer	Don		2131
Sawyer	Gay		2173
Sawyer	Kerry		2173
Sawyer	Luann		2173
Sawyer	Michael		2173
Sawyer	Nigel		2173
Sawyer	Richard		2000, 2173
Sax	Kimberly		2173
Saxe	Matthew		2173
Saxon	Diana		2173
Saxon	Rachel		2173
Saxton	Janice		2131
Saxton	Jerry		2173
Saydak	Georgette		2131(1)
Sayed	Zafar		2173
Sayers	Curt		2173
Sayers	Kathleen		2131
Sayler	Warren		2173
Sayles	Andy/ Andrew		2000, 2173
Sayles	Megan		2173
Sayles	Tanja		2173
Sayles	Yolanda		2131
Saylor	Loralei		2000
Sayre	Lily		2173
Sayre	Peter		2173
Sazonov-Robinson	Mauria		2173
Sbarbaro	Margaret		2173
Sbraccia	Peter		2042
Scabini	Donatella		2173
Scacchetti	James		2173
Scahill	John		2173
Scalese	Stephen		2131(u)(1)
Scalise	Mark		2173
Scalley	Leslie		2173
Scaltrito	Marietta		2173
Scanlon	Peter		2131
Scantlebury	E.		2000, 2131, 2173
Scarborough	Belinda		2173
Scarborough	William		2131
Scarbrough	Shirley		2173
Scarim	Nick		2173
Scarlata	Rachel		2131(1), 2173
Scarpa	Patti		2173
Scarpinato	Amy		2173
Scarselli-Hendrix	Laura		2031(u)
Scavezze	Barb		2131
Scavezze	Christina		2131
Schaack	Jerome		2131
Schaap	Laura		2173
Schacht	Michael		2131
Schacht	Timothy		2000, 2173(u)
Schade`	Corey		2173
Schader	Marise		2173(u)

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Schaefer	Amanda		2173
Schaefer	Douglas		2000, 2173
Schaefer	Jim		2031(u)
Schaefer	Marissa		2173
Schaefer	Millie		2173
Schaefer	Sarah		2173
Schaeffer	Kirk		2173
Schaem	S.		2173
Schafer	Helen		2173
Schafer	Susan		2173
Schaffarzek	Stephanie		2173
Schaffell	Jenny		2173
Schaffer	Carol		2000, 2173
Schaffer	Crystal		2173
Schaffer	William		2000
Schaffert	Lowell		2131
Schaible	Michael D		2173
Schalit	Adam		2031(u)
Schaller	A.O.		2000
Schaller	Alissa		2173
Schaller	Mary		2173
Schally	Jennifer		2173
Schally	Shelia		2173
Schalow	Traci Kindred		2173
Schamberger	Sarah		2173
Schamel	Raymond		2131
Schapker	Don		2173
Schares	Jane		2131(1)
Scharf	Joel		2000
Scharf	Susan		2173

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Scharnagel	Jason		2173
Schatz	Bonnie		2173
Schatzel	Deborah		2173
Schau	Danette		2000(1)
Schaub	Debra		2173
Schaub	Marsha		2173
Schauer	Elizabeth		2173
Schaus	John		2173
Schaut	Matthew		2000, 2173
Schechter	Arielle		2173(u)
Schechter	Deborah		2173
Schechtman	Joy		2131
Scheele	Marlene		2173
Scheer	David		2131, 2173(u)
Scheffert	Rick		2173
Schefter	Ken		2173
Schegloff	Myra		2173
Scheib	D		2173
Scheid	James		2131
Scheid	Kaitlyn		2173
Scheid	Kathleen		2173
Scheinman	Barbara		2173
Scheld	Steve		2131
Schell	Jayne		2173
Schellenger	Candice		2000, 2131, 2173
Schemehorn	Kathryn		2173
Schemenauer	Mary		2000
Schemer	Gwenn		2173
Schenck	Craig		2173

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Schenk	Ann		2173
Schenk	Barbara		2173
Schenk	Susan		2173
Schepis	Debbie		2173
Scheppner	Chad		2173
Scherb	Daniel		2173
Scherb	Eva		2254
Scherba	George		2173
Scherer	Josephine		2131
Scherr	Gillie		2173
Scherry	Laura		2000
Schertz	Marcia Lang		2173
Schicker	Jennifer		2130
Schickling	Robert		2000, 2131
Schierling	Sharon		2173
Schietzelt	Randall		2173
Schiffelbian	Alexander		2173
Schiffman	Eric		2173
Schiffman	Lauren		2173
Schild	Darvin		2000
Schildwachter	Steve		2000, 2173
Schiller	Linda		2173
Schilling	Bruce		2173
Schilling	Joy		2131
Schilling	Myrna		2173
Schindl	Kerry		2131, 2173
Schindler	Kyra		2031(u)
Schipman	Nikki		2173
Schippert	Lizzi		2173
Schivell	Chrystal		2173

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Schlabach	Marie		2173
Schlachtman	Juliana		2173
Schlack	Chris		2173
Schlagenhaft	Deanna		2173
Schlaikjer	Elise		2173
Schlam	Steven		2173
Schlapfer	Edwin		2131
Schlather	Erica		2173
Schlatter	Denise		2173
Schlatter	Jeanne		2173
Schlatter	Larry		2173
Schlecht	Jody		2000
Schlecker	Rose		2173
Schlegel	Anne		2131, 2173(u)
Schlegel	Jane		2173
Schleif	Evan		2173
Schleif	Kai		2173
Schlemel	Pierre		2173(u)
Schlepp	Geneva		2173
Schlesinger	David		0273
Schlesinger	Sybil		2173
Schlessinger	Susan		2173
Schlichenmayer	Susan		2173
Schlichter	Emily		2131
Schlichting	Paul		2173(u)
Schlies	Dianne		2131
Schlinger	Debbie		2000
Schlinger	Henry		2173
Schlipmann	Tom		2173
Schlippert	Glenn		2000, 2173
Schlitt	Christina		2173
Schlitte	Doug		2000
Schloegl	Herta		2173
Schloessinger	Fred		2000
Schloessinger	Fred & Kathleen		2173
Schloss	E.S.		2000(1), 2173
Schloss-Birkholz	Gisela		2173
Schlossmacher	EM		2031(u)
Schluth	Nancy		2173
Schmalz	Leslie		2131
Schmalzer	Paul		2312
Schmatjen	Sheryl		2131, 2173
Schmeh	Derek		2000, 2173
Schmerler	Barbara		2131
Schmid	Calvin		2173
Schmid	Jeff		2173
Schmid	Nan		2173
Schmid-Maybach	Catherine		2131
Schmidt	Ann		2173(u)
Schmidt	Anne		2173
Schmidt	Catherine		2031(u)
Schmidt	Denise		2131
Schmidt	Donna		2173
Schmidt	Edgard		2131
Schmidt	Edward		2173
Schmidt	George		2131
Schmidt	Jean		2173
Schmidt	Joel		2173
Schmidt	Julie		2173
Schmidt	Kimberly		2173
Schmidt	Laurie		2173
Schmidt	Linda		2173
Schmidt	Linda		2173
Schmidt	Phyllis		2173
Schmidt	Robert		2131
Schmidt	Roger		2131, 2173(1)
Schmidt	Sabine		2173
Schmidt	Sarah		2031
Schmidtlein	Paul		0322
Schmiesing	Susan		2173
Schmitt	April		2173
Schmitt	Erica		2173
Schmitt	Kenneth		2173
Schmitt	Tim		2173
Schmittauer	John		2173
Schmitt-DeBonis	Michelle		2173
Schmitz	Claudia		2173
Schmitz	Heidi		2000(1)
Schmotzer	Mary		2173
Schnabel	Heidi		2131
Schnaidt	Ann		2131
Schnebelen	Jeffrey		2000, 2173
Schneble	Shannon		2173
Schnee	Jane		2173
Schneickert	Steve		2131
Schneider	Amy		2173
Schneider	Cathey		2173
Schneider	Christian		2173
Schneider	Dan		2173
Schneider	Danielle		2000, 2173

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Schneider	Edward R		2000
Schneider	Gail		2185
Schneider	Gail		2173
Schneider	Gary		2000
Schneider	George		2131, 2173
Schneider	Jenny		2173
Schneider	Jo Ann		2000, 2173
Schneider	Joann		2173
Schneider	Maria		2000(1)
Schneider	Sue		2173(u)
Schneider	Thomas		2173
Schneiderman	Henry		2173
Schneiderman	Kyle		2173
Schneiderman	Leslie		2173
Schnell	Gail		2173
Schneller	Douglas		2173
Schnitman	Tamra		2173
Schnitzer	Diane		2173
Schnoes	Krystal		2173
Schock	Charles		2131
Schockner	Jan		2173
Schoeb	Pam		2131
Schoech	D.		2173
Schoenbachler	Lisa		2173
Schoene	William		2173(u)
Schoenfeld	Michael		2173
Schoenfield	Rick		2173
Schoenleber	Carol		2173
Schoephoerster	George		2173
Schoessow	David		2031(u)
Schoffel	Matthew		2173
Scholar	Sarah		2173
Scholl	Chris		2173
Scholl	Ty		2173
Scholl	Tyler		2131
Schollenberger	Faye		2173
Scholten	Sharon		2173
Scholtz	Lauren		2173
Schombel	Chihuahua		2173
Schomberg	Sandra		2173
Schonberger	Jennifer		2000, 2173
Schonborn	Felicia		2173
Schondorf	Lee		2173
Schoo	Steve		2173
Schoolcraft	Mary Sky		2131
Schooley	Kim		2173
Schooley	Patrice		2131
Schoonmaker	Robert		2000
Schoonover	Linda		2173
Schorin	Susan		2173
Schornoz	Louis		2000
Schorr	Marion		2000
Schorr	William		2173
Schott	Joe		2000, 2173
Schott	Paula		2173
Schou	Samantha		2173
Schovajsa	Libby		2131
Schow	Lynn		2131
Schpch	Susan		2173
Schpok	Irwin		2000
Schrader	Linda		2173
Schrader	Ryan		2173
Schrader	Stacy		2000
Schrader	Wanda		2173
Schramm	Beverly		2173
Schramm	Catherine		2131
Schramm	Douglas		2131
Schramm	Peggy		2173
Schrauer	Jonathan		2173
Schrauger	Stewart		2000(u)
Schreck	Dianne		2173
Schreck	Heather		2131
Schreck	Mary		2173
Schreger	Hans		2173
Schreiber	Dolev		2031(u)
Schreiber	Janis		2131
Schreiber	John		2173
Schreiber	Joyce		2173
Schreiber	Linda		2131
Schreier	Barbara		2173
Schreier	Saul		2173
Schreier	William		2173
Schreindorfer-Gruber	Sabine		2000
Schreiner III	Peter		2173
Schrempf	Steve		2173
Schrems	Carrie		2173
Schreter	Carol		2312
Schreyer	Suzanne		2173
Schriber	Maureen		2000, 2173
Schrider	Joan		2131
Schriener	Leslie		2131
Schrier	Barbara		2131
Schrock	Robin		2131

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Schroeder	Briana		2173
Schroeder	Cheryl		2131
Schroeder	David		2173
Schroeder	David		2131
Schroeder	Kris		2173
Schroeder	Kristine		2173
Schroeder	Lisa		2000
Schroeder	Mary		2173
Schroeder	Todd		2173
Schroeder, Ph.D.	Henry		2131
Schroth	Sandra		2131
Schrott	Ruth		2312
Schruder	Suzanne		2173
Schuberg	Bridget		2173
Schubert	Candice		2131
Schuble	Sue		2173
Schuchard	Susan		2173
Schuck	Vicki		2173
Schuck	Yossi		2131
Schuelke	Janessa		2131
Schuessler	Betty		2173
Schueth	Steve		2173
Schuett	Connie		2131
Schuett	Marlen		2173
Schuett	Susan		2173
Schuette	Lisa		2131
Schuhrke	Nancy		2000, 2173
Schuler	Bill		2173
Schuler	Lara		2173
Schullbach	Diane		2173
Schulman	Linda		2000
Schulte	Erik		2319
Schulte	Whitney		2131
Schultes	Yolanda		2000
Schultetus	Katherine		2173
Schults	Sandra		2173
Schultsmeier	Effie		2173
Schultz	Beth		2173
Schultz	Carmen		2173
Schultz	Cindy		2131, 2173
Schultz	Danielle		2173
Schultz	David		2131
Schultz	Eric		2173
Schultz	H		2173
Schultz	Howard		2173
Schultz	Jennifer		2173
Schultz	Judith		2173
Schultz	Kevin		2173
Schultz	Lesley		2173
Schultz	Linda		2173
Schultz	Margaret¿		2000
Schultz	Mary		2173
Schultz	Nancy		2173
Schultz	Peggy		2173
Schultz	Penny		2131
Schultz	Peter		2173(1)(u)
Schultz	Phil		2131
Schultz	Sidney		2131
Schultz	Ted		2131
Schultz	Wm		2173
Schulz	Alexandra		2173
Schulz	Delia		2173
Schulz	Jesse		2131
Schulze	Christopher		2173
Schulze	Hertha		2173(u)
Schulze	Royale		2131
Schumacher	Amy		2000, 2173
Schumacher	Richard		2173
Schumack	Arla		2000
Schumal	R.A.		2173
Schunk	Holly		2173
Schuon	Mary		2173
Schupbach	Sherry		2173
Schuster	Astrid		2173
Schutjer	Patricia		2131
Schutz	Jayden		2031
Schuyler	Linda		2173
Schwab	Margery		2173
Schwall	Nancy		2173
Schwall	Nancy		2000
Schwaller	Greg and Laurie		2173(u)
Schwan	Laurie		2173
Schwander	Beth		2312
Schwartz	Barbara		2173
Schwartz	Barry		2173
Schwartz	Brian		2173
Schwartz	Cheryl		2173
Schwartz	David		2131
Schwartz	Elizabeth		2173(u)
Schwartz	Eric		2173(u)
Schwartz	Greg		2131
Schwartz	Joyce		2173
Schwartz	Judy		2173

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Schwartz	K.S		2173(u)
Schwartz	Kelly		2173
Schwartz	Linda		2173
Schwartz	Mary		2131
Schwartz	Murray		2173
Schwartz	Natasha		2000
Schwartz	Phebe		2173
Schwartzberg	Lora		2000
Schwartzman	Henry		2173
Schwarz	Diane		2131
Schwarze	Richard		2000
Schwarzenbach	Marian		2173
Schwarzlander	Patricia		2173
Schwasinger	Shelli		2173
Schwass	Crystal		2173
Schwausch	Stephen		2173
Schwebke	Edith		2173
Schwefel	Jeff		2173
Schwegler	Thomas		2173(u)
Schwellinger	Toni		2173
Schwenger	Yvonne		2173
Schwenzer	Barney		2173
Schwerdt	Haylee		2173
Schwerman	Martha		2173
Schwieters	Lorine		2173
Schwinefus	Judy (Crystal)		2131
Sciarrillo	Loisann		2173
Scionti	Cyn		2173
Scofield	Todd		2173
Scofield	Toni		2173
Scognamiglio	Antonio		2000

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Scoles	Richard		2131
Scotese	Karen		2173
Scott	Alan		2173
Scott	Barbara		2131
Scott	Barbara		2131
Scott	Brian		2173(u)
Scott	Cathy		2173
Scott	Cheryl		2000
Scott	Debra Immer		2131
Scott	Deirdre		2131
Scott	Dina		2000
Scott	Dorinda		2173
Scott	Edward		2173
Scott	Fry		2173
Scott	George		2173
Scott	Gina		2173
Scott	James		2131
Scott	Jan		2173
Scott	Jeff and Raeann		2173
Scott	Jennifer		2000, 2173
Scott	Joan		2173
Scott	Joan		2000, 2131
Scott	Jonathan		2173
Scott	Joseph		2173
Scott	Juliann		2131
Scott	Karen		2173
Scott	Karen		2173
Scott	Klara		2173
Scott	Laura		2000

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Scott	Lisa		2173
Scott	Lorrie		2173
Scott	Marilyn		2173
Scott	Marj		2173(u)
Scott	Meagan		2173
Scott	Michael		2173
Scott	Mimi		2000(1)
Scott	Monique		2173
Scott	Pamela		2173
Scott	Paul		2173
Scott	Peter		2000, 2131, 2173
Scott	Richard B and Mary		2131
Scott	Robin		2173
Scott	Shannon		2173
Scott	Suellen		2173
Scott	Tanya		2173
Scott	Travis		2131
Scott	Wendy		2173(u)
Scott-Duenas	Edith		2173
Scotti	Karriaunna		2201
Scotto	Denise		2131
Scotto	James		2173
Scotts	Jan		2173
Scovill	Bruce		2131
Scoville	P/Pamela		2000, 2173
Scovotti	Arlene		2173
Screven	Susan		2131(1)
Scribner	Denee		2000
Scribner	Wendy		2131

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Scriff	Joe		2173
Scrima	Quiara		2131
Scritchfield	Nicholas	Friends of Nevada Wilderness	3044
Scro	Donna		2173
Scroggs	Myra		2173
Scruggs	Sean		3050, 4014
Scudder	Jeremy		2173
Scullard	M.E.		2173
Seabert	Elizabeth		2131
Seabloom	Donna		2173
Seagraves	Andrew		2173
Seagraves	Margaret		2173
Seah	Thomasina		2173
Seal	David		2031
Sealey	Michael		2131(3)
Sealy	Ramsey		2173
Seaman	Linda		2173(u)
Seamon	John		2173
Seamster	Teresa		2131, 2262
Searle	Karyn		2173
Sears	Frances		2173
Sears	Jeanne		2173
Sears	Julie		2173
Season	Ronald		2173
Seater	Kim/Kimberly		2000, 2131, 2173
Seaton	Chris		2173
Seaton	Mark		2173
Seaton	Mark		2131

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Seaver	LaRoy		2131
Seavy	Barbara		2173
Seaward	Patricia		2000
Seay Jr	Phillip		2173
Sebastian	Roberta		2000
Sebaugh-Lim	Terri		2131
Seccombe	Ann		2131, 2173
Seckendorf	Michael		2173
Secker	Louise		2173
Seckinger	Donna		2000
Seckman	Sally		2173
Secora	Elizabeth		2131
Seda	Joe		2131
Sedar	Dena		2173
Sederquest	Evan		2173
Sederstrom	Sarah		2173
Sedlovsky	Inga		2173
Sedon	Douglas		2173
Sedy	Alice		2173
Seeber	Mary		2000
Seefeldt	June		2173
Seeger	Donald		2173
Seegler	Anita		2173
Seehafer	MaryEllen		2173
Seekins	Greg		2173
Seel	Jennifer		2000
Seelbinder	Norm		2173
Seeley	Andrew		2173
Seeley	Marsha		2173
Seeley	Theresa		2173
Seelman	Rob		2173

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Seematter	Barbara		2173
Seetharaman	Vikram		2173(u)
Segadelli	Isabelle		2173
Segal	Bob		2000
Segal	Jana		2131
Seger	Betty		2173
Seger	Kimberly		2173
Segrave	Carole		2312
Seguin	Pamela		2173
Segura	Maria		2173
Seiber	Suzanne		2000
Seibold	Ron		2131
Seidel	Cynthia		2131
Seifert	Kayla		2173
Seigel	Deborah		2131
Seigneur	Eleanor		2173
Seil	Fredrick		2000
Seipel	Jill		2173
Seiter	Monica		2173
Seitzman	Abbe		2173
Sekeres	Sondra		2131
Selbin	Susan		2000
Selby	Marybeth		2173
Selby	Stephanie??		2000
Selch	Ruthie		2173
Seldin	Fran		2173
Seleman	Doug		2131
Selene	Marsha		2131
Seley	Brandi		2173
Selhaver	Rich		2173
Selig	Andrew and Ellen		2131

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Selig	Margie		2131
Seligman	Arthur		2131, 2173
Sell	Jeff		2173
Sell	Sharron		2131
Sell	Stephanie		2173
Sella-Villa	Victor		2131, 2173
Sellers	Barbara		2131, 2173
Sellers	Margaret and Patricia		2000
Sellers	Susan		2173
Sellers	Susan		2173
Sello	Simone		2173
Sellon	Kim		2000(1), 2131, 2173
Sells	Greg		2173
Selove	John		2173
Selph	Claudette		2173
Selquist	Donna		2000
Seltzer	Devon		2000, 2173
Seltzer	Robert		2000, 2131(1)
Semanson	Jim		2173
Semasko	Debra		2173
Seminaro	Marie		2173
Semple	Toni		2291
Semrod	C		2173
Semus	Hillary		2173
Senatore	Maryanne		2173
Seneff	Christina		2173
Senf	Lyndol		2131
Senior	Lenore		2131
Senn	Toni		2173
Sennert	Gloria		2173
Sennett	Frank		2173
Senour	Jon		2173
Senturia	Alice		2173
Seppala	Brian		2173
Seppala-Etra	Laurel		2131
Sepulveda	Donna		2173
Sepulveda	Victoria		2131
Sequichie-Kerchee	Debbie		2173
Serafin	William		2173
Serafini	Valerie		2173
Seraphin	Suzanne		2173
Serbinski	Rachael		2131
Sercombe	Sarah		2173
Sere	Gayatri		2173
Serio	Linda		2131(u), 2173
Serman	Nina		2000
Serna	Jessica		2173
Serna	Russella		2131
Serne	S/Sandra		2000, 2173
Sernel	Elliot		2173
Serra	Dawn		2000(u)
Serra	Ragen		2131
Serrano	Rick		2173
Serratore	Danielle		2000, 2173
Serrell	Hope		2131
Serrin	Andrew		2173
Sersig	Nan		2173
Sertich	Andrew		2173
Servello	Andrea		2173
Serventi	Susan		2238
Servi	Margherita		2173
Service	Alexandra		2173
Service	Genia		2173
Serviss	Ronald		2000, 2131, 2173
Serwacki	Veronica		2173
Serwecinski-McCormack	Mary		2312
Serxner	Shoshana		2173
Serylo	Shannen		2000
Setab	Lare		2173
Setinc	Christina		2173
Sette	Irene		2000
Settgast	Walter R.		2173
Settle	Greg		2173
Setzer	Sharon		2131(u)
Seuss	George		2131
Sevald	Diane		2000
Sever	Debbie		2173
Severino	Susan		2173
Severson	Carmel		2173
Sevilla	Donna		2173
Sèvilla	Caroline		2000
Sewald	Michelle		2000(1), 2131, 2173
Sewall	Dana		2173
Sewell	Leeanna		2131

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Sexton	Carolyn		2173(u)
Sexton	Denis		2173
Sexton	James		2173
Sexton	Sara		2000(7), 2173
Seyfried	Mike		2031(u)
Seymour	Christopher		2173
Seymour	Debbie		2173
Seymour	Joyce		2173
Seymour	Laurie		2173
Seymour	Linda		2209
Seymoure	Michelle		2173
Shaak	Susan		2173
Shabbott	Mary		0238, 0281, 2000, 2031(u), 2173, 2312(1)
Shabot	Elias		2173
Shack	Plezena		2131
Shadle	Linda		2173
Shafer	Paulette		2173
Shaffer	Brooke		2000(1), 2173
Shaffer	Diane		2173
Shaffer	Kendra		2173
Shaffer	Nicole		2000, 2131, 2173
Shaffer-O'Connell	Melissa		2000, 2173
Shafran	Kendra		2131
Shaft	Fred		2131
Shah	Debra		2173
Shah	Nandita		2173
Shah	Nilesh		2173
Shahvali	Marcia		2173
Shaia	Gerald		2131(1), 2173
Shain	Susan		2173
Shakhnazarian	Inessa		2173
Shako	Arlene		2173
Shalander	Rachel		2173
Shallenberger	Gary and Mary		2173
Shallman	Elsy		2131, 2173, 2312
Shamamian	Michael		2131
Shamblin	Harriet		2173
Shambo	James		2173
Shamim	Bobby		0070
Shamley	Erin		2031(u)
Shammar	Isabel		2131
Shamp	Jill		2000
Shanahan	A. M.		2173
Shane	Patricia		2173
Shank	Erika		2173
Shankel	Georgia		2173
Shanker	Gopal		2000
Shanklin	Ann		2173
Shankling	Victoria		2173
Shankman	Robin		2131
Shanks	Bill		2173
Shanley	Colleen		2173
Shanley	Karen		2173
Shanley	Phyllis		2173
Shannon	Janice		2173
Shannon	Joseph		2131
Shannon	Kathleen		2131
Shannon	Randall		2000, 2173
Shapan	Judith		2173(u)
Shapiro	Amy		2173
Shapiro	Claudia		2173
Shapiro	Leo		2000
Shapiro	Rick		2131, 2173
Shaprio	Don		2131
Sharbell	Mary		2173
Sharee	Donna		2173
Sharfman	William		2173
Sharif	Terri		2173
Sharkey	Lynn		2173
Sharkin	Martha		2173
Sharlock	Leslie		2173
Sharma	Bharatee		2173
Sharma	Meghna		2173
Sharp	A		2131, 2173
Sharp	Birgit		2131
Sharp	Dianne		2173(u)
Sharp	Donna		2173
Sharp	Dwite		2173
Sharp	Edward		2173
Sharp	Eli		2173
Sharp	Gloria		2173
Sharp	Jack		2173
Sharp	June		2000(u), 2173

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Sharpe	Chip		2173
Sharpe	Libby		2173
Sharpe	Wil		2173
Sharpnack	Jackie		2173
Shats	Tatyana		2000, 2173
Shatto	James		2173
Shaub	Kimberly		2173
Shaughnessy	Anna		2173
Shauinger	Lynn		2173
Shaver	James		2173
Shaver	Jami		2131
Shaw	Ayla		2031(u)
Shaw	Christiane		2173
Shaw	Diane		2173
Shaw	Donna		2000
Shaw	Dylan		2173
Shaw	Janet		2173(u)
Shaw	Karen		2173
Shaw	Kiersten		2173
Shaw	Kim		2173
Shaw	Linda		2173
Shaw	Michael		2173
Shaw	Patricia		2131
Shaw	Phyllis		2173
Shaw	S S		2173
Shaw	Susan		2173
Shaw	Tammy		2173
Shaw	Wendy		2173(u)
Shaw	William		2173
Shawe	Creagh		2131
Shawe-Mendelow	Anne		2173

Last Name	First Name	Org	CIN
Shayne	A.F.		2173
Shea	Ann		2173
Shea	Kathleen		2173
Shea	Mary		2173
Shea	Mary		2173
Sheafe	W.		2173
Sheahan	Maureen		2173
Shear	Dan		2131
Shearer	Erik		2131
Shearouse	Celeste		2173
Shearwood	R.L.		2173
Shebesta	Baillie		2312
Shecter	Kathleen		2173
Sheehan	Kathleen		2173(u)
Sheehan	Maureen		2173
Sheehy	Sharon		2173
Sheehy	Steve		2000, 2173, 2312
Sheely	Carisa		2173
Sheen	Christine		2131(1)
Sheen	Veena		2173
Sheeran	Michael		2173
Sheets	Aida		2173
Sheets	Melvin		2173
Sheffer	Jeanne		2173
sheggeby	Stan		2000(1)
Sheheen	Diane		2173
Sheiman	Aaron		2173
Sheinman	Deborah		2131
Shekter	Deborah		2131
Shelangoski	Dena		2173

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Shelby	BC		2173
Sheldon	Benjamin		2173
Sheldon	Cheryl		2173
Sheldon	Lynette		2173
Shelley	Ian		2173
Shelton	Carol		2173
Shelton	Nicholas		2173
Shelton	William		2173
Shematek	Judith		2173
Shepard	Barbara		2173
Shepard	Carrie		2173
Shepard	Cindy		2031(u)
Shepard	Darcy		2031(u)
Shepard	James		2031(u)
Shepard	Lansing		2173
Shepard	Richard		2173
Shepardson	Betsy		2131
Shephard	John		2131, 2173
Shephard	Phil		2173
Shepherd	Carol		2000
Shepherd	Carol		2173
Shepherd	Elizabeth		2131
Shepherd	Harold		2173
Shepherd	James F		0331
Shepherd	John		2131
Shepp	Karen		2173
Sheppard	Connie		2173
Sheppard	Elizabeth		2318
Shepperson	Barbara		2173
Sher	Bret		2173
Sherard	Susan		2131, 2173

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Sherbina	Sally		2131
Sherbrook	M.		2173
Sheridan	Ian		2131
Sheriff	Ron		2173
Sherman	Betsy		2173
Sherman	Brenda		2173
Sherman	Daniel		2173
Sherman	David		2000
Sherman	Debrah		2173
Sherman	Donna		2173
Sherman	Leslie		2173
Sherman	Lila		2173
Sherman	Michael		2031(u)
Sherman	Thom		2173
Shermer	Shawn		2173
Shermock	Margaret		2173
Shero	Dale		2000
Sherrane	Robert		2173
Sherrer	Kayan		2131
Sherry	Fran		2173
Sherry	Lori		2173
Sherry	Vince		2131
Sherve	Carolyn		2118
Sherwood	Kate		2173
Sherwood	Kris		2173
Sherwood	Linda		2173
Sherwood	Roger		2173
Sheth	Andrea		2173(u)
Shevis	Aron		2000, 2173
Shewmaker	Jill		2131
Sheytanian	Lauren		2173
Shickich	Lois		2000
Shields	Eric		2173
Shields	Juli		2173
Shields	Regina		2173
Shields	Sherrie		2173(u)
Shields	Tawnya		2173
Shiels	Theresa		2000
Shiffrin	Joyce		2131(1)
Shifrin	Diane		2173
Shih	Ya		2173
Shiltz	Pauline		2173
Shimek	Carol		2173
Shimko	Andy		2031(u)
Shimpi	Nikhil		2173
Shimshon	Yael		2000
Shin	Janet		2131(1)
Shiner	Patricia		2131
Shinhearl	Aimee		2173
Shinkle	Mark		2131
Shinn	Michelle		2131
Shipley	Kyle		2031
Shipley	Leslie		2173
Shipman	Kate		2173(u)
Shirey	Linda		2173
Shirk	Pamela		2173
Shirley	Elaine		2131
Shirlry	Robert		2131
Shishim	Dave and Maggie		2131
Shishkin	Rosemarie		2173
Shives	Fletcher		2131
Shocinski	Kristine		2173
Shockley	Karen		2173
Shoemaker	David		2173
Shoemaker	Jennifer		2173
Shoemaker	Terri		2173
Shoenthal	Melissa		2173(u)
Shofet	Ari		2173
Shofner	Diane		2131
Shomer	Clare		2173
Shomer	Forest		2000
Shomo	Frank		2173
Shook	Kristina		2173
Shook	Philip		2131
Shopay	Ryan		2173
Shopper	Bonnie		2173
Shore	Gwen		2131
Shore	Lisa		2173
Shore	Michael		2173
Short	Charlene		2173
Short	Michael		2312
Shorter	Patricia		2173
Shortreed	Jill		2173
Shortridge	Katrina		2173
Shosh	Laura		2173
Shotts	Tami		2173
Shotts	Tamra		2173
Shotwell	Ansi		2173
Shotz	Alyson		2131
Shoulderblade	Magoo		2000, 2173
Shoup	Jane		2173
Shouse	Marianne		2173
Shouse-Salpeter	Antonia		0118

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Shovem	Katie		2173
Shrader	Greg/Gregory		2131(1)
Shreve	Scott		2173
Shriner	Sara		2173
Shroba	Cynthia		3057
Shroder	Steven		2173
Shroff	Kayomarz		2173
Shrum	Sandra		2173
Shuben	Jeffrey		2173
Shubert	Sharyn		2173
Shuey	Dorothy		2031(u)
Shuford	Carla		2173
Shuler	John		2173
Shuler	Patsy		2312
Shull	Ella		2131
Shull	Laurel		2173
Shulman	Joseph		2173
Shulman	Robert		2000
Shulof	Vicki		2000
Shultz	Jamie		2173
Shumaker	Shawn		2173
Shuman	Judith		2173
Shuman	Morlan		2173
Shuman	Wendy		2173
Shumate	Lisa		2173
Shupak	Eileen		2000(1)
Shuput	Steve		2131
Shure	Jill		2173
Shurtleff	Tina		2173
Shushan	Cheryl		2173
Shushan	Gregory		2173

Last Name	First Name	Org	CIN
Shuster	Daniel		2173
Shuster	Marguerite		2000
Shutay	Jeanette		2173
Shutt	Donna		2173
Sibary	Ann		2131
Sicard	Kevin Gershom		2000, 2131
Sicari	Maria		2173
Sickel	Kimberly		2000
Siddiqi	Marilyn		2173
Sidebotham	Nancy		2173
Sidebotham	Steven		2173
Siders	Mayme		2131
Sidney	Kathleen		2131
Sidofsky	Carol		2131
Sidor	Joe		2173
Sidorova	Anna		2173
Sidzinska	Maja		2173
Sieb	Angie		2131, 2173
Siebenaler	Elaine		2173
Siebert	Catherine		2131
Siebert	Nancy		2173
Sieck	Joanne		2173
Siefke	Kerry		2131
Siefken	Debra		2173(u)
Siefman	Sherrie		2312
Siegal	Deborah		2173
Siegel	Martha		2173
Siegel	Melvin		2173
Siegel	Nona		2131
Siegel	Paul		2173
Siegel	Richard		2131(1)

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Siegfried	Alexander		2173
Siegfried	Chelsea		2173
Siegfried	Lisa		2131
Siegler	Helene		2173
Siegmund	Sheila		2173
Siegriwt	Toni		2000, 2173
Siek	Alexandra		2131
Siekevitz	Ruth		2173
Sielinski	Jeannine		2173
Siemer	Harold		2173
Siemering	Falk		2173
Siemion	Letitia		2131
Siems	Barbara		2131
Siemucha	Jan		2173
Siens	Susan		2173
Sierra	Veronica		2000, 2131
Sifuentes	D.		2173
Sigala	Ceaser		2173
Sigler	Dayli		2131
Sigler	Dean		2173
Sigler	Teri		2173
Sigman	Rhonda		2000, 2173
Signor	Wade		2173
Signorelli	Denise L		0275
Signorelli	Victoria		2173
Signorino	Anthony		2173
Signs	Melissa		2173
Sigsby	Ellen Chavez		2131
Sikand	Vikram		2173

Last Name	First Name	Org	CIN
Sikes	Catherine		2173
Sikina	Heidi		2173
Siklim	Petra		2000
Sikora	Tania		2173
Sikorski	Francis		2173
Sikorski	Susanna		2000
Silberg	Beverly		2173
Silberman	Lena		2173
Silbert	Diedra		2131
Silen	Ted		2173
Silence	Rebecca		2173
Siler	Julie		2173
Siler	Ralph		2173
Silhanek	Deborah		2173
Silk	Jacqueline		2173
Siller	Teralyn		2000
Silodor	Steven		2131
Silva	DÃ©bora		2173
Silva	Debbie		2131
Silva	Nikkole		2173
Silva	Stephanie		2173
Silva	Welthy		2000(1)
Silverforb	Judy		2312
Silverio	Alexander		2173
Silverman	Ayn		2173
Silverman	Barbara		2173
Silverman	Cooky		2173
Silverman	Marc		2173
Silverman	Sharon		2173
Silvernale	Dana		2000(1)
Silvers	Winifred		2173
Silverstone	Paul		2173
Silverwood	George		2173
Silvestre	Beatrice		2000(1)
Silvestri	Alicia		2173
Silvestri	Roger		2173
Silvey	Kathy		2000
Silvia	Gale		2173
Silvia	Heather		2173
Simas	Haley		2173
Simcox	Shelley		2000
Sime	Dawn		2173
Simek	Teresa		2173
Simeone	Lynne		2173
Simeone	Sam		2000
Simic	Leila		2173
Simister	Karen		2000
Simle	Anna		2131
Simmermon	Shannon		2173
Simmonds	Beatrice		2173
Simmons	Amber		2000, 2173
Simmons	Lauren		2173
Simmons	Mary		2173
Simmons	Shelly		2000, 2173
Simmons	Steve		2131
Simmons	Sue		2173
Simmons	Vickie		3058
Simmons	Vickie		4013
Simmons	Violet		2173
Simms	Lisa		2131, 2173
Simms, Jr.	Herman S.		2131, 2173
Simon	Carolyn		2000, 2173
Simon	Cathy		2173
Simon	Daniel		2173
Simon	Elizabeth		2173
Simon	George		2173
Simon	Gregg		2173
Simon	Jamie		2173
Simon	L.		2173
Simon	Rosa		2173
Simon	Sara		2173
Simon	Susanne		2173
Simon	Yvonne		2173
Simona-Gabriela	Ancuta		2173
Simon-Duneau	Corinne		2000
Simone	Dana		2173
Simone	Louise		2173
Simone	Molinari		2173
Simonetti	Hilary		2131(1)
Simonetti	Suzanne		2173
Simone-Wiley	Renee		2173
Simonich	Claire		2173
Simonin	Lisa		2173
Simons	Jessica		2031(u)
Simons	Judy		2173(u)
Simons	Laurie		2065
Simonsen	Marion		2173
Simper	Barbara		2173
Simplicio	Frank		2131
Simpson	Andrea		2173
Simpson	Audrey		2173
Simpson	Candace		2173

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Simpson	Erin		2173(u)
Simpson	Jane		2173
Simpson	Jennifer		2173
Simpson	Joy		2173
Simpson	Lawrence		2173
Simpson	Lynn		2173
Simpson	Moira		2173
Simpson	Patricia		2131
Simpson	Rachel		2173
Simpson	Sally		2173
Sims	Anna		2131, 2173
Sims	Dwight		2173
Sims	Jerry		2131
Sims	Joseph		2000
Sims	Kaylyn		2031(u)
Sims	LeeAnn		2000
Sims	Mary		2173
Sims	Millicent		2173
Sims	Nancy		2000
Sims-Barlow	Judy		2131
Simson	Dana		2131
Simson-Silverman	Esther-Grace		2173
Sinai	Iris		2173
Sincher	Joyce		2173
Sinclair	Jean		2173
Sinclair	Karen		2173(u)
Sinclair	Kathleen		2173
Sinclair	Linda		2173
Sindoni	Jenne		2173
Siner	Robin		2173
Sines	Charlotte		2000
Singelton	Martha		2000
Singer	Alice		2173
Singer	Lauren		2173
Singer	Lisa		2173
Singer	Maurene		2173
Singer	Michael		2131
Singer	Roger		2131(1)
Singh	Carlee		2173(u)
Singh	Denise		2173
Singh	Gaurav		2173
Singh	Ila		2173
Singh	Japeshwar		2131
Singh	Julie		2000
Singh	Ravinder		2173
Singh	Satt		2173
Singher	Marjory		2173
Singleton	Amy		2131
Singleton	Ann		2173
Singleton	Iona		2131
Singleton	Jon		2173
Singleton	Pam		2131
Singsen	Judith		2173(u)
Singwi	Veena		2173
Sini	Maurizio		2000
Sinitiere	Mary		2173
Sink	Dawn		2000
Sinnan	Keertti		2131
Sinnett	Maryosa		2000
Sinram	Danika		2000
Sipos	Stephen		2173
Siqueiros	Yvonne		2173
Sirch	Jim		2000
Sirey	Sally		2131
Sirias	Christine		2000
Siromaskul	Smith		2173
Sirotek	Jonathan		2131
Sirtoff	Charla		2173(u)
Sisk	Sidney		2131, 2173
Siskind	Theresa		2000
Sistek	Denise		2131
Siva	Amara		2173
Sivertsen	Ann		2173
Sivro	Sarah		2000(1)
Sizemore	D		2000
Sizemore	Mary		2173
Skaggs	Cecile		2173
Skaggs	Glenda		2131
Skaife	Jud		2131
Skaife	Margaret		2173
Skal	Steven		2173(u)
Skalecki	Joseph		2173
Skali?	Dita		2000
Skalsky	Rebecca		2000, 2173
Skarning	Melanie		2131(u)
Skees	Kathy		2173
Skei	Ingrid		2173
Skelton	Joanne		2131(1)
Skelton	Julie		2173
Skiff	Kerry		2312(1)
Skiles	Jean		2131
Skillman	Stephanie		2173
Skinner	Barbara		2000
Skinner	Gail Harold		2131

Last Name	First Name	Org	CIN
Skinner	Michelle		2000, 2173
Skinner	Norma		2131
Skipton	Sharon		2131
Skipworth	Carl		2173
Skirbunt-Kozabo	William		2000
Skirvin	Laurence		2173
Sklar	Dana		2173
Sklar	Melissa		2173
Skoglund	Sheryl		2000
Skole	Judy		2173
Skolnick	Kate		2000, 2173
Skonberg	Linda		2173
Skoog	Heidi		2173
Skopek	Judy		2173
Skow	Judy		2173
Skrapec	Candice		2173
Skrivanek	Greg		2131
Skrzypczak	Lida		2173
Skup	Debra		2173
Skvarla	Susan		2173
Sky	Alison		2000
Sky	Kate		2173(u)
Skye	Teresa		2131
Slaback	Thomas		2159
Slack	Donna Marie		2131, 2173
Slack	Paul		2173
Slagle	Teri		2173
Slapnick	Susan		2312
Slater	Alicia		2173
Slater	Phoebe		2173

Last Name	First Name	Org	CIN
Slater	Steve		2173
Slater-Price	Pam		2173
Slattery	Louise		2000
Slattery	Megan		2173
Slattery	Michael		2000
Slaubaugh	Eugene		2173
Slaughter	Marianne		2173
Slaughter Perrote	Anne		2173
Slauson	Kevin		2000
Slawson	Staley		2131
Slay	Stacie		2131
Slayton	Carrie		2000
Slayton	S		2173
Sleeper	Stephen		2131
Sleight	Melinda		2096
Sletteland	Eric		2173
Sletteland	Holly		2173
Sletten	Greg		2173
Sleva	Cathy		2173
Slichenmyer	Jeanette		2173
Slikas	Beth/Elizabeth		2000, 2312
Sliney	James		2173
Sliney	Robyn		2173
Slinger	Michael		2173
Slivinsky	Stephen		2173
Slivon	Tina		2173
Sloan	Cathy		2173
Sloan	Dolores		2173
Sloan	Doreen		2131
Sloan	Lois		2173
Sloan	Patricia		2000

Last Name	First Name	Org	CIN
Sloan	R		2131
Sloan	Vicki		2173(u)
Sloan	Victoria		2031(u)
Slobin	Jan and Larry		2000
Slocjm	Kathleen		2031(u)
Slocum	Donna		2000
Slocum	Milton		2173
Slocum	Scott		2000
Slomer	Bob		2173
Slonaker	Lynn		2173(1)
Slonaker	Sailor		2173
Slone	Paul		2173
Slote	Karen		2173, 2312
Slouchans	Jacqueline		2000
Slowey-Thomas	Dianna		2000
Sluis	Debra		2173
Slussar	Randy		2173
Slutzker	Dave		2173
Slyby	Mary		2218
Smajic	Aldina		2131
Smale	Maryann		2173
Small	Barbara		2000, 2173
Small	Cynthia		2000, 2131
Small	George		2173
Small	Justin		2173
Small	Kim		2173
Small	Linda		2173
Small	Lisa		2173
Small	Lorraine		2173

Last Name	First Name	Org	CIN
Small	Monica		2173
Smallen	Martin		2173
Smalley	Brian		2173
Smalley	Kris		2173
Smalley	Toni		2173
Smallwood	Holly		2173
Smallwood	Korrie		2173
Smallwood	Therese		2173
Smallwood	Tracey		2173
Smallwood	William		2131
Smallwoodbel-tran	Sandra		2173
Smarr	Todd		2000, 2173
Smart	Tracy		2173
Smead	Christy		2000
Smead	Elizabeth		2173
Smedley	Stephanie		2173
Smedley	Stuart		2131
Smereck	Amy		2000
Smereck	Marc		2000
Smerling	Carol		2173
Smetana	Carol		2173
Smetana	Sheryl		2173
Smetaniuk	Mariya		2173
Smiddy	Dawn		2173
Smiht	Mandi		2173
Smile	Serenity		2131
Smiley	Deborah		2131
Smiley	Joy		2173
Smiley	Peggy		2173
Smit	Lynn		2131
Smith	Adrian		2000, 2173
Smith	Alison		2173
Smith	Amie		2173
Smith	Ann		2173
Smith	Annette		2173
Smith	Ashley Seil		2173
Smith	Bonnie		2173(u)
Smith	Bradley		2173
Smith	Brandon		2131
Smith	Brenda		2173
Smith	Bret		2173
Smith	Brian		2173
Smith	Bryce		2173
Smith	ByDeborah		2173
Smith	Candace		2173
Smith	Carla		2173
Smith	Carol		2173
Smith	Caroline		2000
Smith	Caroline		2173
Smith	Carrie		2173
Smith	Catherine		2162
Smith	Cathy		2173
Smith	Cathy		2173
Smith	Charles		2000, 2173(u)
Smith	Charlotte		2131
Smith	Charlotte		2173
Smith	Chloe		2131
Smith	Christie		2031(u)
Smith	Christina		2173
Smith	Christine		2000
Smith	Christopher		2173
Smith	Christopher		2312
Smith	Christopher J.		0210
Smith	Cindy		2173
Smith	Clive		2173
Smith	Cory		2173
Smith	Cynthia		2173
Smith	Cynthia		2131
Smith	Cynthia		2173
Smith	Daphne		2173
Smith	Darci		2173
Smith	Dave		2173
Smith	David		2173
Smith	David		2173
Smith	David		2131
Smith	Dea		2000
Smith	Deanna		2131, 2173
Smith	Debbie		2000
Smith	Deidra		2173
Smith	Diane		2131
Smith	Diane		2173
Smith	Dianne		2131
Smith	Don		2000
Smith	Donald		2131
Smith	Donald		0302
Smith	Donna		2312
Smith	Donna		2131, 2173
Smith	Donna		2000, 2173
Smith	Doreen		2173
Smith	E		2000

Last Name	First Name	Org	CIN
Smith	Edward D.		4016
Smith	Edwina		2173
Smith	Elizabeth		2173
Smith	Emily Mantey		2173
Smith	Eric		2131
Smith	Eric		2173
Smith	Frank		2173
Smith	Gail		2131
Smith	Geoffrey		2173
Smith	Gerald		2173
Smith	Greg		2131(u)
Smith	Greg		2173
Smith	Horace		2173
Smith	J		2173
Smith	Jamie		2131
Smith	Janell		2000, 2173
Smith	Janet		2173
Smith	Jarrett		2173
Smith	Jaune		2131
Smith	Jeannie		2173
Smith	Jeff		2131
Smith	Jeff		2173
Smith	Jennifer		2173
Smith	Jeremy		2173
Smith	Jess		2173
Smith	Jesse		2173
Smith	Jim		2131
Smith	Joan		2000
Smith	Joan		2173
Smith	John		2173
Smith	Judith		2000, 2173
Smith	June Burlingame		2173
Smith	Karen		2173
Smith	Karen		2173
Smith	Kate		2173
Smith	Kathy		2173
Smith	Kathy		2173
Smith	Kathy		2000
Smith	Keelan		2173
Smith	Kellie		2173
Smith	Kent		2173
Smith	Kevin		2173
Smith	Kim		2173
Smith	Kimberly		2131, 2173
Smith	Kimberly		2173
Smith	Kristi		2173
Smith	Kristin		2173
Smith	Lana		2173
Smith	Laura		2131
Smith	Laura		2131
Smith	Lauren		2173
Smith	Laurie		2173
Smith	Lee		2031(u)
Smith	Lee		2173
Smith	Lela		2173
Smith	LeRoy		2000
Smith	Leslie		2173
Smith	Leslie		2000, 2173
Smith	Lexi		2000
Smith	Linda		2173
Smith	Linda		2173
Smith	Linda		2173
Smith	Lisa		2131
Smith	Lisa		2173
Smith	Lisa		2000(1), 2173
Smith	Liz		2173
Smith	Lora		2173
Smith	Lori		2210
Smith	Lucy		2131
Smith	Lyrysa		2000
Smith	Margaret		2131
Smith	Marie		2173
Smith	Marilyn		2131
Smith	Marilyn		2000
Smith	Marjorie		2173
Smith	Martin		2131
Smith	Mary		2173
Smith	Mary		2173
Smith	Mary		2173
Smith	Mary Ann		2173
Smith	Meg		2173
Smith	Megan		2173
Smith	Megan		2131
Smith	Melissa		2173
Smith	Melody		2173
Smith	Michael		2131, 2173
Smith	Michael		2131
Smith	Michael G		2312
Smith	Missie		2173
Smith	Nancy		2000

Last Name	First Name	Org	CIN
Smith	Nancy		2173
Smith	Nancy		2131(1)
Smith	Nancy		2173
Smith	Natalene		2173
Smith	Nina		2173
Smith	Oliver		2173
Smith	Pamela		2173
Smith	Pamela		2131
Smith	Pat Edelen		2131
Smith	Patricia		2173
Smith	Patricia		2131
Smith	Patrick		2031(u)
Smith	Patty		2173
Smith	Paul		2131
Smith	Paul		2173
Smith	Paula		2173
Smith	Polly & Garry		2173
Smith	Pricilla		2131, 2173
Smith	Qutbuddin Loren Ruh		2131
Smith	Rachel		2173
Smith	Raya		2173
Smith	Raymond		2173
Smith	Regina		2173
Smith	Renata		2031(u)
Smith	Richard		2000, 2173
Smith	Robert		2173
Smith	Ronald		2131
Smith	Ronald		2173
Smith	Ronald		2000

Last Name	First Name	Org	CIN
Smith	S		2000
Smith	Sarah		2031
Smith	Sean		2131
Smith	Shannon		2173
Smith	Shirley		2000
Smith	Shirley		2173
Smith	Soraya		2131, 2173
Smith	Steven		2031(u)
Smith	Sue Wise		2173
Smith	Susan		2173
Smith	Susan		2173
Smith	Susan		2173
Smith	Susan		2173
Smith	Susan		2131
Smith	Suzanne		2131
Smith	Suzy		2173
Smith	Taylor		2173
Smith	Thomas		2131
Smith	Tracey		2173
Smith	Tracy		2173
Smith	Trevor		2131
Smith	Valerie Philebaum		2131
Smith	Victoria/Vicki		2000, 2293
Smith	Virginia		2131
Smith	Vivien		2173
Smith	Wayde		2173
Smith	Wendy		2000
Smith Polk	Shelva		2173
Smithe	Linda		2131
Smithers	Steve		2131

Last Name	First Name	Org	CIN
Smith-Hernandez	Sheila		2173
Smithline	Sharon		2173
Smithson	Ruth		2000
Smith-Thomas	Barbara		2000
Smithwick	Doreen		2000
Smitts	John		2173
Smock	Amanda		2312
Smrtka	Christine		2173
Smudin	Carole		2173
Smuts	Barb		2173
Smylie	Helen		2000
Smyth	Barbara		2173
Smyth	Carolyn		2173
Smyth	Linda		2000(1)
Smyth	Linda		2173
Smyth	Marylee		2173
Smyth	Teri		2173
Smythe	Carol		2173
Smythe	Ray		2173
Smythe	Stewart		2173
Snavely	Marie		2173
Snavely	William		2000
Snayberger	Brian		2173
Snead	Heather		2131
Snedegar	John		2173
Snedeker	Stephanie		2131, 2173
Snee	Jim		2000
Snee	Tom		2000(1)
Snell	Valarie		2173
Snellgrove	Dade		2173
Snider	Dent		2173

Last Name	First Name	Org	CIN
Snider	Jay		2173
Snider	Ronda		2173
Snipes	George		2173
Snipes	Karen		2173
Snipes	Valentina		2173
Snooks	Laraine		2173
Snovak	Michael		2131
Snow	Cason		2173
Snow	Karen		2312
Snow	Peter		2319
Snow	Susan		2131
Snow	Tower		2173
Snyder	Andrea		2173
Snyder	April		2173
Snyder	Brad		2131
Snyder	Catherine		2173
Snyder	Cheryl		2173
Snyder	Cindy		2000, 2173
Snyder	Dan		2173
Snyder	David		2031
Snyder	Ian		2173
Snyder	Jamie		2173
Snyder	Lillian		2173
Snyder	Linda		2173
Snyder	Ronaele		2173
Snyder	Shaun		2173
Snyder	Shelley		2000, 2173
Snyder	Skye		2131
Snyder	Tiffany		2131, 2173
Snyder	Valerie		2173

Last Name	First Name	Org	CIN
So	Debbie		2173
Soares	Susana		2000
Sobacki	James		2173
Sobanski	Sandy		2173
Sobczak	John		2173
Sobieski	Ray		2131
Sobolewski	Angela		2173
Sobon	Jacqueline		2031(u)
Socarraz	Barbara		2173
Socha	Nancy		2173
Socher	Ivan		2173
Socher	Karen		2173
Soden	Mary		2131
Soderholm	Stacy		2173
Soderquist	Elin		2131
Soehngen	Brian		0320
Soenksen	Mark		2173
Soerensen	Erika		2173
Soff	Maggie		2173
Sokol	Janet		2173
Sokol	Maria		2173
Sokol	Marianna		2312
Sola	Mikel		2000
Soleil	Diana		2173
Soleo	Patrizia		2173
Soleri	Daniela		2131
Soleta	Melissa		2173
Soling	Carolyn		2173
Solis	Cruz		2173
Solis	David		2173
Solis	Jessica		2173
Solis	Margaret		2173

Last Name	First Name	Org	CIN
Solis	Richard		2173
Soll	Jared		2173
Sollinger	Nancy		0324
Sollitto	Alissa		2173
Sollman	Robin		2173
Soloman	David		2000
Solomon	Aj		2173
Solomon	Alan		2173(u)
Solomon	David		2173
Solomon	Donald		2173
Solomon	Jacoub		0160
Solomon	Lodena		2173
Solomon	Mara		2173
Solomon	Marie		2173
Solomon	Richard		2000
Solomon	Samantha		2000
Solomon	Stanley J		2173
Solow	Jody		2131
Soloway	Chris		2173
Solum	Ashley		2131
Soma	Jennifer		2173
Somenek	Marcy		2173
Somer	Dale		2131
Somers	Elaine		2173
Somers	Jeff		2173
Somers	Nancy		2131
Somlai	Erika		2000
Sommer	Kirsten		2173
Sommer	Shawn		2173
Sommerfeld	Carol		2173
Sommerfeldt	Jamie		2173
Sommers	Benjamin		2131

Last Name	First Name	Org	CIN
Sommers	David		2173
Sommers	Donna		2131
Sommers	Megan		2173
Sommerville	Diana		2173
Sonietz	Lisa		2173
Sonnenberg	Judy		2173
Sonnenburg	Kati		2000
Sonnenfeld	Thaddeus		2131
Soodalter-Toman	Donna		2173
Soper	Karen		2173
Sophia	Tristan		2173
Sopotnicka	Wanda		2173
Soraghan	Conor		2173(u)
Sorce	Maria		2173
Sorem	Shannon		2173
Sorensen	Janell		2173
Sorensen	Janice		2173
Sorensen	Keeli		2173
Sorensen	Lenore		2173
Sorensen	Sally		2173
Sorensen-Sato	Constance		2173
Sorenson-Groves	Desiree	National Wildlife Refuge Assoc-iation	6017(1)
Sorg	Missy		2173
Sorg	Susan		2173, 2312
Sorgeler	Barbara		2173
Sori	Shawn		2173
Soria	Luis		2173
Soriano	Marian		2173

Last Name	First Name	Org	CIN
Sorley	Lorna		2173
Sorock	Bradley		2000
Sorokie	Mary Ann		2173
Sorrell	JoAnn8		2173
Sorrell	Patricia		2173
Sorrells	James		2000
Sorsoleil	Carol		2173
Sorum	Robert		2173
Sosa	Karla		2173
Sosnove	Nancy		2000
Soteropoulos	Patricia		2000, 2173
Sothern	Robert		2131, 2173
Soto	David		2000
Soto	Francisco		2131
Soto	Jorge		2031
Soto	Walter		2173
Sotomayor	Nora		2173
Soucy	Annette		2131
Souder	Logan		2131
Soulard	Andre		2000
Soulé	James		2173
Soulier	Ruth		2000
Sounart	Catherine		2131
Sousa	Amanda		2173
Sousa	Eunice		2173
South	Cheryl		2173
South	Lois		2173
Southard	Mary		2173
Southcombe	Lindsay		2000
Southward	Roger		2173
Southwell	Margaret		2000

Last Name	First Name	Org	CIN
Southwick	Christine		2173
Souva	Carol		2000
Souvall	Stephanie		2131
Souza	Deborah		2173
Souza	Julie		2173
Souza	Maria Lucia		2000
Souza	Mike		2000, 2173, 2312
Sovoie	Charles		2173
Sowah	Sarah		2000, 2131
Sowden	Bruce		2173
Sowell	Jenny		2173
Sowersby	Nancy		2173
Soyer	Dominique		2000
Soylu	Mickey		2000
Spackman	Susan		2173
Spada	Roberta		2173
Spada	Tina		2173
Spadafora	Myriam		2173
Spadel	William		2173
Spaeth	Elisabeth		2000
Spaethe	David		2173
Spahr	John		2131
Spahr	Tami		2000
Spain	Angela		2031(u)
Spak	Margaret		2173
Spalding	Cathy		2173
Spaleny	Eric		2173
Spangle	Kathryn		2131
Spangler	Linda		2173
Spangler	Susan		2173

Last Name	First Name	Org	CIN
Spanier	Chris		2173
Spann	Bridget		2173
Spann	Rebecca		2173
Spano	Michele		2000
Spanski	Linda		2173
Spanski	Tommy		2173
Spar	Jon		2131
Spargo	Catlin		2173
Sparhawk	Sally		2131
Sparkes	Richard		2173
Sparks	Linda		2131
Sparks-Lazurek	Stacey		2173
Sparler	Joel		2173
Sparlin	Shauna		2173
Sparr	Cindy		2173
Sparrow	Deb		2131(1)
Sparrow	Elaine		2131(u), 2304
Sparrow	Phillip		2000
Spatola	Joan		2173
Spaulding	D		2131
Spaulding	Kathy		2000
Spaulding	Marie		2000
Spaulding	Nancy		2000
Speagle	Pamela		2173
Speake	Constance		2173(u)
Spear	Christy		2131, 2173
Spear	Kelsey		2000
Spear	Lauren		2173
Spears	Amanda		2131, 2173
Spears	Harvey		2173, 2312
Spears	Lee		2173
Spears	Vicki		2173
Species/Friend of Defenders	Scott		2000, 2173
Speck	Caryl		2131(1)
Spector	Beverly		2173
Spector	Cheryl		2131
Spector	Jacki		2173
Speed	Eric		2173
Speed	Janice		2000
Speed	Paulette		2173
Speer	Gregory		2131, 2173
Speidel	Kurt		2173
Speir	Stephanie		2173
Spelbring	Sally		2173
Spelter	Nina		2173
Spence	Kathryn		2173
Spence	Liter		2173
Spence	Melissa		2173
Spence	Sophia		2173(u)
Spencer	Catherine		2173
Spencer	Cathy		2173
Spencer	D R		2173
Spencer	Deborah		2000, 2173
Spencer	Edward		2131
Spencer	Julie		2173
Spencer	Leland		2131
Spencer	Linda		2173
Spencer	Martha		2173
Spencer	Nita		2173
Spencer	Sue		2173
Spencer	Susan		2173
Speno	Charlie		2131
Speranza	Ilya		2173
Sperber	Linda		2173
Spero	Maria		2131
Spero	Thomas		2173
Sperry	Dianne		2131
Sperry	Linda		2173
Spesick	Anne		2173
Speyser	Paul		2031(u)
Spicer	David A.	Storm-OV	6020
Spicer	LeAnn		2173
Spicy	Jill		2000
Spiegel	Ilse		2173
Spiegelhauer	Gara		2131
Spiegelman	Robin		2000, 2173
Spiegler	Linda		2173
Spielman	Emily		2131
Spiers	Barbara A		2131, 2173
Spiess	Lillian		2173
Spight	James		2131
Spignesi	John		2173
Spillman	Katherine		2131
Spilsbury	Delaine	Shoshone tribal elder	4002
Spilsbury	Rick	Shoshone tribal member	4001
Spinazzola	Lesa		2173
Spindler	Allyce		2131

Last Name	First Name	Org	CIN
Spinks	Joyce		2173(1)
Spinks	Summer		2173
Spinner	Wilma		2173
Spires	Tara		2000
Spirito	Nicholas		2173
Spiropoulou	Zoe		2000(3)
Spitsbergen	Karen		2173
Spitz	Danielle		2173
Spitz	Jon		2173
Spivk	Randi		2000
Spizzirri	Larry		2000, 2173
Splain	Mike		2031(u)
Spoerl	Tod		2173
Spokely	Marlys		2173
Spong	Timothy		2173
Spoon	Leslie		2173
Spooner	Sara		2173
Sporn	Douglas		2173
Spotleson	Vinny	Nevada Conservation League	3040, 6000
Spotted Eagle	Chris	Las Vegas Paiute Tribe	4005, 4007
Spotts	Richard		2000(4), 2033, 2131, 2173(u), 2312(u)
Spotts	Robert		2173
Spradley	Michelle		2173
Spradlin	Karen		2173
Spraga	Laurie		2173
Spragett	Cedra		2131
Sprague	Debra		2131
Sprague	Jeff		2173
Sprague	Nancy		2173
Sprague	Tammy		2173
Sprain	Lynn		2173
Spransy	Martha		2173
Spratford	Anthony		2131
Spratley	Richard		2131(1)
Spratt	David		2000
Spriggs	Julie		2173
Spring	Karen		2173
Spring	Susanne		2173
Springer	Micah		2173
Springer	Sarah		2000
Springer	Sarah		2131
Springer	Theresa		2173
Springstead	Wendy		2173
Spurlock	Katie		2173
Spurr	Darren		2173
Spurr	Karen		2173
Spyridakis	Kathrina		2173
Squier	Sheila		2173
Squire	Alexis		2000
Squire	Julie		2000
Squires	Amy		2173
Squires	Joan		2173
Sreepathi	Varan		2173
Srinivasan	Narendra		2173
Sron	Marzena		2173
St Jean	Christine		2173
St John-Kodish	Anne		2173
St Laurent	Andrew		2194
St. Denis-Searle	Susan		2173
St. George	William		2173
St. John	Clayton		2173
St. John	Lynne		2000
St.Clair	Laura		2173(u)
St.john	Jada		2131
St.Pierre	Angelique		2173
Staats	Amy		2173
Stabenow	Carolyn		2173
Staber	Sara		2131
Stabile	Linda		2000
Stabler	Hannah		2173
Stabler	Jessica		2131, 2173
Stabler	Paul		2173
Stacey	Andrea		2173
Stacey	Randy		2173
Stacey	Susan		2173
Stachura	Delores		2000, 2173
Stack	Kathy		2173
Stack	Ken		2173
Stack	Sue		2173
Stackhouse	Deb		2173
Stackhouse	Ryan		2031(u)
Stacy	Madeline		2173
Stacy	Tricia		2173(1)
Stadjuhar	Jeaneen		2173
Stadler	Kent		2173
Stadler	Stephen		2173
Stadthagen	Becky		2173
Staff	Andrea		2173
Staffieri	Holly		2173(u)

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Stafford	Chelsea		2173
Stafford	Lynn		2173
Stafford	Stacey		2173
Staggs	Danny		2031(u)
Stagman	Robert		2173
Stagnitta	Gayle		2131, 2173
Stahelin	Sarah		2173
Stahl	Bill		2131
Stahl	David		2173
Stahl	James		2173
Stahl	Sandra		2173
Stahl	William		2173
Stalcup	Marvel		2131
Staley	Mary		2173
Stalker	Don		2173
Stalker	Joanna		2173
Stalker	Megan		2173
Stallings	Carol		2000
Stallman	Richard		2230
Stallworth	Gretchen		2173
Stamatov	Suzanne		2131
Stamatovich	Wendy		2173
Stambaugh	Kari		2173
Stambaugh	Paula		2173
Stamenova-Pumpalova	Tanya		2173
Stamm	Gail		2131
Stamm	Glenn		2173(1)
Stamm	Karen		2000
Stamm	Nancy		2131
Stamm	S.		2173
Stamp	Barbara		2173
Stamper	Gerry		2173
Stamps	Robert		2173
Stan	Nicolette		2000
Stanberry	Beth		2173
Stanbrough	Judith		2173
Standard	Steven		2000
Standeford	Sandra		2173
Stander	Thomas		2173
Standish	Dylan		2173
Standridge	Teri		2173
Stanfield	Lee		2131
Stanfield	William		2173
Stanford	Kathy		2173
Stangel	Bradley		2131
Stanger	Andrew		2131
Stanger	Andrew		2173
Stanger	Dan		2000
Stanger	Jim	Friends of Sloan Canyon	3046
Staniek	Herbert		2000, 2173
Stanke	Sharon		2173
Stanley	Brennen		2131
Stanley	Cara		2000
Stanley	Danielle		2173
Stanley	Richard		2173
Stanley	Robert		2173
Stanley	Roger		2173
Stanley	Sharon		2173
Stanley	Tamara		2173
Stanley	Toni		2173
Stann	Susan		2131
Stannard	Barbara		2000
Stansbury	Sydney		2173
Stansfield	Jack		2000, 2173
Stansfield	Lesley		2000
Stantejsky	Susan		0183
Stanton	B.A.		2173
Stanton	Donna		2063
Stanton	Joan		2173
Stanton	Joe		2131
Stanton	Karen		2173
Stanton	Leigh		2131
Stanton	Peter		2031
Stanton	Valentin		2173
Stapes	Lynn/Roger		2000
Staple	Bruce		2173
Staples	Laura		2000
Staples	William		2173
Stapleton	Nicoll		2173
Stapleton	Verna		2131
Stapp	James		2131
Starbuck	Guy		0025
Starck	Lois		2173
Starck	Luz		2173
Stark	Carolyn		2173
Stark	Douglas		2131
Stark	Jan		2173
Stark	Joseph		2173
Stark	Kathy		2131
Stark	Kristin		2173
Stark	Lee		2131
Stark	Louise		2131

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Stark	Mason		2312
Stark	Patricia		2173
Stark	Robert		2173
Starke	Janice		2173
Starker	Susan		2173
Starling	Julie		2173
Starr	Elizabeth		2173
Starr	Jeffrey		2173
Starr	Laurel		2000, 2131
Starr	Stacy		2173
Starr	Susan		2000
Starrett	Sheila		2173
Starseed	Lozz		2000, 2173
Starstone	Sue		2000, 2131
Stasiak	Joan		2173
Stassijns	Ludo		2000
Stassinopoulos	Nancy		2173
States	Marcia		2173
Stathis	Marci		2131
Statland	Joyce		2131, 2173
Staub	Erik		2173
Stauber	David		2173
Staudt	Debra		2173
Stauffer	Marcia		2173
Stauffer	Shelley		0100
Stauring	Shelly		2173
Stavropoulos	Sandy		2173
Stawinoga	Greg		2173
Stawski	Nina		2173
Stay	Chris		2000
Stay	Stephen		2131
Steacy	Kathleen		0304
Stead	Patricia		2131
Steadmon	Jason		2000, 2131, 2173
Stearney	Fern		2173
Stearns	Elizabeth		2000(1)
Stearns	Linda		2000
Stec	Paula		2173
Stech	Susie		2173
Stechert	Marilyn		2173
Steckel	Brittany		2173
Stedman	Jennifer		2173
Steege	Amy		2173
Steel	Andrew		2173
Steel	Carlene		2173
Steel	Jean		2173
Steele	Caleb		2101
Steele	Christine		2173
Steele	Dee		2000, 2131
Steele	Donna		2173
Steele	Jan		2173
Steele	Jon		2173
Steele	Leigh		2173
Steele	Linda		2173
Steele	Marilyn		2173
Steele	Mary		2000(u), 2173
Steele	Richard		2131(1)
Steele	Vivien		2173
Steensma	Monica		2147
Steenstrup	Martha		2173
Steeves	George		2000, 2173
Steeves	Robin		2173
Stefan	Alix		2131
Steffek	Maureen		2131
Steffen	Eric		2173
Steffen	Erich		2173
Steffes	Wayne		2173
Stegall	Penelope		2131
Stegle	Tori		2173
Stehle	Alice		2173
Steigerwaldt	Samantha		2173
Steil	Valerie		2173
Stein	Andrea		2131
Stein	Cindy		2173
Stein	Deborah		2173(u)
Stein	Diana		2131
Stein	Julie		2173
Stein	Marc		2173(u)
Stein	Margaret		2000
Stein	Max		2173
Stein	Rachele		2173
Stein	Veronica		2173
Steinberg	Amy		2131
Steinberg	Eric		2173
Steinberg	Idelle		2173
Steinberg	Jane		2173
Steinberg	Karl		2173
Steinberg	Renee		2173
Steinberger	M.A.		2173

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Steinbrecher	Kathleen		2173
Steinbrecher	Klaus		2131
Steinbrecher	Silvia		2000
Steiner	A.L.		2173
Steiner	Jennifer		2131
Steiner	Kimberly		2131
Steiner	Matt		2173
Steiner	Netania		2173
Steinhart	Carol		2276
Steinhart	Sharon		2000
Steinhart	Sydnae		2000
Steinhilb	Kim		2131
Steinhilber	Silvia		2131, 2173
Steinhoff	Connie		2173
Steininger	Bob		2173
Steininger	Linda		2173
Steininger	Lorenz		2000(1), 2131
Steinke	Kris		2131, 2173
Steinle	Sandra		2173
Steinleitner	Donna		2173
Steinman	Kurt		2000, 2173
Steinmann	Jacob		2173
Steinmetz	Cynthia		2173
Steinmetz	Josh		2131
Stein-Retiz	Valerie		2173
Stekl	Nichole		2173
Stelma	Michol		2173
Sten	Ron		2131
Stengle	James		2312
Stenitzer	Silvia		2131(u), 2173
Stenseth	Carolyn		2000, 2173
Stepan	William & Judith		2173
Stepanek	Doug		2173
Stepenske	Lorraine		2173
Stephan	Elise		2173
Stephan	Roberta		2233
Stéphanie/ St??phanie	Panier		2000, 2173
Stephen	Dorothea		2000
Stephens	Beverly		2131
Stephens	Constance		2131
Stephens	Hannah		2031(u)
Stephens	Margaret		2000
Stephens	Mary		2173
Stephens	Natalie		2000, 2173
Stephens	Nicole E		2031(u)
Stephens	Richard		0211
Stephens	Robert		2131
Stephens	Roger		2173
Stephens	Susan		2173
Stephensen	Scott		2131
Stephensen	Scott		2031(u)
Stephenson	Cm		2131
Stephenson	David		2131
Stephenson	Debbie		2173
Stephenson	Gary		2173
Stephenson	Jacqueline		2173
Stephenson	Jean		2131
Stephenson	Neil		2173
Stephenson	Rebekah		2173
Stepnicka	Sara		2000, 2131, 2173
Steponaitis	John		2000
Stepovich	Romi		2173
Sterlace	Dorothy		2173
Sterling	Denise		2173
Sterling	Geri		2173
Stern	Faith		2173
Stern	Les		2000
Stern	Lucia		2173
Stern	Richard		2000, 2173
Stern	Roberta		2173
Stern	Shoshannah		2173
Stern	Steve		0024
Sternberg	Elyse		2000, 2173
Sternberg	Laura		2173
Sternberg	Rachel		2173
Sterne	Cynthia		2173
Sternfels	Lewis		2173
Sternfels	Shari		2173
Sternlieb	Faith		2131
Sternquist	Ellen		2031(u)
Sterrett	Katy		2131
Sterrett	Mae		2173
Sterrett	Shelley		2173
Steudle	Robin		2000
Steurer	Birgit/Biggi		2000, 2173
Steuter	Don		2131
Steven	Kathleen		2000

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Stevens	C		2000, 2173
Stevens	Catherine		2031(u)
Stevens	Christina		2173
Stevens	Christine		2131
Stevens	Daniel		2131
Stevens	Donielle		2031
Stevens	Edie		2131
Stevens	Eleanor		2173
Stevens	Grant		2131
Stevens	Jessica		2031
Stevens	Joan		2131
Stevens	Joy		2000, 2173
Stevens	Kim		2173
Stevens	Laurie		2173
Stevens	Melody		2173
Stevens	Michael		2131
Stevens	Nick		2031
Stevens	Olivia		2173
Stevens	Robert		2173
Stevens	Sarah		2000, 2173(1)
Stevens	Sheila		2173
Stevens	Tim		2000
Stevens	Wendy		2000
Stevenson	Art		2173
Stevenson	Craig		0170
Stevenson	Gail		2173
Stevenson	John		2173
Stevenson	Julia		2000, 2173
Stevenson	Keith		2031(u)
Stevenson	Kyle		2173
Stevenson	Leslie		2173
Stevenson	Nan		0087, 2031(u), 2131
Steward	Diane		2173(u)
Steward	Jim		2173(u)
Stewart	April		2031
Stewart	Betty		2173
Stewart	Betty		2173
Stewart	Christine		2131
Stewart	Darnell		2173
Stewart	Dave		2173(u)
Stewart	David		2173
Stewart	Donald		2173
Stewart	Fay		2173
Stewart	Jackie		2000, 2173
Stewart	Jacqueline		2173
Stewart	Jan		2173
Stewart	Jane		2173
Stewart	Janet		2173
Stewart	Jebediah		2173
Stewart	Jennifer		2131
Stewart	Jesse		2173(u)
Stewart	Jessica		2131
Stewart	John		2173
Stewart	Laine		2173, 2312
Stewart	Laura		2173
Stewart	Lesley		2173
Stewart	Levi		2173
Stewart	Lindsey		2173
Stewart	Lois		2173
Stewart	Mark		2173
Stewart	Michele		2173
Stewart	Nancy		2000
Stewart	Patrick		2173
Stewart	Renell		2131
Stewart	Ronald		2131, 2173
Stewart	Sara		2173
Stewart	Sarah		2173
Stewart	Sarah B		2000, 2131, 2173
Stewart	Sharron		2173
Stewart	Sherry		2131
Stewart	Susan		2131
Stewart	Terri		2290
Stewart	Tina		2173
Stewart	Tracy		2173
Stewart, Ph.D.	Glenn R.		2000(u), 2031(u)
Stewart-Jones	Elizabeth		2173
Stewart-Kruger	Sandy		2173
Stewart-Stauring	Shelly		2173
Stice	Laura		2173
Sticha	Scott		2131
Stichler	Yvonne		2000
Stickle D.C.	John D		2131
Stickney	Mary		2173
Stidham	Danielle		2173
Stidham	Jean		2000(1)
Stieber	Frank		2000
Stiegler	Jean		2173

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Stiehl	Joanna		2173
Stiene-martin	Anne		2173
Stier	Nancy		2173(u)
Stiewing	Mark		2173
Stiff	Eric		2173
Stiff	Gina		2173
Stiff	Lee		2173
Stiffler	Tonya		2173
Stigen	Lee		2131
Stiles	Linda M.		2173
Stiles	Sarah		2000
Still	Garry		2173
Stillings	Jerry		2173
Stillings	Lorrie		2173
Stillman	Elizabeth		2131
Stillman	Jon		2173
Stillwell	Rebecca		2000
Stilwell	Callie		2173
Stimely	Sarah		2131
Stimpson	Lisa		2173
Stimson	Christopher		2173
Stinchcomb	Julie		2173
Stine	Sharon		2173
Stinehart	Debbie		2000, 2173
Stinnett	Marilyn		2312
Stinson	Georgia		2173
Stinson	Loree		2173
Stirpe	D		2000, 2000(u), 2173(u)
Stirton	Gaylen		2173
Stiver	William		2000(1)
Stock	Dave		2173
Stock	Elizabeth		2173
Stock	Heidi		2173
Stock	Linda		2173
Stock	Sandra		2000, 2173
Stockard	Pam		2173
Stockdill	Nelson		2000, 2173
Stocke	Sandra		2131
Stocker	Janice M		2131
Stocklton	Bret		2131
Stockman	Harlan		0039
Stocks	Lawrence		2173
Stockwell	Steven		2173
Stoddart	Ben		2131
Stodola	Beatrice		2173
Stoeber	Carrie		2173
Stoeckel	Sue		2000
Stoecken	Diane		2173(u)
Stoecken	Diane		2173
Stoeger	Marsha		2173
Stoehr	Paul		2131
Stoelton	Sam		2173
Stoepker	Nancy		2173
Stoermer	Mark		2031(u)
Stoff	Laurie		2131
Stoffel	Sally		2173
Stoffers	Joyce		2131(u)
Stofko	Kurt		2131
Stoike	Richard		2173
Stoilkov	Dessi		2173
Stoker	Cayley		2173
Stoker	Felecia		2173
Stoker	Laurie		2000
Stoker	Wesley E.		2131
Stokes	Bill		2312
Stokes	Brian		2173
Stokes	Cynthia		2000, 2131
Stokes	Houston		2173
Stokes	Jo		2173
Stokes	Loretta		2131
Stokes	Lynne		2000
Stokes	Stella		2173
Stokes	Tamara		2173
Stolp	Derek		2173
Stolte	Marian		2131, 2173
Stoltenberg	John and Martha		2173
Stoltz	Elizabeth		2173
Stolz	Michael		2031(u)
Stone	Addie		2131
Stone	Austen		2131(1)
Stone	Barbara		2000
Stone	Charles		2173
Stone	Darby		2173
Stone	David		2312
Stone	Edith		2000
Stone	Jan		2131, 2173
Stone	Jan		2173
Stone	Jane		2131, 2173
Stone	Jeffrey		2000
Stone	John		2173

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Stone	Jonathan		2131
Stone	Margaret		2131
Stone	Marilynn and Rex		2131
Stone	Maura		2131
Stone	Sheila		2131
Stone	Susanna		2173
Stone	Theodore		2173(u)
Stoneburner	Misty		2173
Stonecipher	Carolyn		2173
Stonefield	Alison		2173(u)
Stoner	Debbie		2173
Stoner	Dorothy		2173
Stoner	Paul		2173
Stonick	Janet		2173
Stonier	Polly		2173
Stoos	Beth		2173
Stopa	Marsha		2173
Stopek	Helen		2173
Stopfer	Daniel		2173
Stopke	Doug		2173
Stopyra	Melanie		2173
Storc	Robert		2131
Stordahl	Eric		2173(u)
Storer	Tim		2131
Storey	Anne		2131
Storey	Kellene		2173
Stori	Matthias		2173
Stork	Maryann		2000, 2173
Storm	Laurie		2173
Storm	Skylar		2000
Stormes	Terry		2173
Storrer	Patricia		2173
Storrs	Andrea		2131
Storrs	Charles		2173
Stotlar	Jennifer		2173
Stotler	Kristine		2173
Stotzer	Sandra		2173
Stout	Jennifer		2131
Stout	Sarah		2131
Stout	Terry		2131
Stoutenburg	Eric		2131
Stovall	Virginia		2131
Stover	Charry		2000, 2131
Stover	W. Andrew		2000
Stow	Elizabeth		2173
Stowell	Jocelyn		2173
Stowell	Jonathan		2131
Stowers	Carrie		0064
Stoy	Lucy-Nadya		2000
Stradal	Carmen M.		2173
Stradling	Martin		2173
Strahan	Rielly		2319
Straight	Wayne		2173
Strailey	Faith		2000
Strain	Darren		2000
Stramaglio	Gina		2173
Stramiello	Joe		2173
Strand	Danita		2131, 2173
Strand	John		2312
Strand	Scott		2173
Strange	Ken		2173
Strange	Sarah		2173
Strangstad	Lynette		2173
Stransky	Jaimee		2173
Strantz	Sarah		2131, 2173
Strassburger	Elaine		2131, 2173
Strate	Kris		2173
Strateff	Wilhem & Sherry		2173
Strater	Steve		2173
Stratman	James		2131, 2173
Stratten	Ann		2173
Stratton	Paul		2131
Straub	Marcus		2131, 2173
Straube	Sara		2173
Straus	Faye		2000, 2173
Straus	Sarah		2131, 2173
Straus	Susaan		2000
Strauss	Gregory		2173
Strauss	Stephen		2173
Strauss	Susan		2173
Strawder-Bubala	Jill		2031(u)
Strawdinger	Emma		2173
Street	Donna		2131
Streeter	Marjorie		2173
Streich	Kimberly		2173
Streich	Robert		2131
Streier	Randall		2173
Strelec	Erin		2173
Stremlau	Jackie		2000

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Strempke-Durgin	Ryan		2173
Strenck	JoAnne		2173
Strickland	Carol		2173
Strickland	Dawnya		2000, 2131
Strickland	Jennifer		2173
Strickland	Philip		2131
Strickland	Rose		0189
Strickland	Sue		2173
Strickland	Tracy		2131, 2173
Strickler	James		2173
Strickler	John		2173
Stridbeck	Boel		2173
Striegel	Maryann		2173
Stringer	Rebecca		2173
Stringer, M.D.	Bruce		2173
Stritto	Joe Dello		2173(u)
Strobel-Mclean	Joni		2131
Strobl	Kerstin		2000(1)
Stroede	Carol		2173
Stroehnisch	Cedric		2173
Strohacker	Eric		2131
Strohm	Barbara		2173
Strom	Elena		2173
Strom	Sandra		2173
Stromfeld	Andrew		2000
Stromgren	Jeff		2173
Strong	Ava		2173
Strong	Christopher		2173
Strong	Jonathan		2173(u)
Strong	Kare		2173
Strong	Michelle		2000(1)
Strong	Tami		2173
Strong	William		2173
Stroud	Judith Stroud		2131
Stroud	Susan		2173
Stroup	Marylyn		2000
Strouse	Glen		2000
Stroz	Diane		2173
Strubbe	Thomas		2173
Struble	Daniel		2173
Struss	Barbara		2173
Stuart	Holly		2131(u)
Stuart	Michael		2000, 2173
Stuart	Molly		2131
Stuart	Nicole		2173
Stubbs	Jeremy		2173
Stucker	Melinda		2298
Stuckey	Julie		2312
Studer	Maria		2173
Studonivic	Star		2173
Stueckle	Audrey		2312
Stuehler	Helen		2000, 2131, 2173
Stuermer	Susan		2173
Stueve	Judith		2173
Stueven	Kevin		2173
Stufflebeam	J		2173
Stuhaan	Sandy		2000
Stuhff	Mike		2031(u)
Stuhlmann	Heather		2173
Stukes	Joe		2173
Stulb	Jeanne		2173
Stull	Warren		2173
Stultz	Alan		2000
Stum	Tanya		2173
Stuman	Mary		2173
Stumpf	Larry		2131
Stumpf	Rebecca		2173
Stuner	June		2173
Sturgeon	Mitchell		2173
Sturgis	Mindy		2173
Sturino	Angelo		2173
Sturm	Sabine		2173
Sturrock	Wanda		2173
Sturtz	Leslie M		2173
Styles	Susan		2173
Suarez	David		2173
Suarez	Joe		2173
Suarez	Melissa		2000
Sublette	David		2173
Sublette	Russell		2131
Sublette	Timothy		2173
Subramanian	Sid		2173
Suchanek	Astrid		2000
Suchenicz	Carolyn		2131(1), 2173
Suchland	Everett		2173
Sucht	Kathleen		2131
Sudalnik	Michael		2173(u)
Sudano	Carmela		2131
Sudol	Laurie		2131
Sue Baker	Mary		2000

Last Name	First Name	Org	CIN
Suess	Gillian		2173
Suess	Robert		2031(u)
Sugarman	Kathy		2000, 2131
Sugarman	Kathy		2173
Sugarman	Steven		2173
Sugars	Laura		2131
Sugden	Evan		2173
Suggs	Bobbie		2131, 2173
Suggs	Joyce		2131, 2173
Sughrua	Augustine		2319
Sugnet	Kent		2173
Sugrue	Abby		2173
Suh	Kimberley		2173
Suico	Antonio		2031, 2173
Suit	Karen		2173
Suits	Alan		2131
Sukowaski	Albert		2031(u)
Sukraw	Cherie		2131
Sulivan	May		2173
Sullins	Elaine		2173
Sullivan	Amanda		2173
Sullivan	B		2173
Sullivan	Beverly		2131
Sullivan	Brian		2131
Sullivan	Dennis		2173
Sullivan	Diane		2173
Sullivan	Edward		2173
Sullivan	Edward		2173
Sullivan	Francine		2000, 2173
Sullivan	Gail		2173
Sullivan	Gary		2131
Sullivan	Geri		2173
Sullivan	Jennifer		2173
Sullivan	Jill		2173(u)
Sullivan	Joseph		2173
Sullivan	Lynn		2131
Sullivan	Mary		2173
Sullivan	Mary		2000
Sullivan	Matthew		2173
Sullivan	Michelle		2173
Sullivan	Pamela		2173
Sullivan	Patricia		2173
Sullivan	Sandra		2000
Sullivan	Sara		2098
Sullivan	Scott		2173
Sullivan	Sharon		2131
Sullivan	Sharon		2173
Sullivan	Theodora		2000
Sullivan	Theresa		2173
Sullivan	Tonia		2131
Sullivan	William		2173
Sullo	Nancy		2173
Sumida	Kathleen		2173
Sumiyoshi	Jennifer		2000, 2131, 2173
Sumler	Jim		2131, 2173
Summer	Rebecca		2000
Summerfeldt	K.		2131
Summerlin	Emily		2031
Summers	Amanda		2173
Summers	Bill		2173
Summers	Carolyn		2173
Summers	Florence		2000
Summers	Kathy		2000
Summers	Nancy		2173
Summers	Ryan		2173
Summerville	Diane		2173
Sumner	Brenda		2173
Sumner	Jeanne		2173
Sumner	Jennifer		2173
Sumner	Tara		2173
Sumnicht	Bill		2000
Sun	Nikki		2173
Sunderland	Ann Marie		2173
Sunderman	Tim		2173
Sundermeyer	Kim		2131
Sung	Amy		2173
Sunjic	Ivo		2173
Supersano	Peter		2000
Suppo	Dawn		2173
Sur	Sija		2173
Surban	Anna		2173
Surdi	Rita		2173
Surette	Marcia		2131
Surratt	Taylor		2173
Surve	Triptaa		2000
Suryanarayana	Guru		2173
Susang-Talamo Family	The		2000, 2173
Suski	Amberle		2131
Sussek	Mark		2000
Sussman	Alana		2031

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Sussman	Perri		2173
Sutanto	Vira		2173
Sutaria	Shreeraj		2173
Sutcliffe	David		2173
Suter	Alice		2131
Suther	Jennifer		2173
Sutherland	Greg		2131
Sutherland	Karen		2173
Suto	Jessica		2031(u)
Suto	John		2173
Suttle	Stephen		2173
Suttler	Bobbie		2173
Sutton	Andrew		2173
Sutton	Ann		2173(u)
Sutton	Ellyn		2173(1)
Sutton	Henry		2312
Sutton	Jan		2000
Sutton	Jan		2173
Sutton	Joe		2131
Sutton	Ronald		2173
Sutton	Wendy		2173
Suuronen	Miia		2000
Suyenobu	Winona		2000
Suzio	Francesca		2173
Suzuki	Keiko		2173
Svatos	Scott		2131
Svendgard	Ramona		2173
Svendsen	Carolyn		2173
Svenonius	Ericka		2173
Svenson	Jennifer		2000
Svenson	Joan		2173
Svenson	Lark		2173
Svoboda	Cheryl		2173
Svoboda	Gordon		2173
Swabb	Molly		2000, 2131
Swafford	Brianna		2173
Swaim	Brenda		2000, 2131
Swaim	Gerald		2000
Swain	Barbara		2173
Swain	Robert & Mary		2173(u)
Swain	Trish		2131
Swaine	James		2173
Swalin	Sandra		2131
Swan	Carolyn		2000
Swan	Curtis		2131
Swan	Karen		2173
Swan	Shirley		2000(4)
Swank	Carrie		2173
Swank	Steven		2173
Swanson	Cynthia		2173
Swanson	Eric		2131
Swanson	Erin		2031(u)
Swanson	Gerald		2131
Swanson	J		2173(u)
Swanson	Kris		2131
Swanson	Linda		2000
Swanson	Rebecca		2173
Swanson	Ronald		2031(u)
Swanson	Scott		2173
Swartchick	John		0174
Swarts	Martha		2173
Swartz	Kim		2173
Swartz	Lily		2173
Swartz	Marty		2131, 2173
Swartz	Sonia		2173
Swartz	Sue		2173
Swasko	Kristi		2173
Swatek	Joanna		2173(1)
Swatowy	David		2173(u)
Swearengen	Catherine		2131(1)
Swearingen	John		2173
Swearingen	Sandra		2173
Sweatland	Judy		2173
Sweatt	C		2173
Sweatt	Diane		2173
Sweeden	Nicole		2000
Sweem	Pat		2173
Sweeney	Andrea		2173
Sweeney	Kelly		2031(u), 2173
Sweeney	Michael		2031(u)
Sweeney	Wesa-asgaya		2173
Sweet	Kirsten		2000
Sweet	Patricia		2173
Sweet-Bunner	Amanda		2173
Sweeten	Ann		2173
Sweetland	Jennifer		2173
Sweetwood	Sandra		2131, 2173
Swenka	Kim		2173
Swenson	Craig		2173
Swenson	Janeen		2173
Swenson	Louise		2131

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Swets	Heidi		2173
Swiatkowski	Raymond		2173
Swientek	Chris		2131
Swierkosz	Joe		2173
Swift	Martha		2131
Swift	Robert		2173
Swift	Sharon		2319
Swift	Veronica		2173
Swigert	Sheila		2173
Swiggett	Christine		2173
Swimley	Thomas		2000, 2173
Swindell	Elak		2131, 2173
Swink	Josh		2173
Swink	Sharyl		2173
Swirczynski/ Sirczynski	Jim and Sophie		2000, 2131
Swire	David		2173
Swisher	Cynthia		2173
Swistak	Karen		2000, 2173
Switalla	James	Friends of Nevada Wilder-ness; Friends of Gold Butte; POTS, Sierra Club, etc.	0008, 2319, 3014
Switalski	Diane		2173
Switalski	Leslie		2173
Switzer	Bruce		2173
Switzer	John		2173
Switzky	Barbara		2173
Swoboda	Jody		2131
Swoboda	Kathleen		2173
Swoffer	Tom		2173
Swoiskin	Mark		2173
Swope	Tracy		2173
Sword	Mary		2173
Swyden	Barbara		2131, 2173
Sy	Steven		2173
Sydoriak	Barbara		2173
Syen	Helen		2173
Sykes	Christine		2131
Sylvan	Monica		2173
Sylvester	Karen		2131(1)
Sylvester	Stan		2131
Sylvestre	Lourdes		2031(u)
Syme	Roberta		2131
Symington	Cindy		2173
Symons	Suzette		2173
Sypek	Liz		2173
Sytsma	Josiah		2031(u)
Szabo	Liz		2173
Szasz	Brenda		2173
Szasz	Charles		2131, 2173
Szasz	Joel		2196
Szaszorowska	Magdalena		2000
Szczépaniak	Helene		2000
Szczesniak	Dennis		2173
Szczygiel	Hubert		2173
Szeglin	Stephen		2173
Szeker	Jennifer		2173
Szeszycki	Steven		2131
Szigeti	Laura		2173
Szilard	Paula		2131
Szkody	Bruce		2173
Szornig	Marianne		2173
Szpotowicz	Patricia		2173
Szuba	Genevieve		2173
Szulc-Flissi	Susan		2131
Szulga	Marian		2131
Szumal	Ra/Ray		2000, 2173
Szumlas	Nick		2173
Szurley	Linda		2173
Szydlowski	Marilynn		2256
Szymanski	Carolyn		2173

T

Last Name	First Name	Org	CIN
T	G.		2173
T	Genf		2173
T	Rut		2000(1)
Tabachnick	Kenneth		2000
Tabb	Linda		2173
Tabbott	Diane		2173
Taber	William		2131
Tabian	Judith		2131
Tabin	Jean		2131
Tabone	Christian		2173
Tabor	Debra		2173
Tabor	Laurie		2173(1)
Tabor	Rachael		2000
Tabor	Ross		2173
Tabor	William		2173

Last Name	First Name	Org	CIN
Taborelli	Robin		2173
Tachna	Heather		2173
Tacker	Barbara		2000, 2173
Tackett	Susan		2173
Tadesse	Eyob		2131
Taff	Melvin		2131(1)
Taffany	Laura		2131
Taffet	Linda		2173
Taft	Alex		2000
Taggart	Sandra		2173
Tagge	Betty		2000, 2131, 2173
Taiani	Nancy		2173(u)
Taillade	Line		2000
Taing	Cheresa		2078
Tait	Ann		2000
Tait	Diane		2173
Tait	Kristine		2173
Takacs	Frank		2173
Takacs	John		2131(1), 2173
Takatsch	Julie		2000, 2173
Takeuchi	Hatsuo		2031(u)
Takush	Kathie E		2000, 2131, 2173
Talamante	Kristine		2173
Talamo	Linda		2173
Talbot	Christine		2131
Talbot	Thomas		2131
Talbot-Heindl	Chris		2131, 2173
Talento	Val		2173
Talev	Elizabeth		2131
Talhami	Michelle		2000, 2173
Taliaferro	Eve		2173
Taliaferro	Jessica		2000
Tall	Beverly		2000
Talso	Liisa		2031
Tamar	Erika		2173
Tamargo	Jorge		2173
Tamasik	Catherine		2173
Tamayo	Cristina		2173
Tamez	Jesse		2173
Tamiazzo	Elisabetta		2173
Tamplin	Tom		2000
Tan	S		2000
Tandy	John		2173
Tang	Mina		2131, 2173
Tangarife	Marisa Jasmin		2173
Tanguay	Shirley		2173
Taniwaki	Marge		2131
Tank	Austin		2131
Tanke	Janet		2173
Tankersley	William		2173
Tann	Rosemary		2131
Tanner	Donna		2173
Tanner	Gail		2173, 2312
Tanner	Jeff		2173
Tanner	Johnathan		2031(u)
Tanner	Renae		2173
Tanner	Tina		2173
Tanner Isaks	Ruth		2173
Tanoury	Susan		2173
Tanttila	Margaret		2031(u)
Tanttila	Patricia		2031(u)
Tao	Carol		2173
Tapella	Joanne		2173
Tapia	Patricia		2173
Tapia	R		2131
Tapken	Lisa		2173
Tapley	Dennis		2131
Tapp	Eveline		2173
Tapp	Yvette		2131
Tappe	Taylor		2173
Tappen	Amy		2173
Tara	Mona		2173
Tara	Shenoa		2131
Tarallo	Mary		2000, 2173
Tarantino	Maureen		2173
Taranto	Anthony		2131
Tarantola	Ashley		2173
Taras	Robert		0202, 3025
Taratula	Alec		2173
Tarkington	Victoria		2173
Tarletz de Molina	Braja		2173
Tarmann	Natascha		2173
Tarnawski	Richard		2173
Tarnoff	Jennifer		2131
Taro	Henry		2131(1)
Taroli	Garry		2173

Last Name	First Name	Org	CIN
Tarr	Christina		2000
Tarry	Emmalee		2173
Tartaglia	Laura		2173
Tarver	E		2173
Tarver	Letitia		2173
Taryn	Alexi		2000
Taschereau	Linda		2000
Tashiro	Terance		2173
Tasillo	Mary		2173
Tassell	Stephen		2173
Taszarek	Kaitlin		2173
Tataranowicz	Thomas		2173
Tate	Bruce		2173
Tate	Caryn		2173
Tate	Connie		2173
Tate	Karen		2173
Tate	Laurel E.		2000
Tate	Thoma		2173
Tateishi	Stephen		2173
Tatosian	Ted		2131
Tatreau	Jamie		2131, 2173
Tatum	Liz		2173
Tauson	Chris		2173
Tavani	Carol		2173
Tawil	Cynthia		2000
Tawney	Susan		2000
Tayler	Steve		2173
Tayler-Houle	Catherine		2173
Taylor	Alison		2173
Taylor	Ann		2131
Taylor	Anne		2173
Taylor	Barbara		2000
Taylor	Brett		2173
Taylor	Byron		2173
Taylor	Carol		2173
Taylor	Carolyn		2131
Taylor	Colin		2000
Taylor	Coral		2031
Taylor	Cynthia		2173
Taylor	Darcia		2131
Taylor	Dave		2173
Taylor	Diane		2131
Taylor	Donald		2173
Taylor	Elizabeth		2173
Taylor	Ellyn		2131
Taylor	Gigi		2131, 2173
Taylor	Greg		2173
Taylor	J. Holley		2000
Taylor	Jane		2173
Taylor	Jane		2173
Taylor	Janie		2173
Taylor	Jeffrey		2131
Taylor	Jennifer		2031(u)
Taylor	Jim		2173
Taylor	John		2173
Taylor	Juanita		2173
Taylor	Karen		2000
Taylor	Karla		2173
Taylor	Kay		2173
Taylor	Kelly		2173
Taylor	Ken		2173
Taylor	Krista		2131
Taylor	Laura Marie		0190
Taylor	Linda		2173
Taylor	Llew		2000
Taylor	Logan		2319
Taylor	Mary		2173
Taylor	Matthew		2131(2)
Taylor	Melvin		2173
Taylor	Michelle		2000(1)
Taylor	Nannette		2173
Taylor	Peter		2131
Taylor	Rachel		2173
Taylor	Rebecca		2173
Taylor	Robert		2173
Taylor	Robert		2173
Taylor	Robin		2000
Taylor	Ron		2173
Taylor	Shannon		2173
Taylor	Stefan		2000, 2173
Taylor	Stephanie		2031(u)
Taylor	Sylvia		2173
Taylor	Tanya		2173
Taylor	Tara		2173
Taylor	Tom		2131
Taylor	Tony		2031(u)
Taylor	Victoria		2173
Taylor	Virginia		2173
Taylor	William		2173
Taylor-Cook	Susannah		2173
Taylor-Curran	Katrina		2131
taylor-roth	Betty		2000
Tays	Shawn		2173

Last Name	First Name	Org	CIN
Tazzia	Charles		2000
Te	Renée		2000
Te Poel	Nicole		2312
Teach	Jean		2000
Teague	Jeremiah		2131
Teague	John		2173
Teague	Linda		2173
Teague	Susannah		2173
Tedesco-Kerrick	Terry		2000, 2131(1), 2173
Teed	Cornelia		2131, 2173
Teed	Teri		2173
Teegardin	Susan		2312
Teel	Scott		2173
Teel	Shannon		2173
Teeple	Jackie		2173
Teevan	John		2000, 2131, 2173
Tefertiller	Staci		2173
Teffeteller	Tony		2131
Teh	Joseph		2131
Telega	Christine		2173
Telemaque	Natalie		2131(u)
Telep	Gerald		2173
Telese	Nancy		2173
Telfair II	Ray C.		2173
Teli	Ann Marie		2173
Tellep	Tracy		2173
Temelkoff	Paul		2173
Temkin	Jordan		2173
Tempelman	Steven		2173
Temple	Adam		2173
Temple	Edward and Gail		2131(1)
Temple	Jean		2173
Temple	Laurel		2173
Temple	Michele		2000
Templeton	Arthur		2173
Templeton	Bonnie		2131, 2173
Templeton	Kent		2173
Templin	Tracy		2173
Tenbroeke	Trisha		2131, 2173
Tendler	Marlener		2173
Teneyck	Richard		2173
Tenhagen	Barbara		2173
Tennant	Allie		2173
Tenney	Jackson		2131, 2319
Tenney	Joanne		2173
Tennikait	Justina		2173
Tenore	Natalie		2173
Tenorio	Rafael		2173
Teplin	Lynne		2131, 2173
Terblanche	Shani		2173
Tercha	Brian		2173
Teresa	Lauren		2173
Tereschak	Cassandra		2000, 2173
Tereszkiewicz	Thomas		2245
Tergesen	Ron		2173
Terhune	Anne		2000
Terlau	Mary		2173
Terletzky	Doreen		2173
Termini	Susan		2173
Terning	Katarina		2173
Terra	Xo		2131
Terral	Olympia		2173
Terre	Julian		2173
Terrill	Lynn		2000(1)
Terrulli	Anthony		2173
Terry	Joseph		2031(u)
Terry	Michael		2000
Terry	Penelope		2131
Terry	Robin		2131
Terry	Susan		2124
Terry	Susan		2173
Terry	William		2131
Terschuren-Devillers	Jean		2173
Terwilliger	Cathleen		2173
Terwilliger	Leslie		2000
Terwilliger	Melissa		2173
Terwilliger	Robert		2173
Tesch	Gerie		2319
Teschke	Janet		2173
Tesoriero	Patricia		2173
Tessman	Jacqueline		2000, 2173
Testaguzza	Marlene		2000, 2173
Testi	Daniela		2173
Tetarenko	Pamela K		2000
Teter	Tamara		2173
Tether	Nancy		2173

Last Name	First Name	Org	CIN
Teubner	Patty		2224
Teubner	Roberta		2173
Teunissen	Christina		2131, 2173
Texier	Caroline		2173
Thacker	Frank		2173
Thackery	Kerry		2173
Thai	Lee		2173
Thaler	Gary		2173
Thall	Jennifer		2173
Thall	Richard Thall		2000, 2131
Thalman	M.		2173
Thalmann	Gregory		2173
Tharp	Julie		2131
Thatcher	Randy		2173
Thaxton	Constance		2173
Thayer	Daniel		2131
Thayer	John R		2131
Thayer	Mostyn		2173
Theel	Betty		2173
Thein	Eric		2173
Thelander	Donna		2173
Themm	M		2173
Theobald	Diane		2173
Theobald/T	John		2000(1), 2173
Thew	Carolyn		2173
Theye	Shelley		2173
Thgpen	Chris		2173
Thibault	Jessica		2031(u)
Thibodeau	Lucille		2000
Thiedmann	Andreas		2173

Last Name	First Name	Org	CIN
Thiele	Sheila		2000
Thielert	Julia		2173
Thielhorn	Charlotte		2173
Thielman	Pat		2173
Thienel	Chris		0147
Thier	Tammie		2173
Thies	Brian		2173
Thies	Theresa		2173
Thiess	Peter		2173
Thieule	Kim		2173
Thigpen	Alice		2131
Thimm	Becky		2173
Thin	Inga		2173
Thing	Susan		2131
Thoburn	Robert		2173
Thoemke	Michelle		2173
Tholl	Patricia		2173
Thoma	Chris		2173
Thoma	Kristine		2173
Thomae	Martha		2173
Thomaier	Lisa		2173
Thomas	Aileen		2173
Thomas	Alison		2131
Thomas	Betty		2173
Thomas	Beverly		2173
Thomas	Bob		2173
Thomas	Carole		2173
Thomas	Carolyn		2000
Thomas	Carrie		2173
Thomas	Charles		2000
Thomas	Cynthia		2173

Last Name	First Name	Org	CIN
Thomas	Debbie		2000, 2131
Thomas	Denise		2173
Thomas	Donna		2000
Thomas	Duwayne		2173
Thomas	Eleanor		2131, 2173
Thomas	Eva		2000, 2173
Thomas	Fred		2173
Thomas	Gary		2131
Thomas	Harry		2031(u)
Thomas	Jacob		2173
Thomas	James		2173
Thomas	Jane		2131
Thomas	Jeannine		2131
Thomas	Jennifer		2173
Thomas	Jerry		2173
Thomas	Joyce		2173
Thomas	Lani		2131
Thomas	Laura		2173
Thomas	Lee		2173(u)
Thomas	Linda Kay Pecaut		2131, 2173
Thomas	Mary		2131, 2173
Thomas	Mary		2173
Thomas	Patricia		2000, 2131, 2173
Thomas	Randy		2173
Thomas	Rosemary		2312
Thomas	Samantha		2131
Thomas	Serena		2131

Last Name	First Name	Org	CIN
Thomas	Shakayla		2000, 2131, 2173
Thomas	Simon		2000
Thomas	Stephen		2131
Thomas	Susan		2131
Thomas	Toni		2131, 2173
Thomas	Trisha		2173
Thomas	Zac		2173
Thomas, Jr.	Earl		2173
Thomasson	Tabitha		2131, 2173
Thomee	E.		2131
Thomert	Valerie		2173
Thomes	Karen		2173
Thometz	David		2173
Thommes	Robert		2173
Thompson	Amy		2173
Thompson	Ann		2173
Thompson	Barbara		2173
Thompson	Carol		2173
Thompson	Carol		2000(1), 2131, 2173
Thompson	Caroline		2173
Thompson	Carrie		2000
Thompson	Cathy		2173
Thompson	Cherreen		2173
Thompson	Cyndi		2173
Thompson	Darlene		2131
Thompson	Dellena		2319
Thompson	Dennis		2173
Thompson	Diane		2173
Thompson	Donna		2173
Thompson	Gordon		2173
Thompson	Jan		2131
Thompson	Jerry		2173
Thompson	Joseph		2173
Thompson	Judy		2173
Thompson	Katherine		2131
Thompson	Kay		2173
Thompson	Kevin		2173
Thompson	Kimberly		2173
Thompson	Kimberly		2173
Thompson	Konnie		2131
Thompson	Larry		2173
Thompson	Lauren		2173
Thompson	Laurrie		2173
Thompson	Lawrence		2000
Thompson	Lee		2173
Thompson	Lester		2173
Thompson	Linda		2000(1)
Thompson	Linda		2131
Thompson	Liz		2173
Thompson	Liz		2000
Thompson	Lorraine		2131
Thompson	Lorry		2173
Thompson	Lyn		2173
Thompson	Madison		2319
Thompson	Margaret		2173
Thompson	Mariah		2173
Thompson	Matthew		2131
Thompson	Mb		2173
Thompson	Nancy		2173
Thompson	Noelle		2173
Thompson	Patricia		2173
Thompson	Paula		2173
Thompson	Peg		2131
Thompson	Richele		2173
Thompson	Robert		2173(u)
Thompson	Robin		2173
Thompson	Rodney		0048
Thompson	Sabrina		2000
Thompson	Sally-Alice		2131
Thompson	Sam		2173
Thompson	Sandra		2173
Thompson	Steve		2173
Thompson	Steve & Helen		2173
Thompson	Susan		2173
Thompson	Susan		2173
Thompson	Susan		2173
Thompson	T J		2173(u)
Thompson	Teri		2173
Thompson	Tom		2173
Thomsen	Don		2173
Thomson-Stewart	Heather		2000
Thon	Neil		2173
Thonet	Kathi		2000
Thordin	Jasmine		2173
Thore	Lynn		2173
Thorendahl	Nina		2173
Thorensen	Lynn		2173
Thorn	Debbie		2173
Thorn	Kristen		2173
Thorn	Sandra		2000, 2173

Last Name	First Name	Org	CIN
Thornberg	Robin		2173
Thornberry	Myron		2173
Thornburg	Merrie		2173
Thornburg	Theresa		2000, 2173
Thornburn	Cathy		2000
Thorne	Dallas Rae		2031(u)
Thornhill	David		2173
Thornhill	Robert		2131, 2173
Thornton	Gregg		2173
Thornton	Jennifer		2000, 2173
Thornton	Linda		2173
Thornton	Melanie		2031(u)
Thornton	Nan		2173
Thornton	Randall		2131
Thorp	Frank		2173
Thorp	Russell		2173
Thorsen	Einar		2131
Thorsen	Theresa		2173
Thorvaldson	Jenny		2131
Thoubboron	James		2173
Thouvenin	Sandra		2173
Thrailkill	Jim		2131, 2173
Thrash	Maggie		2173
Thrasher	Doris Marie		2173
Throssell	Joy		2173
Thrower	Michelle		2173
Thuene	Dieter		2173
Thumma	Rhiannon		2173
Thunberg	Steve		2173

Last Name	First Name	Org	CIN
Thurairatnam	Susan		2000, 2173
Thurman	Beth		2173
Thurman	Blake		2173
Thurman	Judy		2000(1)
Thurman	Larry		2173
Thurman	Scott		2173
Tiberi	Judy		2173
Tibsherany	Kris		2131
Tice	Paula		2173
Tice	Susan		2131
Tice	Zach		2173
Tick	Stewart		2173(u)
Tickner	Thomas		2131
Ticknor	Judith		2173
Tidd	Richard		2173
Tidwell	Marion		2173
Tiefer	Hilary		2173
Tieger	Kari		2173
Tierce	Kyle		2173
Tiernan	Kevin		2173
Tierney	Edward		2173
Tierney	Renee		2173
Tierney	Rosemary		2173
Tietgens	John		2131, 2173
Tiger	Rob		2173
Tijerina	Peter		2000
Tilden	Donna		2173
Tildes	Katherine		2173
Tilds	Laura		2000
Till	Gaby		2000

Last Name	First Name	Org	CIN
Tillery	Bruce		2131, 2173
Tilley	Angela		2173
Tilley	Kimberly		2173
Tilley	Toni		2031(u)
Tillman	Susan		2173
Tilton-Jones	Carrie		2173
Tilton-Orem	Becky		2173
Timby	Laura		2173
Timmerman	Don and Roberta		2000
Timmins	M		200, 2131, 2173
Timmons-Rice	Heather		2131
Timofy	Margaret		2173
Timson	Jessalyn		2173
Tindall	Travis		2173
Tine	Priscilla		2000
Tine'	Tina		2173
Tinker	Sharon		2312
Tinsley	David		2173
Tinsman	Jeanne R.		0237
Tippens	Rebecca		2173
Tippets	Bill		2312
Tippett	Emily		2173
Tippett	Terri		2173
Tipton	Catharine		2173
Tirado	Graciela		2173
Tirado	Joe		2131
Tirelli	Cristina		2000, 2173
Tiritilli	Debra		2173
Tirone	Deborahlee		2173

Last Name	First Name	Org	CIN
Tirre	Amy		2031(u)
Tischer	Jennifer		2173
Tischhauer/Tischhauser	John L		2131(1)
Tischler	Jeffrey		2173(u)
Titus	Dina	Congress of the United States, 1st District Nevada	5002
Titus	Robert		2031(u)
Tix	Paul		2031(u)
Tobey	Kathy		2000, 2131
Tobias	Alice		2173
Tobias	Becky		2173(u)
Tobias	Christopher		2173
Tobin	Cheryl		2131, 2173
Tobin	Leo		2173
Tocha	Susan		2173
Tocki	Robert		2173
Todd	Alexis		2000
Todd	Annick/A.		2000, 2173
Todd	Dorothy		2131(u)
Todd	Janis		2131
Todd	Jude		2000
Todd	Maryellen		2000, 2173
Todd	Nikki		2173
Todd	Ruth		2173
Todd	Stephanie		2173(u)
Todesco	Danielle		2173
Todnem	David		2173
Toelle	Sherry		2173
Toigo	Joseph		2173
Tojino	Arra		2173
Tokai	Hideka		2173
Tokar	Mary Anne C.		2173
Tokarz	Joan		2173
Tokioka	Laura		2173
Tol	S		2071
Toland	Scott		2173
Toledano-DeMars	Andrea		2173
Toledo	Justin		2173
Toler	Jean		2173
Toler	Vicky		2000, 2173
Tollick	Diane		2173
Tollinger	Barbara		2173
Tolman	Kathy		2131(1)
Toma	Daniel		2173
Tomasek	Teri		2173
Tomasello	Pela		2173
Tomasello	Shirley		2173
Tomasi	Rita		2131
Tomaszewski	Melissa		2173
Tomlin	Curtis		2173
Tomlin	Tommy		2173
Tomlinson	Lisa		2173
Tomlinson	Mary		2173
Tomlinson	Robyn		2173
Tommos	Cecilia		2173
Tompkins	Janet		2173
Tompkins	Karm		2173
Tomsits	Pati		2312
Tomson	Robert		2173
Tomsu	Mary		2173
Toncray	Mike		2173
Toner	L. Laurie		2173
Tonet	Monique		2000
Toney	Terri		2173
Toogood	Ryan		2000
Toole	Lisa		2173
Tooley	Claudette		2173
Toombs	Doug		2173
Toomey	Marcia		2173
Tooth	Jonathan		2084
Topalian	Maggie		2000, 2173
Topley	Deborah		2173
Tor	Lynn		2000
Torelli	Thea		2000
Torgers	Elektra		2173
Torgersen	Grayson		2173
Torgerson	Janet		2173
Torgerson	Trey		2131
Torget	Marie		2173
Torline	Sandra		2173
Tornabene	Michele		2173
Torndyb	S?ren		2173
Toro	Debora		2031(u)
Toro	Euripides		2173
Torosdag	Iwona		2173
Torosian	Helen		2173
Torrence	Ian		2131

Last Name	First Name	Org	CIN
Torres	Alex		2173
Torres	Jocelyn		2031(u)
Torres	Joseph		2173
Torres	Juana		2000
Torres	Manuel Leon		2131
Torres	Matthew		2173
Torres	Patricia		2131
Torres	Susan		2173
Torres	Yolanda		2173
Torretta	Ron		2173
Torrey	Don and Sue		2173
Torsander	Camilla		2000
Tortai	Corinne		2173
Torti	Carla		2000
Tortorici	Lee		2173
Tory	Rae		2173
Tose	Ashley		2173
Tosh	Barbara		2173
Tosto	Amber		2173
Toten- La Puma	Sarah		2131
Toth	Erika		2131
Toth	Joseph		2031
Toth	Robert		2173
Toth	Susan		2173
Toto	Michael		2173
Totty	Mary		2000, 2173
Tounalom	Vinny		2173
Tountas	Barbara		2173
Tourigny	Theresa		2173
Tousana	Dennis		2173
Toussaint	Laura		2000
Touw	Margaret		2173
Tovar	Marilyn		2173
Toven	Wayne		2173
Towell	Emily		2131
Towery	Sandra		2173
Towne	Charles		2000
Towne	Donna		2173
Towner	Carole		2173
Townill	Linda		2173
Towning	Georgina		2000
Townley	Shanna		2173
Townsend	Carlos		2000
Townsend	Cherie		2173
Townsend	Desiree		2173
Townsend	Elizabeth		2173
Townsend	Heather		2173
Townsend	Kate		2173
Townsend	Lloyd		2173
Townsend	Peter		2173
Townsend	Sarah		2173
Townsend	Trisha		2131
Townshend	Elisa		2131, 2173
Toy	Mary/Mary Ann		2000, 2173
Toye	Christopher		2173
Tracy	Lyne		2173
Tracy	Vickie		0056
Tracy	William		2173
Tracy	William		2173
Trail	Pepper		2173
Trainor	Kate		2131
Trajanovska/T	Michelle		2000, 2173
Trakys	Geraldine		2173
Tran	Kim		2000
Tran	Thanh		2173
Tranfaglia	Twyla		2173
Traniello	Francine		2000(1), 2173(4)
Trask	David		2173
Traub	Peter		2173
Trauger	Adam		2173
Traum	Norman		2000
Trauth	Beti Webb		2000, 2173
Trautmann	Sandra		2173
Traver	Willoe		2000, 2173
Travers	Kara		2173
Travers	LJ		2173
Travers	Maylin		2000
Travis	Judi		2173
Travis	Lynn		2173
Traweek	Jim		2173
Traynor	Charmian		2312
Treadway	Beverly		2000
Treadway	Carolyn		2173
Treadwell	Phyllis		2173
Trearse	T.		2173
Treer	Laura		2173
Trees	Scott		2173
Treffert	Amanda		2173
Tregidgo	Richard		2173
Tregilus	Bob		2031(u)

Last Name	First Name	Org	CIN
Tregoning	Michael		2173
Treichel	Judy		2000, 2031(u)
Treichel	Kerry		2031(u)
Trejo	Judith		2060
Trela	Maria		2173
Tremaine	Lisa		2131, 2173
Tremblay	Jennifer		2173
Tremmel	Leonard		2173
Trenchard	Thomas		2173
Trengove	Thomas		2173
Trent	Rochelle		2173
Trentlyon	Betty		2173
Trepelas	Mary		2173
Treppeda	Laurel		2173
Tressler	Jo Anne		2173
Trethaway	Dale		2173
Trevathan	Josephine		2131
Trevena	Simon		2131
Treves	Ursula		2173
Trevethan	Evelyn		2173
Trevillian	Linda		2173
Trevino	Dora		2173
Trevino	Doreen		2131
Trevino	Julia		2173
Trevino	LeeAnn		2173
Trevor	Theodore		2173
Triarsi	Phyllis		2173
Triassi	Susan		2131
Tribbey	Charles		2173
Tribble	Jeanne		2131
Tribble	Peggy		2173(u)
Trice	Tina		2000, 2173
Triggs	Lori		2173
Trim	James		2173
Trimble	Anne		2173
Trimble	David		2131
Trimble	Irene		2173
Trimble	Lucille		2173
Trimmer	Edie		2173(u)
Trinder	Beatrice		2000
Trinkaus	Ann		2173
Trinkner Jr	Keith		2173
Tripp	Martin		2173
Tripp	Tom/ Thomas		2131, 2173
Tripp	Wendy		2173
Tritscher	Michele		2000
Tritt	Sharon		2173
Troccoli	Iyleen		2173
Troia	Ronald		2173
Troiani	Donna		2131
Troiano	Joseph		2173
Trojak	Janet		2173
Trojakova	Olga		2000
Troland	Mary		2000
Trolf	Gernot		2000
Trolinger	Charlotte		2173
Troll	Janice		2173
Tromblee	Richard		2173
Tromboni	Alessandra		2000
Troncone	Kitt		2173
Troncoso	Lori Covell		2173
Tropp	William		2173
Trosper	Cheryl		2173
Trosper	J A		2173
Trosper	Michelle		2131
Trostle	Miranda		2131
Trott	Charlotte		2173
Trott	Robert		2173
Trotta	Anthony		2173
Trotta	Nicole		2000
Trotter	Katherine		2173
Trottier	Jaye		2000
Trout	Larry		2173
Trowbridge	Deborah		2173
Trowsdale	Gavin		2173
Troxell	Andrea		2131
Troxell	Shawn		2173(u)
Troy	Scott		2173
Troyer	Siobhan		2000
Troyo	Daniel		2173
Trudeau	Priscilla		2173
Trudeau	Stephanie		2000
True	Angela		2131
True	Janet		2173
Trueblood	Amanda		2173
Trueblood	Brenda		2173
Truettner	Charles		0073
Trufan	Hal		2000, 2131(1), 2173
Trujillo	James		2131
Trujillo	Monica		2131
Trull	Stephen		2173
Trumble	Donnie		2031

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Trumbull	Matthew		2173
Trussell	Kathryn		2173
Trutin	Florie		2000
Truzzi	Pat		2173
Trybus	Kathy		2173
Tryggeseth	Jackie		2173
Trzybinski	Linda		2173
Tsang	Linda		2173
Tsang	Pearl		2173
Tsantes	Demetra		2173
Tsantilis	Senta		2173
Tsapelas	Mariel		2173
Tschirhart	Cathi		2173
Tschirhart	Michael		2173
Tshibangu	Mandy		2173
Tso	Brandon		2131
Tsoi	Vicky		2173
Tsouristakis	Margaret		2000
Tsue	Kami		2131
Tsukamoto	Thomas		2131
Tsybulyak	Karina		2173
Tubbs	Ellen		2173
Tubbs	Kathleen		2000
Tuchler	Claudia		2000
Tuchscherer	Marianna		2173
Tucillo	Megan		2173
Tucker	Arlen		2000, 2173
Tucker	Ervin		2173
Tucker	James		2173
Tucker	Janet		2173
Tucker	Karen		2000
Tucker	Lucinda		2173
Tucker	Lynn		2173
Tucker	Meridith		2000
Tucker	Michael		2131
Tucker	Pamela		2173
Tucker	Sally		2000
Tucker	Stanley		2031
Tucker	Trisha		2173
Tuckett	Natasha		2173
Tuddenham	Anne		2173
Tudor	Ruth		2173
Tuff	Paul David		2000
Tugadi	Denise		2173
Tuley	Midge		2173
Tullis	Julia		2173(u)
Tulloch	Hilary		2131
Tully	Sue		2173
Tulo	Jennifer		2173
Tulys	Walter		2173
Tuma	Mary		2000, 2173
Tumblety	Thaddeus		2173
Tuminski	Elizabeth		2173
Tuminski	Robert		2131
Tumolo	Christopher		2000, 2173
Tumpson	Daniel		2173(u)
Tunstall	Jean		2173
Tuomey	AE		2000
Tuorto	Vicky		2173
Tupper	Steven		2000
Turano	Vincent		2312
Turbeville	Pam		2173
Turco	Jill		2173, 2312
Turek, PhD	Gabriella		2173
Turetsky	Samantha		2173
Turgut	Alp		2131(1)
Turiano	Kim		2173
Turic	Breana		2173
Turicchia	Patricia		2173
Turitto	Anthony		2000
Turk	Lawrence		2000
Turk	Tshava		2131
Turley	Gail		2131
Turley	Steven		2173
Turley-Sinclair	Jean		2173(u)
Turlo	Joy		2000, 2173
Turlo	Steven		2173
Turnbull	Becky		2173
Turner	Ann		2173
Turner	Bernadine		2000, 2173
Turner	Dawn		2173
Turner	Dena		2000, 2173
Turner	Donna		2173
Turner	Glenn		2173
Turner	Heela		2173
Turner	Jess		2131
Turner	John		2173
Turner	Kate		2173
Turner	Kathleen		2000, 2173
Turner	Kristi		2173
Turner	Pam		2173

Last Name	First Name	Org	CIN
Turner	Paul		2173
Turner	Paul		2173
Turner	Phyllis		2000
Turner	Rick		2173
Turner	Tammi		2173
Turner	Windy		2173
Turney	Marilyn		2173
Turobiner	Martha		2131
Turov	Ilya		2173
Turpin	Jo		2000, 2131, 2173
Turro	Kat/Karin		2131, 2173
Turrubiate	K		2000
Tursi	Nicole		2173
Turton	Angela		2173
Tuscher	Ralph		2000
Tushkowski	Carol		0309
Tuttle	Catherine		2173
Tuttle	Denise		2173
Tuvell	Joseph		2319
Tuzza	Doreen		2173
Twardowski	Barbara		2173
Twarowska	Barbara		2031(u)
Tweney	Ryan		3065
Tweney	Ryan D.		0336
Twohig	John		2173
Twombly	Glen		2000, 2173
Twyman	Collette		2173
Tyler	Jeanne		2173
Tyler	Jonathan Piers		2000
Tyler	Melissa		2173
Tyler	Scott		2031(u)
Tyoe	Andrea		2173
Tyron	Erica		2173
Tyrrell	Linda		2173
Tysall	Lee		2173
Tyson	Carol		2131
Tyson	Erin		2173
Tyson	Maggie		2131
Tyson	Robert R.		0069, 0271, 2131

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Last Name	First Name	Org	CIN
UA	Melissa		2173
Ucko	Aaron		2173
Uecker	Jamie		2173
Uecker	Robert		2173
Uehling	Ed		3045
Uehling	Lisa		2173
Ugolik	Lori		2000, 2131
Uharriet	Sarah		2173
Uhing	Nicole		2173
Uhler	Tamara V.		2131
Uhlir	Christina		2173
Uhll	Linda		2000
Ujifusa	Kathy		2031(u)
Ullmer	Beth		2173
Ullrick	Elizabeth		2173
Ulmer	Gene		2173
Ulmer	Ruth		2173
Ulrich	Christie		2173
Ulrich	Giorgia		2131
Ulrich	Susan		2173
Ulrich, Jr.	Albert		2000, 2173
Ultee	Beverly		2000(1)
Umbel	Kevin		2031(u)
Umbreit	Heinz-Helmut		2173
Umdasch	Ingrid		2173
Ummel	Gay		2131
Umphries	Andrew		2000, 2173
Umpierre	Diana		2131
Umstead	Brian		2173
Unanue	Marianne		2173
Under	Jeff		2173
Underhill	Chris		2173
Underwood	Kathy		2173
Ungar	Elizabeth		2000
Unger	Claire		2131
Unger	Michelle		2173
Unick	Lorene		2173
Unland	Heather		2131, 2173
Unruh	Jerry		2173
Updegraph	Charles		2173
Upleger	Ellery		2173
Upp	Cynthia		2173
Uppgaard	Heidi		2000, 2173
Upright	Raychel		2173
Upton	Cindy		2173
Upton	Susan		2173

Last Name	First Name	Org	CIN
Uranga	Adrian R.		2131
Urbain	Mireille		2000(1)
Urban	Albert		2173
Urban	Donna		2131
Urban	Heidi		2173
Urban	Mary		2131
Urban	Rev Marcia		2173
Urban	Richard		2173
Urbanas	Jill		2173(u)
Urbanus	Holly		2173
Urbini	Stefania		2173
Urias	Victoria		2173
Uribe	Gloria		2000, 2173
Urioste	Joanne & George		0053
Urioste	Susanna		2031(u)
Uriostegue	Raquel F		2031(u)
Urmakova	Natalia		2000
Urquhart	Caro		2000
Urquhart	Evelyn		2173
Urreta	Patricia		2173
Ursomanno	Patrick		2173
Usami	Chris		2000(1)
Ussery	Tom		2173
Ussery	Velina		2173
Utigaard	Nina		2173
Utt	Virginia		2173
Utton	Beth		2131
Uxa	Nicholas		2173
Uyeda	Naomi		2173
Uyenishi	Steve		2000, 2173
Uzuner	Selim		2173
Uzych	Leo		2173

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Last Name	First Name	Org	CIN
V	Anthony		2131
V	Barbara		2173
V	V		2000
Vaca	Jennifer		2000
Vaccaro	Dina		2031
Vacek	Radko		2173
Vadaj	Laura		2173
Vadasy	Nadine L		2173
Vadenais	Jennifer		2131
Vailakis	Katherine		2173
Vaillancourt	Keyra		2173
Vaillancourt	Michele		2173
Vairo	Pasquale		2000
Vairo	Sylvia		2000, 2173
Vaisvil	Bridget		2131
Vaiza	Bellicia		2131
Vajames	Carole		2173(u)
Vakili	Mehdie		2173
Vaknin	Amy		2173
Vaknin	Ursel		2131
Val	Jas		2095
Valadez	Lupe		2000
Valamanesh	Fereshteh		2173
Valderrama	Cristina		2173
Valdes	Emily		2173
Valdez	Donna		2173
Valdez	Jamie		2173
Valdez	Jennifer		2131
Valdez	Julie		2173
Valdez	Ruth		2173
Valdivia	Herendira		2173
Vale	Antonia		2173
Vale	Vernelle		0218
Valencia	Angy		2031
Valencia	Guillermo		2173
Valencia	Suzanne		2173, 2312
Valencia	Sylvia		2131
Valencio	Rio		2000
Valenson	Gail		2173
Valente	Nancy		2173
Valente	Rosalie		2173
Valentic	George		2031(u)
Valentich	Meghan		2173
Valentine	Jennifer		2000, 2173
Valentine	Jennifer		2173
Valentine	Jude		2173
Valentine	Kellie		2173
Valentine	Leslie		2173
Valentine	Nell		2131
Valentine	Sherri		2131
Valentine	Tonya		2173
Valentine	Victoria		2173
Valentino	Ronald		2131
Valentino	Tracy		2173
Valerie	Morera		2173
Valero	Maudie		2000
Vales	Audrey		2173

Last Name	First Name	Org	CIN
Valiga	Susan		2173
Valimont	Janice		2131
Valint	Carol		2131
Vallejo	Carol		2173
Vallejo	Marilyn		2173
Vallender	Andrew		2000
Valles	Lennora		2031(u)
Valney	John & Shirley		2000, 2131(1), 2173
Valois	Renee		2173
Valvano	Nick		2131
Valys	Stephanie		2173
Van Arsdale	Ashley		2031(u)
Van Arsdale	Robert		2131
Van Belle	Greet		2173
Van Benschoten	Rick		2173
Van Beveren	Chantal		2000
Van Blaricom	Karie		2173
van Burk	Yolande		2131
Van Buskirk	Serena		2173
Van Camp-Horn	Kierstin		2131
Van Cleave	Valerie		2173
Van Cour	Joan		2173
Van De Bogart	Evie		2131
Van de loo	Mia		2000
van de Looij	Yvonne		2000
Van de Voorde	Janet		2173
van de Waarsenburg	Marc		2000
van den Brink-Verhoeve	Sasha		2173
Van Den Broeke	Linda		2173
Van den Meersschaut	Annie		2000
Van den Vonder	Inge		2173
van der Put	Cornelis		2173
Van Dinter	James		2173
Van Dyke	Jeremy		2173
Van Dyke	Jerry		0065
Van Fossen	Mark		2173
Van Gelder	Rosemarie		2173
Van Gerven	Claudia		2131
Van Gilder	Lynn		2000
Van Gilder	Lynn		2173
van Gils	Piet		2000
Van Haaften	Jane		2173
Van Harreveld	Anthonie		2131
Van Horn	John		2000
Van Horn	Meredith		2131
Van Houten	Corinne		2173
van Huizen	Danny		2000
Van Kampen	Art		2173
Van Kolken	Robert		2131, 2173
Van Leuven	Phyllis		2131
Van Oppen	Anne		2173
van Os	Colette		2131, 2173
Van Pelt	Maia		2131, 2173
Van Sante	Erin		2000
Van Schaick	Kathleen		2173
Van Schaick	Robin		2173
Van Sickle	Shaila		2131
Van Steenwyk	Delores		2173
Van Tassell	Robin		2173
Van Tilborg	Dirk		2173
Van Tis	Lorraine		2173
Van Vleet	Rodney		2173
Van Vorous	Heather		2173
Van Wassenhove	Magda		2173
van Wyk	Chantel		2173
Vananda	Vaughna		2173
VanAssche	Terese		2173
Vanbelle	Christine		2173
Vance	Ariga		2173
Vance	Bonnie		2131
Vance	Keri		0111
Vance	Kimberly		2173
Vance	Renee		2173
Vance	Samuel L.		2173(u)
Vance	Susan		2173
Vandal	Lise		2000
Vandament	Amy		2173
Vandamme	Martin		2000
Vandamme/Van Damme	Deborah		2000(1), 2131(1)
Vandegaer	Kim		2173
Vandegrift	Todd		2173
Vandeman	Mike		2173
Vandenberg	Grace		2173
Vandenberg	Laurie		2131
Vandendaele	Emily		2173
Vandepol	Herb		2265
Vander Poel	James		2173
Vanderbosch	Maureen		2173
Vanderford	Ron		2000

Last Name	First Name	Org	CIN
Vandergrift	Julie		2173
Vanderhoeven	Nancy		2173
Vanderkamp	Robert		2173
Vanderlaan	Irene		2173
Vandermeer	Denise		2173
Vanderpool	Aaron		2131(u)
Vandervennet	Robert		2173
VanDerzee	Sue		2000
Vandevenne	Tilly		2173
Vandewark	Christine		2173
Vandolah	Daniel		2173
Vandrovec	Bryan		2173
Vanecek	Rhonda		2131(1), 2173
Vanek	Denis		2173
Van-Englehoven	Lois		2173
Vangermez	Nathalie		2173
Vangrove	Audrey		2131
Vanlandingham	Mike		2131
Vanleeuwen	Sue		2173
Vann	Rene		2173
VanNess	Barbara		2173
VanRenson	Richard		2173
Vansteenberghe	Paul		2173
Vanstrioen	R		2173
Vanture	Keith		2131
VanValkenburg	Vicky		2173
VanWinkle	Jean Marie		2000, 2173
Vanya	Renee		2173
Varani	Silvia		2173
Varanitsa	Oleg		2000(1)
Varcoe	Donna D		2000
Vardenaer	Dina		2173
Varela	Cecilia		2131
Varela	Mariana		2173
Varga	Carolina		2131
Varga	John		2000, 2173
Vargas	Lorena		2000
Vargas	Lori Madrigal		2173
Varhol	Barbara		2173
Varichak	Michael		2173
Varley	JoAnne		2173
Varon	Jospeh M.		2000
Vartabedian	Pia		2000
Vasconi	Jul		2031(u)
Vasek	Ken		2173
Vasiliki	Georgiko-poulou		2000
Vasily	Karen		2173
Vass	Gabor		2173
Vassil	Crystal		2173
Vassiliades	Phaedra		2000(1)
Vatne	Erica		2031(u)
Vatne	Sharon		2173
Vattani	Charlie		2173
Vatter	Sherry		2173
Vaudo	Jean		2173
Vaughan	Carey		2173
Vaughan	Corey		2173
Vaughan	Jan		2173(u)
Vaughan	Lelia		2173
Vaughan	Steven		2173
Vaughn	Christie		2131, 2173
Vaughn	Theresa		2173(1)
Vaughn Jr.	Bobby		2173
Vaught	Jasmine		2173
Vaught	Kevin		2000
Vaughter	Ellie		2173
Vaun	Laura		2173(u)
Vautour	Jeffery		2131
Vavrek	Ayesha		2173
Vavul	Heidi		2173
Vayda	Karen		2000
Vaydik	Frank		2173
Vayo	Scott		2000
Vayu	Satya		2000
Vazquez	Aline Prada		2173
Vazquez	Claudia		2173
Vazquez	Ila		2173
Vazquez	Leo		2031(u)
Vazquez	Marcelo		2173
Vazquez	Noemi		2173
Vazquez	Patricia		2000, 2173
Vazquez	Pedro		2031(u)
Veal	Mary		2173
Veale	Janet		2173
Veatch	Michelle Burres		2131
Veazey	Tessa		2173
Vecchiarelli	Anthony		2173
Vecchione	Janet		2173
Veeder	Harold		2173
Veenstra	David		2173
Vega	Keith		2173
Vehslage	Norma		2173

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Veiby	Gail		2173
Veiga	Michele		2173
Veillette	Elizabeth		2000, 2173
Vejar	Fabiola		2131
Vejvoda	Nancy		2173
Velarde	Daniel		2173
Velarde	Mario		2131, 2173
Velasco	Faviola		2173
Velasco	Valerie		2319
Velasquez-Vassy	Olga		2173
Vele	Brigid		2173
Velechovsky	Natalie		2131
Velella	Justin		2173
Velez	Damian		2173
Velez	Sue		2000
Vellenga	Ellen		2131
Vellenga	Lynn		2173
Velvick	Joan		2173
Venable	Gabriela		2131
Vencill	William		2173
Vendel	Mark		2173
Venditti	Annamaria		2131
Venegas	Andres		2173
Venere	Adolph		2173
Venezio	Glen		2000
Vengurlekar	Andy		2131
Vengurlekar	Sham		2173
Venis	Jalynn		2173
Venn	Gael		2173
Vennes	Martha		2173
Venos	Mary Helen		2173
Venskowski	V		2173
Ventura	Nancy		2131, 2173
Venturelli	Ava		2131
Venzie	Larissa		2173
Vera	Destiny		2173
Vera Baltazar	Mario		2173
Veraldi	Anne		2173
Veraldo	Matthew		2131
Vercos	Stasia		2173(u)
Verdill	E		2000, 2131
Verdon	Carol		2173
Verdugo	Tiffany		2173
Verellen	Philip and Margaret		2131
Vergara	Dindo		2319
Vergara	Don		2173
Vergara	Raven		2173
Verkamp	Doris		2173
Vermeer	Casshondra		2173
Vermeulen	C.L.		2000
Verna	Diane		2000, 2173
Verna	Geena		2173
Vernier	Cathy		2173
Vernon	Margaret		2000
Verrill	Evelyn		2131(1), 2173
Verschueren	Melanie		2173
Verveer	Michael		2173
Verzosa	Paul		2173
Vescio	Pat		2173(u)
Vesely	Kara		2173
Vesey	Steph		2000
Vesowate	Anne		2131
Vesper	Paul		2173
Vesper	Rebecca		2173
Vessels	Robert		2131(u)
Vest	Jerrold		2173
Vest	Justin		2131
Vest	Martha		2173
Vestias	Eusebio		2173
VetPat/ VetPatriot	Bruno Cilione		2000, 2173
Vetter	Alan		2131
Vetula	Tylka		2131(u)
Vezian	Marc		2173
Via	Jabrila		2173
Vicars	Deanna		2173
Viceri	Doug		2131
Vician	Doris		2000, 2131, 2173
Vickers	Curt		2131, 2173
Vickers	Deanna		2148
Vickers	Donald		2173
Vickers	Ruth		2173
Vickery	Anne		2131
Vickery	Elaine		2000
Vickery	John		2131
Victoria	Katrina		2173
Vida	Julie		2173
Vidibor	Marlene		2173
Vieau	Vicent		2000

Last Name	First Name	Org	CIN
Vieira	Dennis		2173
Viergutz	Julie		2000, 2173
Vieth	Sandra		2131
View	Kathleen		2000
Viggiano	Holly		2173
Viggiano	Nicholas		2173
Vigil	Sparo		2131
Vigil	Trisha		2173
Vigilante	Diane		2173
Viglietti	Lucia		2173
Vignapiano	Gregory		2173
Vignaud	Marie		2000
Vignere	Joel		2013
Vigorito	Joyce		2173
Vij	Sarita		2173
Vilimek	Linda		2131
Viljoen	Christina		2173
Villa	Alessandro		2173
Villa	Beatriz		2173
Villa	Federico		2173
Villa	M.M.		2173
Villacorta	Violeta		2173
Villafane	Salanda		2173
Villaflor	Camille		2031(u)
Villafranca	Luci		2173
Villalvazo	Constance		2173
Villanova	Carolyn		2000, 2131
Villanueva	Sonia Romero		2000
Villarreal	Ronald		2173
Villarreal	Rosa		2000, 2173
Villarreal	Victor		2173
Villarroel	Erick		2131, 2173
Villasenor	Alfredo		2131
Villeneuve	Michele		2173
Villet	W G		2173
Villodas	Abigail		2173
Villoria	Robert		2031(u)
Vinar	Valerie		2173
Vincent	A.K.		2173
Vincent	Gail		2131
Vincent	Joel		2173
Vincent	Joseph		2312(u)
Vincent	Kimberly		2131
Vincent	Linda		2173
Vincent	Mallissa		3004
Vinci	Francesca		2131
Vinciquerra	Kenneth		2312
Viner	Eliane		2131
Vineski	Patricia		2131
Viney MD	James		2131
Vineyard	Andrew		0305
Vinikoff	Jerald		2173
Vinney	Cynthia		2000
Vinson	Karina		2173
Vinson	Rob		0318
Vinson	Virginia		2173
Vinton	Janine		2000
Viola	Joy		2173
Viola	Lorenza		2173
Viragh	Brea		2173
Virgil	Joan		2173
Virginie	Lucas		2173
Virgulak	Carolyn		2173
Virre	Mary		2173
Virta	Davin		2173
Virtanen	Kimmo		2173
Virzi	Nichelle		2000
Visceglia	Mark		2173
Vischulis	Jean		2173
Visioli	Lori		2000
Visocchi	Susan		2173
Visperas	Carlene		2173
Vitale	Amelia		2173
Vitale	Barbara		2173
Vitale	Sal		2131
Vitale	Sonia		2000(1), 2173
Vitale Arnold	Lisa		2173
Vitale-Mandich	Rebecca		2173
Vitro	Mary		2173
Viveros-Lopez	Angela		2173
Vivier	William		2131
Viznyuk	Mikhail		2131
VL	Judie		2173
Vlasiadis	Andreas		2000(2)
Vlasopolos	Anca		2000, 2173(u)
Vlcek	Janice		2173
Vlieger	Ashleigh		2173
Vo	Stephanie		2131, 2173
Voda	Candace		2131
Voegeli	Albert		2173

Last Name	First Name	Org	CIN
Voelcker	Elsa		2184
Voelker-Morris	Julie		2173
Voet	Jim		2173
Vogan	Edwina		2173(u)
Vogel	Alice		2173
Vogel	Gil		2000
Vogel	Janny		2173
Vogel	Mark		2173
Vogel	Michael		2000
Vogel	Richard	Nevada Desert Experience	0228(1)
Vogel	Wolf		2131
Vogelsong	Patrick		2000
Vogl	Harry		2173
Vogler	Robin		2173
Vogt	Eleanor		2305
Vogt	Elizabeth		2173
Vogt	Frederick		2173
Vohs	Megan		2173
Voigt	Mary		2131
Voisin	Jean-Lucvoisin		2173
Vokt	Michael		2173
Volckmann	Carol and Richard		2173
Volin	Judy		2173
Volk	Diane		2173
Volk	Shelley		2173
Volkers	Gusta		2000
Vollmar	Nancy		2000
Vollmer	Alex		2000
Vollmer	James		2173
Vollmer	Mark		2031
Volovnik	Leonid		2173
Volpi	Vaughn		2173
Volschenk	Ivan		2173
Voltz	Elaine and Fred (F and E)		2000, 2004, 2263
Volz	Candace		2173(u)
Volz	Regina		2173(u)
Von	Judith		2173
von Albee	Melitta		2000
Von Bartheld	Annika		2131, 2173
Von Briesen	Hans		2131
Von Der Linden	Madeline		2173
Von Feldt	Margaret		2131
von Leden	Jon		2173
von Lehsten	Dieter		2000
Von Loh	Katherine		2131
Von Pichl	Mercedes		2131, 2173
Von Rodeck	Katherine		2173
von Roedern	Gabriele		2173
von Sivers	Jutta		2131
von Sivers	Jutta		2173
von Wendt	Jan		2173
Voner	Valerie		2173
Vongsy	Jimmy		2173
VonMelker	Theresa		2173
Voorhees	Jan		2131, 2173
Voorhees	Tom		2173
Voorhies	Eric		2173
Vora	Ruchir		2173
Vorachek	Mary		2173
Vorberg	Fran		2173
Vorhees	J		2000
Vorhees	Miranda		2000(1)
Voronin	Jeanne		2173
Vorotnikova	Irina		2173
Vorse	Stephanie		2131(1), 2173
Vortman	Roger		2173
Vosper	Jon		2131
Vossen	Shelley		2000
Vosti	Jessie		2173
Vota	Christopher F.		2000(u)
Voter	Angry		2173(u)
Voth	Jeff		2131
Voth III	Theodore		2173
Voulgarakis	Shira		2131
Voves	Deborah		2000(1), 2131(1)
Voyles	Tamara		2173
Vrancart	Charlotte		2173
Vrba	Tracy		2173
Vreeland	Mollie		2173
V'Soske	Thad		2131
Vu	Thao		2131
Vuist-Bruske	Martha		2173
Vujasinovic	Erin		2319
Vujasinovic	Robert		2319
Vukovich	Chelsea		2173
Vuong	Christopher		2031
Vuong	Qui		2173
Vuyas	Victor		2173

Last Name	First Name	Org	CIN
Vyatchanin	Arkady		2173
Vyatchanin	Evgenia		2173
Vyhnal	Kristin		2000
Vyvey	Hilda		2000

W

Last Name	First Name	Org	CIN
W	Bonita		2173
W	E.		2131
W	I		2131
W	J		2000
W	Kate		2131
W	Lee		2173
W	Linda		2000
W.	Tori		2173
Waagen	Pamela		2031(u)
Wacaser	Carolyn		2131
Wachowski	Diane		2173
Wachter	Lynae		2173
Wachtstetter	Lil		2173
Waddel	Pat		0016, 2131
Waddell	Ashley		2173
Waddell	Marjorie		2173
Wade	Aaron		2173
Wade	Deb		2173
Wade	Emily		2000
Wade	Felicia		2000
Wade	Jim		2173
Wade	Joy		2173
Wade	Julia		2000, 2173
Wade	Julie		2173
Wade	Louise		2173
Wade	Lyn		2131, 2173
Wade	Scott		2173
Wade	Victoria		2173
Wadlinger	Barbara		2173
Wadsworth	Andrew		2000, 2173
Wadsworth-Reyes	Jane		2312
Waering	J.		2173
Wagenknecht	John		2173
Waggener	Carol		2173
Wagman	Nicole		2173
Wagner	Art		2173
Wagner	Brenda		2173
Wagner	DJ		2000
Wagner	Donna		2173
Wagner	Donna		2173
Wagner	Elissa		2173
Wagner	Erich		2173
Wagner	Karin		2173
Wagner	Linda		2173
Wagner	Lisa		2308
Wagner	Mary		2131
Wagner	Matthew		2173
Wagner	Monika		2173
Wagner	Patrice		2173
Wagner	Sandra		2173
Wagner	Scott		2000
Wagner	Todd		2031(u)
Wagstaff	Russell		2131
Wahlquist	Pete		0279
Wahlstrom	Alexandra		2173
Wahrman	Mathew		2000
Waida	John		2131
Wainscott	Susan		0140
Wait	Ellen		2173
Waite	Judy		2173
Waite	Linda		2173
Waite	Marjorie		2173
Waitkus	Brian		2173(u)
Waitman	John		2131
Waitman	Randall		2173
Wakefield	Marie		2000(1)
Wakefield	Marie		2312
Wakerley	Norm		2173
Wakiji	Dana		2173
Wakin	Melissa		2173
Walberg	Jeriene		2312
Walcott	J Fred		2131
Walcutt	Debbie		2173
Wald	Aloysius		2000, 2173
Wald	Johanna		2173
Wald	Phyllis		2173
Wald	Susan		2000
Walden	David		2173
Walden	Linda		2173
Walden-Forrest	Karyn		2173
Walder	Peter		2173
Waldinger	Alyson		2000
Waldner	Carol		2173
Waldo	Jennifer		2131, 2173
Waldron	Carla C.		2000

Last Name	First Name	Org	CIN
Waldron	Cindy		2173
Waldron	Virginia		2131
Walenga	Fred		2173
Walenga	Robin		2173
Wales	Jeremy		2173
Wales	Martha		2000
Wales	Melissa		2173
Wales	Rachel		2173
WalesSmith	Carole		2173
Walin	Kathleen		2173
Walker	Addie		2319
Walker	Althea		2173
Walker	Andrea		2173
Walker	Angela		2173
Walker	Bright		2173
Walker	Callie		2131
Walker	David		2000
Walker	Deborah		2173
Walker	Heather		2173
Walker	Janet		2000
Walker	Jenny		2193
Walker	Joan		2000(1), 2173
Walker	John-Lee		2000
Walker	Judy		2173
Walker	Kate		0026
Walker	Kath		2000
Walker	Kathy		2173
Walker	Kelly		2173
Walker	Kelly		2173
Walker	Kevin		2173
Walker	Lawrence R.	University of Nevada Las Vegas	0019
Walker	Marcia		2000
Walker	Maria		2131(1)
Walker	Martin		2131
Walker	Mary		2131
Walker	Milo		2031(u)
Walker	Nancy		2173
Walker	Patricia		2000
Walker	Patti Lynn		2173
Walker	Paul		2173
Walker	Russell		2173
Walker	Sharon		2000, 2173
Walker	Terri		2173
Walker	Tom		2173
Walker	William		2173
Walker-Dale	Heather		2173
Walker-Ward	Ginelle		2173
Walkowiak	Stephanie		2173
Walkowski	Mark		2173
Walkup	Kat		2131
Walkup	Ted		2131
Wall	Alexa		2173
Wall	Courtney		2131
Wall	D.		2173
Wall	Denise		2000
Wall	Jerome		2173
Wall	Noreen		2173
Wall	Robert		2131
Wall	Teresa		2131
Wallace	Aimee		2173
Wallace	Bailey		2319
Wallace	Barry		2173
Wallace	Brenda		2173
Wallace	Candice		2131
Wallace	Lauren		2173
Wallace	Louise		2173
Wallace	Marcia		2173
Wallace	Michael		2173
Wallace	Nadine		2173
Wallace	Natalie		2173
Wallace	P.A.		2173
Wallace	Patrice		2173
Wallace	Shelby		2000
Wallace	Simone		2173
Wallace	Vivian		2173
Wallach	Aleta		2000
Walle	Gerald		2173
Walleman	Mark		2173
Wallen	Lawrence		2173
Wallentinsen	Derek		2000, 2131
Waller	Ann		2000
Waller	Ben		2173
Waller	Emory		2173
Waller	Julia		2000
Waller	Leslie		2173
Wallerstedt	Terry		2173
Walley	Janet		2173
Wallin	Patti		2000
Walling	Christina		2000
Walling	Emma		2131
Walling	Robert		2173

Last Name	First Name	Org	CIN
Wallingford	Sarah		2131
Wallington	Victoria		2031, 2173
Wallis	Ashley		2173
Wallis	Diane		2000
Wallis	Steven		2173
Wallman	Joshua		2173
Wallner	Charles		2173
Walls	Janet		2000, 2131
Walls	Mary		2000
Walsh	Allison		2173
Walsh	Barbara		2031(u)
Walsh	Benita		2173
Walsh	Beverly		2173
Walsh	Christine		2173
Walsh	Cynthia		2173
Walsh	Don		2173
Walsh	Donna		2131
Walsh	Dorrit		2173
Walsh	Gerald		2131
Walsh	Jane		2173(u)
Walsh	Jason		2173
Walsh	Joe		2131
Walsh	Kevin		2000
Walsh	Kristin		2173
Walsh	Linda		2131
Walsh	Marce		2173
Walsh	Mary Ann		2173
Walsh	Patricia		2173
Walsh	Shane		2031
Walsh	Stephen		2173
Walsh	Terri		2173
Walt	Kevin		2173
Waltasti	Marilyn		2173
Walter	Amy		2173
Walter	Daniel		2131
Walter	Ernest		2000(1)
Walter	Gail		2000
Walter	Jackie		2173
Walter	Rhetta		2173
Walter	Sydney		2131
Walters	Alex		2173
Walters	Anna		2173
Walters	Bob		2173
Walters	Cathy		2173
Walters	Christy		2173
Walters	Cody		2173
Walters	Hannah		2173
Walters	Jennifer		2131, 2173
Walters	Joseph		2173
Walters	Linda		2173
Walters	Linda		2173
Walters	Linda		2173
Walters	Nikki		2173
Walters	Rick		2173
Walters	Sandra		2000
Walters	Terie		2173
Walters	Wendy		2000, 2173
Walters	Will		2131
Walther	JD		2031(u)
Walther	Mario		2031
Waltman	Robert		2131
Walton	Cynthia		2173
Walton	Elizabeth		2131
Walton	George		2173
Walton	James		2173
Walton	John		2173
Walton	Marcia		2173
Walton	Monica		2173
Walton	Paulette		2173
Walton	Sarah		2031(u)
Walton	Vivian		2031(u)
Walton	Zach		2131(1)
Waltz	Lee		2173
Waltz	Shirley		2000, 2173
Waltzer	Mark		2173
Walworth	Colleen		2131
Wambeke	Laurie		0138
Wamsley	John		2312
Wanderman	Miriam		2173
Wang	Soon		2173
Wang	Sunglin		2173
Wangler	Colby		2031(u)
Wangsgard	Neil		2031(u)
Wann	Kathleen		2312
Wanninger	Steve		2173
Wansley	Kaye		2173
Warburton	Phyllis		2131
Ward	Aurelie		2173
Ward	Barbara		2173
Ward	David		2031
Ward	Denise		2173
Ward	Dona		2173
Ward	Eva		2173

Last Name	First Name	Org	CIN
Ward	Heidi		2173
Ward	John		2173
Ward	Joshua		2173
Ward	Kathi		2173
Ward	Ken		2000(1)
Ward	Ken		2173
Ward	Kevin		2131
Ward	Linda		2312
Ward	LuAnne		2131
Ward	Meghan		2031(u)
Ward	Melissa		2000, 2173
Ward	Mike		2173
Ward	Nancy		2173
Ward	Pamela		2173
Ward	Ralph		2000(1)
Ward	Ronald		2000
Ward	Rosemary		2000
Ward	Ryan		2131
Ward	Salome		2000(u)
Ward	William		2173
Ward-Diorio	Rev. John		2173
Warden	Betty		2173
Warden	Lisa		2000
Warden	Sean		2173
Warden	Sherry		2173
Wardlaw	Jessica		2000
Wardwell	E		2173
Ware	Diane		2173
Ware	Katherine		2173
Ware	Kay		2173
Wargo	Cindy		2173
Wargula	Carl		2131
Warhol	Tom		2000
Waring	George		2312
Wark	Heather		2173
Wark	Thomas		2131
Warkentine	Terry		2131, 2173
Warkoczewski	Marlene		2173
Warner	Carolyn		2000, 2173
Warner	Chris		2173
Warner	David		2173(u)
Warner	Deborah		2173
Warner	Diana		2173
Warner	Gayle		2173
Warner	Lizann		2173
Warner	Rita		2173
Warner	Sue		2173
Warner-Huggins	Vicki		2173
Warnisher	Jude Clark		2173
Warnock	Brett		0126
Warnock	Krista		2131
Warren	Andrew		2000
Warren	Barbara		2173
Warren	Barbara		2131(1)
Warren	Brenda		2173
Warren	Craig		2131
Warren	Ellen		2173
Warren	George		2173
Warren	Jill		2173
Warren	John		2000
Warren	Judy		2173
Warren	Karen		2173
Warren	Kathryn		2131
Warren	Kay		2173
Warren	Megan		2173
Warren	Mobi		2173
Warren	Penny		2173
Warren	Rena		2173
Warrick	Julie		2173
Warriner	Peggy		2131
Warrington	Jason		2173
Warvel	Carolyn		2035
Warwick	April		2000, 2173
Warwick	Bruce		2173
Wasan	Jag		2173
Wasbauer	Marius		2173
Wasgatt	Ann		2000, 2173
Wash	Pete		2173
Washburn	Diana		2173
Washburn	Jean		2173
Washer	Lorna		2173
Washington	Chris		2173
Washington	Kathrin		2173
Washnock	Julie		2131
Wasinski	Marcy		2173
Wasley	Bill		2000
Wasmund	Thomas		2173
Wass	Teresa		2000, 2173
Wassell	Eleanor		2131
Wasser	Nancy		2131
Wasserburger	John		0040

Last Name	First Name	Org	CIN
Wasserman	Andrea and Leonard		2131
Wasserman	Herbert		2173
Wasserman	Linda		2000
Wassmundt	Elizabeth		2173
Watabayashi	Jennifer		2173
Watanabe	Scott		2173
Watchie	Joanne		2173
Waterbury	Arthur		2000
Waterhouse	Richard		2173
Waterhouse	Robin		2173
Waterman	Glenna		2173
Waters	Ainsley Skye		2131
Waters	Anje'		2173, 2312
Waters	Ann		2173
Waters	Bonnie		2173
Waters	Diana		2173
Waters	Jennifer		2173
Waters	Kristine		2173
Waters	Liam		2312
Waters	Lina		2131
Waters	Marc		2000, 2131
Waters	Melissa		2173
Waters	Michael		2173
Waters	Robert		2131
Waters	Scott		2131
Waterworth	Laura		2131
Waterworth	Pamela		2173
Wathen	Nancy		2173
Watkins	Cheryl		2173
Watkins	Jim		2173
Watkins	Kathryn		2000(u), 2173(u)
Watkins	Regina		2131, 2173
Watkins	Tani		2173
Watkins	Vivian		2173
Watkins-Johnson	Trudi		2131
Watola	Danuta		2000(2)
Watrous	Ellen		2312
Watrous	Frank		2312
Watson	Anita		2173
Watson	Becky		2173
Watson	Bonnie		2000, 2173
Watson	Carrie		2173
Watson	Cheryl		2173
Watson	Claire		2000, 2173
Watson	Daniel		2173
Watson	Deborah		2173
Watson	Elaine		2173
Watson	Fran		2173
Watson	Harold		2173
Watson	Jo		2173
Watson	JoSeph		2173
Watson	Judith		2131
Watson	Judy		2173
Watson	Kathleen		2000
Watson	Lisa		2173
Watson	Madison		2173
Watson	Mary		2173
Watson	Oliver		2312
Watson	Pamela		2173
Watson	Patrick		2131
Watson	Robin		2173
Watson	Roy		2131
Watson	Stuart		2312
Watson	Virginia		2000
Watson-Jones	John		2173
Watt	Celeste		2000
Watt	Kathy		2131, 2173
Watters	Cheryl		2173
Watters	Debbie		2131
Watters	Stephanie		2173
Watters	Whitney		2173
Watterson	Debbie		2000, 2173
Watts	Brent		2173
Watts	Carol		2173
Watts	David		2131
Watts	Elizabeth		2173
Watts	Martin		2173
Watts	Pam		2173
Watts, III	Howard	Back-country Hunters and Anglers - Nevada Chapter	6025
Watts-Rosenfeld	Susan		2173
Waugh	Kym		2173
Wautier	Michael		2131
Waxse	Jay		2131
Way	Elizabeth		2173
Way	Heather		2173

Last Name	First Name	Org	CIN
Way	Janet		2316
Waymire	David		2131
Wayne	Anne		2173
Wayne	Mark		2131
Wayne	Vicki		2131
Wayterra	Molly		2131, 2173
Waytz	B		2173
We	Susan		2131
Weakley	Julie		2173
Weant-Leavitt	Margaret		2131, 2173
Weappa	Amy		2173
Wear	Tiffaney		2173
Weare	Marcia		2173
Weare	Robin		2173(u)
Wearing	Julie		2173
Weatherly	David		2000(1)
Weaver	Amy		2173
Weaver	Ann		2173
Weaver	Esther		2173
Weaver	Joan		2173
Weaver	Kathleen		2173
Weaver	Linda		2173
Weaver	Ron		2173
Weaver	Sayre		2173
Weaver	Stefanie		2173
Weaver	Tammy		2173
Weaver	Vernon		2173
Weaver	Vikki		2173
Weaver	Virginia		2173
Weaver	Warren		2131
Weaver	Wes		2173
Weaver	William		2131, 2173
Webb	Charles		2173
Webb	Charmaine		2131, 2173
Webb	Dennis		2131
Webb	Glen		2173
Webb	Leslie		2000
Webb	Linda		0243
Webb	Randall		2173
Webb	Shannon		2173
Webb	Sharon		2173
Webb	Tim		0284
Webber	R		2000
Webber	Sheila		2131
Weber	Ben		2173
Weber	Cheryl		2173
Weber	Jeanine		2173
Weber	Jessica		2173
Weber	Jim		2173
Weber	Joel		2000
Weber	Mary		2173
Weber	Michael		2000
Weber	Thomas		2173
Webman	Beverly		2173
Webster	Bobbie		2173
Webster	Catherine		2131, 2173
Webster	John		2173(u)
Webster	Judy		2131, 2173
Webster	Kim		2031(u)
Webster	Marian		2000
Webster	Roger		2173
Webster	Thomas		2131
Webster	Ty		2173
Wecher	Craig		2131
Wechsler	Susan		2173
Weddington	Tim		2173
Wedemeier	Patricia		2131
Wee	Bee		2000
Wee	Vii		2173
Weeden	Noreen		2173
Weekley	Sarah		2000
Weeks	Charles M		2131
Weeks	Kristine		2031(u)
Weeks	Suzanne		2173
Weems	Susan		2173
Weese	Marcia		2131
Weglar	Kimberly		2000
Wegner	Beth		2173
Wegner	Karen		2173
Wegner	Thomas		2000(1)
Wegrzynek	Leslie		2131(u)
Wegscheider-Kissinger	Vicki		2173
Wegst	Walter F.		0288
Wehner	Michaela		2173
Wehr	Laura		2173
Wehr	LeeAnn		2131
Wehrman	Karen		2173
Wei	Annie		2000, 2173
Wei	Youxuan		2131
Weiand	Mara		2173
Weible	David		2177

Last Name	First Name	Org	CIN
Weidemann	Alison		2000, 2173
Weiden	Cheryl		2000
Weidensaul	C. Scott		2312
Weidknecht	Patricia		2044
Weidner	Chris		2131
Weidner-Ruediger	Mary		2173
Weiermann	Daniel		2000
Weigel	Alice		2000, 2173
Weigle	William		2173
Weihofen	Ronald		2173
Weil	Janet		0230
Weiland	Sherry		2173
Weiler	Carol		2173
Weiler	Jill		2173
Weill	Cheryl		2131
Weil-Martin	Carla		2131
Wein	Eryn		2000
Weinbaum	Leonard		2173
Weinberger	Daniel		2131
Weinburg	Glennice		2173
Weiner	Eric		2173
Weiner	Eric		2173
Weiner	Nona		2173
Weinfurtner	Tammie		2173
Weingart	Robert		2019
Weinhold	Richard		2131, 2173
Weinkauf	Craig		2131
Weinman	Diann		2173
Weinrich	Merrill		2173
Weinstein	Diane		2173
Weinstein	Frederick		2173
Weinstein	Garrett		2173
Weinstein	Mardy		2173
Weinstein	Ruth		2173
Weinstein	Sarasa		2173
Weinstein	Susan		2131
Weinstein	Vivian		2173
Weinzveg	Barry		2173
Weir	Vernon		2000, 2131
Weis	Joe		2173
Weis	Marie		2173
Weis	Randel		2131
Weis	Vincent		2173
Weisberg	Steve		0223, '0264
Weise	Joshua		2173
Weise	Mark		2173
Weisenbach	Ed		2173
Weisenberger	Amy		2173
Weisgram	Stefanie		2173
Weishahn	Amy		2031(u)
Weisheit	Rita		2173
Weiske	Lynne		2000
Weiskott	Alan		2173
Weisnicht	Michael		2173
Weiss	David		2173
Weiss	Dawn		2173(u)
Weiss	Gretchen		2131
Weiss	Helene		2173
Weiss	Joanette		2173
Weiss	Judy		2131
Weiss	Laurie		2131
Weiss	Martin		2173
Weiss	Robert & Marsha		2173
Weiss	Sabra		2000
Weiss	Stuart		2131(1)
Weiss	Valerie		2173
Weissman	Glen		2131
Weissman, MD	Ira		2173
Weist	Daniel		2319
Weisz	Russell		2173
Weisz	Russell		2000
Weitzman	Anna		2173
Weitzman	Margo		2173
Weixel	Clifford		2173
Wekselman	William		2000
Welborn	Michael		2000
Welborn	Sheryl		2131, 2173
Welch	Annemarie S		2131
Welch	Barbara		2173
Welch	Joanna		2173
Welch	Leslie		2173
Welch	Lisa		2173
Welch	Lynn		2000, 2131(1)
Welch	Marilyn		0142
Welch	Robin		2173
Welch	Susan		2173
Welch	Yvette		2173
Weldon	Tom		2173
Welford	Angela		2131
Welkowitz	William		2173

Last Name	First Name	Org	CIN
Wellborn	Andrea		2062
Wellemeyer	Stephanie		2173
Weller	Cynthia		2277
Weller	Deborah		2000(1)
Weller	Monica		2000(1), 2173
Weller	Nicole		2173
Wellinghoff	Marilyn		2173
Wellington	Nancy		2173
Welliver	Mary		2173
Wells	Alex/ Alexander		2131, 2173
Wells	Anne		2173
Wells	Christine		2131
Wells	Dianne		2000(u)
Wells	Gayle		2000
Wells	Jack		2285
Wells	Janette		2173
Wells	Kathleen		2173
Wells	Kerry		2173
Wells	Lasha		2000, 2173
Wells	Mary		2173
Wells	Phil		2173
Wells	Polly		2173
Wells	R		2173
Wells	Robert		2131
Wells	Sandra		2173
Wells	Wendy		2173
Wellsted	Bob		2173
Welmerink	Luke		2031(u)
Welsford	Susan		2000
Welsh	Jody		2173
Welsh	Meghan		2173
Welsh	Robin		2131
Welsh-Durbin	Pam		2173
Welt	Eloisee		2173
Welte	Valarie		2000
Wemer	Kim		2173
Wendel	Tom/ Thomas		2000, 2173
Wendell	Patricia		2173
Wendland	Gunter		2173
Wendroth	Shannon		2131
Wendt	Steve		2173
Wendt-Salisbury	Ingrid		2173
Wener	Ken		2173
Wener	Tina		2000
Weng	Michael		2131
Wenger	Beverly		2173
Wenger	Kristin		2173
Wengerd	Anne		2173
Wengert	Christin		2173
Wenk	Bettina		2173
Wenning	Jordan		2173
Wensaut	Darlene		2173
Wentworth	Katherine		2000
Wentzel	Rich		2312
Wenutu	Diana		2173
Wenzel	Christopher		2173
Wenzel	Joseph		2000
Wenzlaff	Carla		2173
Weppler	Lorraine		2173
Weprin	Dan		2131
Werda	Spike		2131
Werda	Steve		2131
Werder	James		2173
Wergin	Denise		2173
Werkowitz	Tiffany		2131
Werling	Audrey		2173
Wermers	Johanna		2131, 2173
Wermter	Janie		2173
Werner	Elizabeth		2173
Werner	Katherine		2173
Werner	Peter		2173
Werner	Rosemarie		2173
Werner	Sandra		2000
Wernette-Leff	Dawn		2173
Werntz	Jeanine		2173
Wertz	Brad		2173
Wertz	Deborah		2131
Wesche	Justin		2173
Wescott	Rebecca		2031(u)
Wesley	Susan		2131
Wesolowski	Eileen		2173
Wesolowski	Eileen		2173
Wesolowski	Pam		2173(u)
Wessel	Hope		2173
Wessels	Margaret		2173
Wessels	Sylvia		2173
Wessely	Jim		2173
Wessman	Eric		2173
Wesson	Diane		2173
West	Alison		2131
West	Amiee		2173
West	Anne		2173

Last Name	First Name	Org	CIN
West	April		2000, 2312
West	Bill		2173
West	Carrie		2000, 2173
West	Cynthia		2131
West	D.		2173
West	Debra		2173
West	Eric		2173
West	G		2000
West	Joanne		2131
West	Kristin		2131
West	Lori		2173
West	Lynda		2173
West	Sherri		2000, 2173
West	Stacey		2173
Westberg	Carrie		2173
Westbrook	Janet		0292, 2173(u)
Westby	Charlotte		2131
Wester-Ebbinghaus	Reed		2131(1)
Westerlund	Mary		2173
Westhead	Joey		2131
Westlake	Kim		2131
Westlake	Lynn		2173
Westlake	Tom		2173
Westler	Marc		2000
Westlund	Harry		2131
Westoby	Jacky		2000, 2173
Weston	Barbara		2173
Weston	John		2000, 2173
Weston	Karen		2173
Westover	Phyllis		2173
Westra	Jennifer		2173
Wetherell	Sally		2173
Wetmore	Susanne		2312
Wetteland	Signe		2173
Wettersten	Jill		2173
Wetzel	Glen		2131, 2173
Wever	Daniela		2000
Weyer	Daniela		2000
Weymouth	Heather		2189
Weyrick	Ann		2173
Whalen	Agnes		2173
Whalen	David		2131
Whalen	Patricia		2173
Whalen	Patrick		2173
Whalen	William		2173
Whaley	George		2173
Whaley	Tabitha		2173
Wharton	Becky		2173
Whatley	Myra		2173
Whatley	Tracy		2131
Wheat	Amber		2173
Wheatley	Benjamin		2173
Wheatley	Shawn		0112
Whebbe	Pat Lee		2173
Wheeler	Brittany		2131(1)
Wheeler	Diane		2173
Wheeler	Dorothy		2000, 2131, 2173
Wheeler	Janet		2000
Wheeler	Joanne		2173(u)
Wheeler	Mark		2000
Wheeler	Virginia		2173
Wheelock	Christi		2173
Wheelock	Ted		2173
Whelan	Maria		2000, 2173
Whetzel	Judy		2173
Whipple	Everett		2173
Whipple	Jessica		2173
Whipple	Lisa		2000, 2173
Whipple	Susan		2173
Whipple	Wyman		2000, 2173
Whisenand	Gretchen		2000
Whispell-Gonzalez	Lorraine		2173
Whitacre	Julie		2173
Whitaker	Brett		2031(u)
Whitaker	Cari		2173
Whitaker	Howard		2000, 2173
Whitaker	Kay		2131
Whitaker	Kristin		2173
Whitaker	Melinda		2312
White	Barbara		2173
White	Baron		2031(u)
White	Beulah		2000, 2173(u)
White	Bianca		2173
White	Carol		2173
White	Catharine		2173
White	Cathy		2173

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White	Cay		2131, 2173
White	Dana		2173
White	Danielle		2173
White	Denise		2131
White	Donny		2086
White	Elaine		2131
White	Falana		2031(u)
White	Florence		2173
White	Gary		2173
White	George		2173
White	John		2173
White	John		2173
White	Joseph		2000
White	Karen		2000
White	Kelly		2173
White	Kirsten		2173
White	Landra		2131
White	Lilia		2173
White	Lois		2173
White	Lucille		2173
White	Mani		2173
White	Maria		2173
White	Mary		2131
White	Mary		2173
White	Melissa		2000
White	Michael		2173
White	Michael		2173
White	Michelle		2173
White	Mindi		2173
White	Nancy		2173
White	Pamela		2173
White	Peter		2131
White	Phyllis		2000
White	Phyllis		2173
White	Robbie		2173
White	Ron		2173
White	Scott		2173
White	Sharon		2173
White	Susan		2173
White	Veda		2131
White	Viola		2173
White	Yvonne		2312
Whiteaker	Laura		2173
Whitehair	Barbara		2173
Whitehair	Bert		2000, 2173
Whitehall	Ee		2000, 2173
Whitehead	Karen		2173
Whitehouse	Judy		2000, 2131
Whitely	Melissa		2173
Whiteman	Pati		2173
Whiteman	Sue		2131
Whiterabbit	Herman		2173
Whiteside	Catherine		2000
Whitesides	Loupgarou		2173
Whiteway	Courtney		2131
Whitfield	Jessica		2000
Whitford	Ree		2173
Whiting	Carolyn		2173
Whiting	Lara		2173
Whiting	Sylvia		2173
Whitley	Carol		2131
Whitley	Carrie		2131(1)
Whitley	Lee		2131
Whitley	Rita		2173
Whitley	Sandra		2000
Whitley	Sandy		2131
Whitlock	Erik		2173
Whitlock	Liam		2173
Whitlow	Elizabeth		2173
Whitman	Eric		2173
Whitman	Fanny		2173
Whitman	Harold		2173
Whitman	Shanoah		2173
Whitman	Spencer		2031(u)
Whitmer	Megan		2000, 2173
Whitmeyer	Lynn		2173(u)
Whitmore	Lauri		2173(u)
Whitnah	Carol		2173
Whitney	Dana		2131
Whitney	Ellen		2131
Whitney	Gabrielle		2173
Whitney	Rachel		2173
Whitney Jr.	Franklin		2131
Whitonis	Thomas		2173
Whitsell	Susan		2173
Whitson	Helene		2190
Whittaker	Katie		2173
Whitted	Hannah		2000
Whitten	Jonathan		2131
Whittle	Alexander		2312
Whittle	Andrew		2173
Whitworth	Amy		2173

Last Name	First Name	Org	CIN
Whyko-Marolda	Wendy		2173
Whyman	Barbara		2173
Whyte	Monica		2173
Wiant	Jean		2173
Wible	Lisa		2000
Wichert	Nicole Williams		2173
Wichman	Lorinda A.	Nye County Board of County Commiss-ioners	5008
Wichmann	Ann		2131
Wick	Kimberly		2173
Wick	Padma		2131
Wicker	Walter		2031(u)
Wickham	Brooke		2000, 2031(u)
Wickman	Patricia		2000
Widewater	Angela		2173
Widigan	Sharon		2173
Widmark	Anne		2131
Widnick	Steven		2173
Width	Elaine		2173
Wiebe	Jacqueline		2106
Wiebe	Julie		2173
Wiebenson	Sarah		2000, 2173
Wiechman	Carla		2173
Wiechmann	Nancy		2000
Wieder	Anna Marie		2000, 2173
Wiederhold	Joe		2173
Wiederin	Greg		2173(u)
Wiedmaier	Randal		2131
Wiegand	Denise		2031(u)
Wiegert	Camille		2173
Wiegman	Sherri		2000
Wiegmannn	Mira		2173
Wiehl	Janine		2173
Wieland	Carol		2173
Wieland	Charles		2173
Wieland	Martin		2173
Wieman	Lora		2173
Wiener	Catherine		2067
Wiener	Mary		2000
Wierzbowski(i)	Judith		2173(1)
Wiese	Katherine		2173
Wiesener	Monica		2173
Wiesner	Leesa		2173
Wiesner	Mary Ann		2173
Wiest	Jo		2173
Wietecha	Bob		2173
Wiger	Per		2131
Wiggin	Deborah		2000, 2131, 2173
Wiggins	Heather		2173
Wiggins	James		2173
Wiggins	Kathy		2173
Wight	Darin		2173
Wight	Jennifer		2173
Wightman	Richard		2173
Wiker	Kevin		2000, 2173
Wil	M		2000(u), 2213
Wilbanks	Maggie		2031(u)
Wilbekin	Stephanie		2173
Wilber	Kim		2000
Wilburn	Patricia		2173
Wilce	Sarah		2131
Wilcha	Debra		2173
Wilcox	Ann		2131
Wilcox	Antoinette		2173
Wilcox	Barbara		2173(1)
Wilcox	Claire		2131
Wilcox	David		2173
Wilcox	Jennifer		0151
Wilcox	Linda		2173
Wilcox	Nannette		2173
Wilcox	Sharon Marie		2000, 2031(u)
Wilczak	Thomas		2173
Wild	Elizabeth		2173
Wilde	Deena		2000, 2131
Wilde	Jenifer		2173
Wilde	Nurit		2173
Wilde	Tom		2173(u)
Wilder	Megan and Nick		2131(1)
Wildermuth	David		2131
Wildes	Mark		2131, 2173
Wildman	Teena		2173
Wildschutte	Shari		2173
Wile	Debra		2173
Wiley	Amy		2031(u), 2057
Wiley	Carol		0169 (1)

Last Name	First Name	Org	CIN
Wiley	Jan		2173
Wiley	Kimberly		2000(1), 2131(2), 2173
Wiley	Marilyn		2173
Wiley	Vicki		2131
Wilfing	Janice		2173
Wilfong	Lydia		2173
Wilhelm	T.		2131
Wilhite	Amy		2173
Wilk	Rebecca		2173
Wilkas	Mary		2173(u)
Wilke	Wendy		2173
Wilken	Jane		2131, 2173
Wilkening	Karen		2173
Wilkes	Lisa		2173
Wilkie	Susan		2173
Wilkins	Ann		2173
Wilkins	Jaci		2131
Wilkins	Keith		2173
Wilkins	Mary Jo		2173
Wilkins	Richard		2173
Wilkins	Rose		2173
Wilkinson	A.B.		3033
Wilkinson	Barbara		2173
Wilkinson	Candace		2131
Wilkinson	Carter		0307
Wilkinson	Daniel		2173
Wilkinson	George and Myra		2031(u)
Wilkinson	L. L.		2000, 2173
Wilkinson	Mary		2173
Wilkinson	Michele		2000
Wilkinson	Noelle		2173
Wilkinson-Danska	Mimi		2173(u)
Wilks	Andrew		2173
Wilks	Josie		2173
Will	Ben		2173
Will	Randy		2173
Willard	Cyndi		2173
Willard	Susan		2173
Willaume-Juguet	Florence		2173
Willets	Laurie		2173(u)
Willett	Geri		2173
Willett	Lin		2173
Willetts	Nancy		2173
Williams	Allison		2031(u)
Williams	Anita		2173
Williams	Ann		2131
Williams	Betty		2000, 2173
Williams	Brett		2173
Williams	Carole		2173
Williams	Carolyn		2173
Williams	Cassandra		2173
Williams	Cassandra		2173
Williams	Cassandra		2173
Williams	Catherine		2000, 2031(u), 2131(1), 2173
Williams	Charles		3049
Williams	Christie		2173
Williams	Christina		2173
Williams	Cole		2173
Williams	Connie		2173
Williams	Connie		2000, 2173
Williams	David		2131(u)(1)
Williams	Dawn		2173
Williams	Deb		2173
Williams	Deborah		2312
Williams	Deborah		2131
Williams	Deborah		2131, 2173
Williams	Diana		2173
Williams	Diana		3006
Williams	Diane		2173
Williams	Don		2173
Williams	Donald		2173
Williams	Donna		2000
Williams	Edward		2131
Williams	Freddie		2000
Williams	Gail		2173
Williams	Glen		2173
Williams	Glenn		2312
Williams	Gloria		2131
Williams	Guerin		2031
Williams	Hank		2173
Williams	Harley		2173
Williams	Holly		2173
Williams	Iain		2000
Williams	J. Kent		2173
Williams	Jan		2131
Williams	Jan		2131, 2173
Williams	Janet		2131

Last Name	First Name	Org	CIN
Williams	Janet		2173
Williams	Jason		2173
Williams	Jennifer		2173
Williams	Jesse		2000
Williams	Jim		2173
Williams	John		2173
Williams	Jordan		2131
Williams	Judy		2173
Williams	Judy		2000, 2173
Williams	Kassandra		2173
Williams	Kathleen		2173
Williams	Kathy		2000
Williams	Linda		2173
Williams	Lori		2000, 2173
Williams	Marian		2173
Williams	Marie		2173
Williams	Marilyn		2131(2), 2173
Williams	Marilyn		2131
Williams	Mary		2131
Williams	Myra		2173(u)
Williams	Nancy		2131
Williams	Pat		2173
Williams	Pat		2173
Williams	Patricia		2173
Williams	Patty		2131, 2173
Williams	Reed		2131
Williams	Robert		2173(u)
Williams	Roger		2000(1)
Williams	Ronika		2173
Williams	S. E.		2000
Williams	Sam		2031(u)
Williams	Sandra		2173
Williams	Sarah		2000
Williams	Sheryl		2173
Williams	Shirley		2173
Williams	Stephania		2131
Williams	Steve		2173
Williams	Steve		2000
Williams	Sue		2173
Williams	Susan		2239
Williams	Tamara		2000
Williams	Tanya		2131
Williams	Ted		2000, 2131, 2173
Williams	Terrie		2000, 2173(1)
Williams	Terry		2173
Williams	Valerie		2173
Williams	Valerie		2173
Williams	Weldon		2000, 2173
Williams	Yvonne		2000
Williams	Zach		2131
Williamsiicrl	Clyde		2173
Williamson	Bonnie		2173
Williamson	Bridget		2173
Williamson	Catherine		2131
Williamson	Dawn		2312
Williamson	Deb		2173
Williamson	Gailynn		2173
Williamson	Jacqueline		2173
Williamson	John		2131, 2173
Williamson	Maria		2000
Williamson	Martha		2216
Williamson	Patricia		2173
Williamson	Peter		2173
Williamson	Suzanne		2173
Williamson	Terry		2173
Williamson	Wanda		2173
Williams-Sammond	Sarah		2173
Williams-Shepard	Debbie		2000, 2131, 2173
Willis	Melissa		2173
Willis	Patricia		2173
Willis	Rochelle		2173
Willis	Rowland		2173
Willis	Sue		2173
Willis	Theresa		2173
Williss	Zeena		2131, 2173
Willitts	Terrence		2173
Willockx	Heather		2173
Willoughby	Molly		2000, 2031
Willoughby	Shirley		2173
Willowleaf	Aja		2173
Willox	Rochelle		2173
Willroth	Alana		2000, 2173
Wills	Christine		2173
Wills	Deborah		2173
Willsey	Cynthia		2173

Last Name	First Name	Org	CIN
Willsey	James		2173
Willson	Christine		2173
Willson	Scott		2031(u)
Willy	F/Francis Joseph		2131, 2173
Wilmoth	Guy		2173
Wilsdon	Sabrina		2131
Wilsey	Cara		2000
Wilslef	Patricia		2131
Wilsnack	Peter		2173
Wilson	Agnew		2131, 2173
Wilson	Arthur		2173
Wilson	Aubrey		2131
Wilson	Austin		2031
Wilson	Betty		2173
Wilson	Brian		2131
Wilson	Brian		2173
Wilson	Bridget		2173
Wilson	Carla		2173
Wilson	Charlotte		2173
Wilson	Cynthia		2173
Wilson	Dana		2000
Wilson	Darla		2173
Wilson	David		2173
Wilson	Diana		2173
Wilson	Diane		2173
Wilson	Donald		2000, 2173
Wilson	Dougal		2173
Wilson	Fielding		2173
Wilson	Heather		2173, 2312
Wilson	Henry		2131
Wilson	Hugh		2131
Wilson	Ivalee		2131, 2173
Wilson	Jackie		2000, 2173
Wilson	Jennifer		2173
Wilson	Judith		2000
Wilson	Judith		2000
Wilson	Julia		2173
Wilson	Karen		2173
Wilson	Kathy		2173
Wilson	Kathy		2173
Wilson	Katie		2173
Wilson	Kay		2131
Wilson	Kendrick		2131
Wilson	Kevin		2173
Wilson	Kristi		2173
Wilson	Lana		2131, 2173
Wilson	Lauraine		2000
Wilson	Leah		2173
Wilson	Lee		2131
Wilson	Lorraine		2173
Wilson	Louetta		2173
Wilson	Margo		2173
Wilson	Marguerite		2131
Wilson	Martha M.		2173
Wilson	Marthe		2173
Wilson	Megan		2173
Wilson	Michael		2173
Wilson	Michelle		2131
Wilson	Nancy		2173
Wilson	Patricia		2173
Wilson	Rose Marie		2173
Wilson	Sezen		2173
Wilson	Sharon		2131
Wilson	Sharon		2173
Wilson	Sherita		2173
Wilson	SK		2173
Wilson	Sonya		2031(u)
Wilson	Stephen		2173
Wilson	Steve		2173
Wilson	Susan		2173
Wilson	Susan		2173
Wilson	Susan		2173
Wilson	Susan		2173
Wilson	Suzzette		2243
Wilson	Tamar Diana		2173
Wilson	Tanya		2000
Wilson	Thomas		2131
Wilson	Tim		2000
Wilson	Tina		2000, 2131(2)
Wilson	Vicki		2131, 2173
Wilson	Winn		2000, 2173
Wilsonart	T.		2031(u)
Wilt	Kathy		2173
Wilton	Liz		2000, 2173
Wimberly	Blaine		2131
Wimberly	Chad		2173
Wimmer	Benjamin		2173
Winbigler	Houston		2173(u)

Last Name	First Name	Org	CIN
Winch	Ben		2173
Winchester	Linda		2173
Winchester	Monika		2173
Winchester	Nichi		2173
Wind	Rosalie		2131
Windom	Jennifer		2031(u)
Windwalker	Joseph & Sandra		2000, 2173
Windweh	Karola		2000
Winegard	Mary Ann		2173
Winegardner	Jill		2173
Wineinger	Karen		2173
Winfrey	Bobbiejo		2173
Wing	Margaret		2173
Wing	Marjorie		2173
Wing	Martha		2000
Wing	Teresa		2173
Winget	Michael		2131
Wingle	Dennis		2000(1)
Winholtz	Betty		2000, 2173
Winick	Jeremy		2131
Winick	Paul		2173
Winkel	David		2173
Winkler	Diane		2173
Winkler	Elizabeth		2173
Winkler	Joan		2000
Winkler	Kathleen		2173
Winkler	Marion		2173
Winkler	Pat		2173
Winne	Patricia		2173
Winner	Angelika		2173
Winner	Barbara		2173
Winner	Thomas		2173
Winnick	Joie		2000
Winnicki	Kristine		2000, 2131, 2173
Winser	A		2173
Winslow	Colette		2173
Winslow	David		2173
Winslow	Lee		2173(u)
Winstanley	Jess		2173
Winstead	Annie		2173
Winston	Leslie		2173
Winter	Charles		2173
Winter	Clara		2131
Winter	Joy		2173
Winterfield	Cindy		2173
Winters	Angelic		2173
Winters	Anne		2031(u)
Winters	Ken		2173
Winters	Patricia		2173
Winters	Valerie		2173
Winthrop	David		2173
Wintjen	Robin		2173
Wipf	Carol		2173
Wirick	Stan		2173
Wirtanen	Lyle		2173
Wirtenberger	Karl		2173
Wirth	Lisa		2173
Wirth	Peter		2131
Wirtz	Robin		2173
Wirz	Brandon		2173
Wisch	Anita		2000
Wisch	Anita		2173
Wischhusen	Anita		2173
Wisdom	LeeAnn		2173
Wise	Carol		2173
Wise	Carol		2131
Wise	David		2173
Wise	Donald		2173
Wise	Ruth		2173
Wise	Sally		2173
Wiseltier	Marsha		2173
Wiseman	Ann		2000, 2173
Wiseman	Christine		2173
Wiseman	Dorothy		2131
Wiseman	Judith		2173
wiseman	Patryce		2312
Wiseman	Roxanne		2173
Wishner	Susan		2173
Wishnow	Jaclyn		2173
Wisinski	Roger		2173
Wisner	Betsy		2173
Wisor	Marjorie		2131
Wissinger	Stephanie		2173
Wissman	Emily		2173
Wissmer	John		2173
Wist	Robert		2131
Wisz	Julie		2173
Wit	H.C.		2173
Wit	Jeroen		2173
Witcher	Linda		2173
Witchner	Beverly		2173
Witek	Marie		2173

Last Name	First Name	Org	CIN
Withers	Lynell		2173
Witherspoon	Candice		2173
Withrow	Amy		2131, 2173
Witkin	Mort		2173
Witsell	Peggy		2000
Witt	Heather		3013
Witt	Jose	Friends of Nevada Wilderness	3042, 6018
Witt	Jose		2031(u)
Witte	Beatrice		2173
Witte	Kevin		2131
Witte	Mark		2173
Witte	Roslynn		2131
Wittig	Steve		2173
Wittman	Tara		2031
Wittmann	Suzanne		2173
Witzeman	Janet		2000, 2131
Wizer	Susan		2173
Wlaton	Christine		2173
Wlcek	John		2131
Wobus	Elizabeth "Betsy" A.		2000, 2173
Woelk	Barbara		2173
Woelk	Leona		2131
Woeppel	Stacy		2173
Wogalter	Stacie		2173
Wohlberg	Robert		2173
Wojciak	Barbara		2173
Wojcik	Rich and Jan		2173(u)
Wojno	Sharon		2000, 2173
Wojtczak	Barbara		2131, 2173
Wojtkiewicz	Ewa		2000
Wojtowicz	David		2131
Wolberg	Martha		2173
Wolboldt	Will		2131
Wolcott	James		2000, 2173
Wolcott	Joe		2173
Wolelegel	Thomas		2131
Wolf	Arlene		2173
Wolf	Ava		2131
Wolf	Carol		2173
Wolf	Catherine		2173
Wolf	Crystal		2000, 2131, 2173
Wolf	Danielle		2173
Wolf	Darlene		2173, 2312
Wolf	Dave		2131
Wolf	David		2173
Wolf	Davis		2173
Wolf	Deb		2173
Wolf	Debra		2312
Wolf	Derek		2131
Wolf	Diane		2173
Wolf	Ed		2173
Wolf	Ian		2173
Wolf	John		2173
Wolf	Joseph		2173
Wolf	Karen		2000
Wolf	Linda		2173
Wolf	Lynn		2173
Wolf	Mark		2173
Wolf	Meghan	Patagonia	6019
Wolf	Meghan		2031(u)
Wolf	Patricia		2261
Wolf	Rachel		2173
Wolf	Rebecca		2173
Wolf	Robert		2131, 2173
Wolf	Rochelle		2173
Wolf	Rohana		2173
Wolf	Ronald		2173
Wolf	Todd		2173
Wolf	Wesley		2173
Wolfberg	Amy		2173
Wolfe	Amy		2131
Wolfe	Barton		2173(u)
Wolfe	Charles		2173(u)
Wolfe	Claire		2312
Wolfe	Iris		2173
Wolfe	Jacqueline		2000, 2173
Wolfe	Jeanne		2173
Wolfe	Jon		2131
Wolfe	Jonathan		2173
Wolfe	Kebra		2173
Wolfe	Laura		2173
Wolfe	Lydia		2131
Wolfe	Rachel		2000
Wolfe	Rob		2131
Wolfe	Terry		2173
Wolfer	Caprice		2173

Last Name	First Name	Org	CIN
Wolfert	Steve		2173
Wolff	Alan		2173
Wolff	Amy		2173
Wolff	Annette		2173
Wolff	Ari		2173
Wolff	Brett		2173
Wolff	Dennis		2000
Wolff	Emmy		2312
Wolff	Jessica		2031(u)
Wolff	Jessica		2031(u)
Wolff	Kathy		2173
Wolff	Linda		2131
Wolff	Marian		2131
Wolff	Steven		2173
Wolfgang	Mara		2173
Wolf-Lyerla	Mary Ann		2131
Wolfson	Deborah		2173
Wolfson	Elizabeth		2173
Wolk	Mickey		2173
Wolking	Karin		2173
Wolkow-Price	Carol		2312
Wolle	Marilyn		2173
Wollitz	Cody		2031(u)
Wollner	William		2173
Wolluz	Doug		2319
Wolniewicz	Diane		2173
Wolongevicz	Patricia		2312
Wolslegel	Jeanne		2173
Wolter	Manuela		2173
Wolters	Douglas		2173
Wolther	Mary		2131
Wolz	Judy		2173
Wolzen	Roxane		2173
Wonders	Karen		2173
Wong	Emilie		2131
Wong	Felicia		2131
Wong	Jen-Mai		2000
Wong	Manuel		2173
Wong	Sandra		2131(1)
Wong-Brehmer	Janene		2131, 2173
Wong-Kone	Diane		2000, 2131
Wong-Kone	Diane		2032
Wontor	Debra		2173
Wood	Barbara		2000
Wood	Barbara		2131, 2173
Wood	Beckie		2131, 2173
Wood	Becky		2173
Wood	Chauncey		2173
Wood	Christine		2173
Wood	Dale		2173
Wood	Elizabeth		2173
Wood	Gabby		2031(u)
Wood	Hailey		2000
Wood	Hollis		2131
Wood	James		2031
Wood	Judy		2000, 2173
Wood	Karen		2312
Wood	Kim		2131, 2173
Wood	Liza		2031
Wood	Mary		2173
Wood	Mike		2173
Wood	Nancee		2131
Wood	Nancy		2173
Wood	Peggy		0293
Wood	Stephanie		2173
Wood	Susan		2240
Wood	Tanya		2173
Woodall	Kristina		2173
Woodall	Sandra		2000, 2131, 2173
Woodall	Sarah Jane		0113
Woodard	Judson		2173
Woodard	Margarette		2173
Woodard	Sally		2173
Woodbridge	Bill		2173
Woodchild	Johanna		2000
Woodcock	Debra		2000
Woodcock	Diana		2000
Woodford	Elizabeth		2131
Woodham	John		2131
Woodhull	J.		2173
Woodin	Signe		2173
Wooding	Steve		2173
Woodley	Anne		2287
Woodman	Matthew		2031
Woodrich	Brian		2131
Woodriff	Elaine		2173(u)
Woodruff	Bob		2173
Woodruff	Jody		2173
Woodruff	L.K.		2173(u)
Woods	Amanda		2173

Last Name	First Name	Org	CIN
Woods	Dianne		2154
Woods	James		2000
Woods	Jim		2131
Woods	Kathlee		2173
Woods	Kenneth		2205
Woods	Kim		2031(u)
Woods	Laura		2173
Woods	Leslie		2131
Woods	Marita		2173
Woods	Mike		2131
Woods	Rocquelle		2000, 2173
Woods	Roth		2173
Woods	Sandra		2173
Woods	Tansy		2173
Woods	Teresa		2173
Woods	Teresa		2173
Woodson	Anna		2173
Woodson	Barbara		2173
Woodson	Xavier		2173
Woodward	Holly		2031
Woodward	Jonathan		2173
Woodward	N.		2173
Woodward	Servanne		2173
Woodwell-Freedman	Nancy		2173
Woodworth	John		2173
Wooldridge	Cory		2131
Wooldridge	Kitty		2131
Woolf	Carolyn		2131
Woolford	Ron		2173
Woolsey	David A		2173
Woolum	Jeannie		2173
Wooster	Lynde		2173
Wooton	Anita		2000
Wooton	Virginia		2173
Worcester	Chris		2173
Worden	James		2173
Workinger	Scott		2000, 2131
Workman	Dian		2131
Workman	Donielle		2173
Workman	Krysta		2173
Workman	Michael		2173
Workman	Ray		2173
Worley	David		2000(1), 2173(u)
Wornham	Janet		2173
Worrall	Courtney		2173
Worrell	Gail		2173
Worrell	Suzan		2173
Worth	Eb		2131
Worth	Wendy		2173
Worthington	Joanne		2173
Worthley	Pat		2319
Worthy	Crista		2173
Wortman	Josh		2173
Wosk	Bernice		2131
Woudstra	Gerrit		2000(1)
Wouk	Nina		0154
Wozniak	Steve		2173
Wozny	Lacey		2173
Wrasse	Gary		2131
Wray	Serena		2173
Wreford	Julie		2173
Wren	Jody		2173
Wriedt	Dawn		2000, 2173
Wright	Andrew		2173
Wright	Ann		2173
Wright	Brenda		2173
Wright	Brenda		2131
Wright	Calie		2173
Wright	Chadwick		2000
Wright	Charla		2000
Wright	Dan		2173
Wright	Daniel		2173
Wright	Darcy		2173
Wright	Diana		2131
Wright	Diane		2173
Wright	E.		2173(u)
Wright	Edmund		2000
Wright	Georgina		2131, 2173
Wright	Gregory		2173
Wright	Heather		2131
Wright	Janet		2173
Wright	JeanMarie		2173
Wright	Johanna		2173
Wright	Karen		2173
Wright	Katherine		2173
Wright	Kathleen		2173
Wright	Kathy		2173
Wright	Kent		2131(1), 2173
Wright	Laurie		2000
Wright	Linda		2173
Wright	Madeline		2000
Wright	Martha		2257

Last Name	First Name	Org	CIN
Wright	Mary		2173
Wright	Maureen		2131
Wright	Pam		2000
Wright	Pamala		2131
Wright	Paul		2173
Wright	Peggy		2173
Wright	Penelope		2000
Wright	Robin		2173
Wright	Sharon		2173
Wright	Sumiko		2173
Wright	Susan		2000, 2173
Wright	Thomas C.		0094
Wright	Tracy		2173
Wright	Wendy		2173
Wright III	Trigg		2000, 2173
Wright, MD	Rhonda D.		2173
Wright-Coltart	Shirley		2173
Wrightson	Laura		2173
Writz	Gina		2173
Wrobel	Amy		2173
Wu	Blake		2173
Wu	Li		2173
Wu	Victress		2173
Wuchek	Nicolle		2173
Wuenschel	Sarah		2173
Wuerthner	George		2031
Wuethrich	Linda		2000, 2173
Wulf	Kyla Young		2031
Wulf	Marlene		2173
Wulff	Michele		2173
Wulffraat	Anne		2173
Wulfsohn/Wukfsohn	Aubrey		2000, 2173
Wunder	Kristina		2173
Wunder	Valerie		2131
Wunderlich	Eileen		2173
Wurst	Gloria		2173
Wurzel	Laura		2173
Wushensky	Sharon		2000
Wutzke	Karen		2173
Wutzke	Laura		2173
Wy	Steven		2173
Wyatt	Cathy		2173(u)
Wyatt	D		2173
Wyatt	Janet		2131
Wyatt	John		2131
Wyatt	Karen		2173
Wyatt	Rose		2173
Wyatt	Sherry		2000, 2173
Wyatt	Victoria		2173
Wygant	Dan		2000(u)
Wyland	Janet		2173
Wyle	Christina		2173
Wyles	Christopher		2173
Wylie	Barbara		2131
Wylie	Kimberly		2173
Wylie	Mary		2131(1)
Wyllys	Ronald		2173
Wyman	Susan		2031(u)
Wynia	Gregg		2131
Wynn	Scott		2000
Wynne	Judson		2000, 2131, 2173
Wypler	Bill		2131
Wyse	Frank		2131
Wyse	Margo		2131, 2173(u)
Wysser-Martin	Colleen		2000, 2173
Wytovicz	Heidi		2173
Wyzga	Diane		2173

X

Last Name	First Name	Org	CIN
Xavier	Marjorie		2173
Xing	Xinxin		2319
Xx	Vic		2173
Xx	Xx		2000

Y

Last Name	First Name	Org	CIN
Y	G		2173
Yacono	Charla		2173
Yaculak	Steven		2173
Yaffe	Linda		2173
Yakovleva	Nataliya		2173
Yakovleva	Polina		2173
Yamaguchi	Leah		2173
Yamakawa	Candace		2173
Yamasaki	Beniko		2173
Yamase	Laura		2173
Yamashita	Misa		2173
Yamaya	Diane		2031

Last Name	First Name	Org	CIN
Yan	Juile		2000
Yancey	Bob		2000(1)
Yancey	Matthew		2131
Yandrich	Michelle		2173
Yanicke	Joan		2173
Yanke	Brian		2173
Yankoviak	Steven		2173
Yanney	George		2173
Yanoff	Steven		2000
Yao	Tina		2173
Yarborough	Mildred		2131(u)
Yarger	Dana		2173
Yarnall	Kathryn		2031(u)
Yarnall	Megan		2173
Yarnall	Thomas		2173
Yarnell	Cheryl		2173
Yarnell	Karen		2173
Yarosh	David		2173
Yarrobino	Erin		2173
Yasgur	Eleanor		2173
Yasinitsky	Norma		2173
Yaskell	Tina		2173
Yater	Joan		2173
Yates	Jan		2173
Yates	Joan		2000, 2173
Yates	Larry		2173(u)
Yates	Pamela		2173
Yates	Paula		2173(u)
Yatsko	Karen		2173
Yazzie	Tammy		2131
Yborra	Gail		2000, 2173

Last Name	First Name	Org	CIN
Yeager	Donald		2131
Yeager	Judy		2173
Yeager	Sky		2173
Yeaman	Suzanne		2173
Yeargain-Williams	Peggy		2131
Yeates	T./Tyler		2131, 2173
Yee	Leland		2312
Yelen	Barry		2173
Yelle	Matthew		2131
Yellowthunder	Christine		2173
Yelton	Ron		2000
Yencich	Joseph		2173
Yeomans	Gary		2173
Yerden	Carol		2173
Yerena Jr	Julian		2173
Yerington	Lisa		2173
Yerry	Susan		2173
Yesh	Janet		2173
Yesner	Stephanie		2173
Yetter	Jill		2173
Yim-Barbieri	Penelope		2031(u)
Yip	Susan		2131
Yochum	James		2173
Yocky	Luann		2173
Yocum	Glenn		2131
Yohe	Gina		2173
Yohey	Aaron		2031(u)
Yoho	Brad		2000
Yokem	Cindy		2173(u)
Yoken	Mel		2131
Yonan	Dianne		2173

Last Name	First Name	Org	CIN
Yonemoto	Linda		2031(u)
Yonkers	James		2173
Yonts	James		2173
York	Cynthia		2173
York	Judith		2173
York	Nancy		2131
York	RedLion		2131, 2173
York	Sondra		2173
York	Sondra		2173
Yorke	Patricia		2173
Yoshida	Layne		2312
Yost	Carol		2173
Yost	Gaylord		2173
Yost	Peggy		2031(u)
Yost	Zoe		2131(1)
You	Sam		2000
Youabian	Anita		2173
Youens	Robert		2131
Youmans	K.		2173
Youmans	Katie		2131
Young	Amanda		2173
Young	Amanda		2173
Young	Andrea		2173(u)
Young	Anna		2173
Young	Anne		2173
Young	Barbara		2173
Young	Bert		2000
Young	Bertrand		2131
Young	Christine		2173
Young	Cindy		2173
Young	Darlene		2173

Last Name	First Name	Org	CIN
Young	Dena Maguire		2173
Young	Denise		2131
Young	Diane		2173
Young	Doug		2173
Young	Fran		2173
Young	Frank		2131(u)
Young	Gay		2173
Young	Jane		2173
Young	Jean		2173
Young	Jeff		2173
Young	Jo		2173
Young	Joanna		2173
Young	Judith		2173
Young	Kathryn		2131
Young	Kathy		2031(u)
Young	Kristin		2173
Young	Leda		2000
Young	Linda		2173
Young	Lowell		2173
Young	M.		2173
Young	Margareta		2173
Young	Marie		2000, 2173
Young	Mary		2173
Young	Mary		2131
Young	Nancy		2173
Young	Pat		2173
Young	Patrice		2173
Young	Patrick		2173
Young	Pd		2131
Young	Priscilla		2173
Young	Roberta		2173
Young	Robin		2000
Young	Sarah		2173
Young	Sheila		2173
Young	Sherri		2000, 2173
Young	Sk		2173
Young	Su-Tana		2000
Young	Virginia		2173
Youngberg	Natalie		2173
Youngblood	Clay		2173
Youngelson	Noah		0301, 2000, 2031, 2173
Youngson	Patricia Kay		2131
Younie	Ashlee		2031(u), 2312
Yount	Lyn		2173
Youtz	Dolores		2131
Yowell	Carol Richey		2173
Yozova	Albena		2173
Yozwiak	Bernard		2131
Yribar	Rita		2173
Yu	Helen		2173
Yuan	Teresa		2173
Yuen	Susan		2173
Yuen	Yip ko		2173
Yule	Barbara		2173(u)
Yunggebauer	Fred		2173
Yunker	Mary		2173
Yurenka	Katrina		2000
Yurista	Kathy		2131
Yust	Richard		2173
Yusuf	Yusuf		2173
Yvette	Yvonne		2173

Z

Last Name	First Name	Org	CIN
Z	Noam		2173
Z	Sonia		2000
Z	Will		2173
Zabarte	Ian	Western Bands of Shoshone Nation of Indians	3048, 4000, 4004(1)
Zabini	Alessandro		2000
Zacari	Joanna		2173
Zachadnyk	Ethan		2173
Zack	Mary		2000, 2173
Zaczyk	Rj		2173
Zadkovic	Lynn		2173
Zaepfel	Sarah		2173
Zafiratos	Allison		2173
Zafiropoulou	Mandy		2000
Zagiel	Orna		2173
Zagoren	Beth		2173
Zagula	Loraine		2131
Zahler	Gary		2173
Zahler	Penny		2173
Zahnen	Patricia		2173
Zahorsky	Sheri		2173
Zahra	Raymond		2173
Zaidman	Janet		2173
Zainko	Sonia		2000

Last Name	First Name	Org	CIN
Zajac	Andrea		2173
Zajac	Michael		2173
Zajdel	Tracy		2131(u)
Zajic	Amy		2173
Zak	Fay		2173
Zakova-Laney	Pavla		2173
Zales	Lisa		2131, 2173
Zaleski	Elizabeth		2131
Zalewska	Irmina		2173
Zalmana	Debra		2031(u)
Zamalloa	Teresa		2131
Zaman-Zade	Rena		2173
Zambelli	Renee		2173
Zambik	Jean		2131(u)
Zambrano	Maria		2173
Zamichow	Beth		2173
Zammarano	Vittorio Tedesco		2173
Zamora	Denise		2131
Zamora	Julie		2173
Zamora	Marlene		2173
Zamora	Oscar		2131
Zampini	Anthony and Charlotte		2131
Zamudio	A.		2000
Zanders	Marya		2173
Zandstra	Craig		2312
Zandvakili	Katayoon		2173
Zane	Gregory		2173
Zangara	Amanda		2173
Zanger	Manny		2173
Zaninovich	Sandra		2173
Zanney	Shawna		2000
Zanoni	Jan		2173
Zanotto	Vanda		2173
Zapotoczny	Katie		2131
Zappe	Cheryl		2173
Zappia	Irene		2131
Zaragoza	Elizabeth León		2031
Zarbock	James		2173
Zardecki	Christine		2031(u)
Zardeneta	Deborah		2173
Zaret	Norrie		2173
Zarow	Roy		2131
Zarraga	Candida		2173
Zarrella	Judith		2000
Zarro	John		2173(u)
Zarter	Ellen		2173
Zarur	Carlos		2131, 2173
Zastrow	Deborah		2173
Zatarack	Eric		2173
Zatto	Michael		2173
Zaun	Brian		2131
Zavar	Hermine		2173
Zawaski	Joan		2000
Zayac	Danielle		2131
Zban	Misty		2173
Zdilla	Eric		2131
Zdravkovich	Zoran		2173
Zebal	Ronald		2131
Zedler	Gerald		2173
Zeek	Peter		2173
Zeeve	Carol		2173
Zeff	Daniel		2173
Zehava	Angela		2173
Zeiler	Eric		2173
Zeiner	Samantha		2312
Zeis	Mary		2173
Zeitler	Katherine		2173
Zelasko	Sandy		2312
Zelaya	Kathy		2173(u)
Zelenak	Gail		2173
Zelitsky	Paulina		2173
Zelke	Estelle		2173
Zell	Maristela		2173
Zeller	Jennifer Kim		2173
Zeller	Karl		2131
Zeller	Lori		2173
Zeller	Michael		2173
Zeller	Sidney		2131
Zellmer	Kevin		2000
Zellner	Angie		2173
Zellner	Scott		2173
Zelman	Steve		2173
Zelmanovich	Silvana		2000
Zemach	Amielle		2173
Zeman	Brian		2173
Zemanick	Ingrid		2000
Zemba	Tim		2000, 2173
Zemel	Andrea		2173
Zemp	Patrick		2000, 2173
Zenkel	Elliott		2173
Zentura	Ms		2173
Zepeda	Jose		2031

Last Name	First Name	Org	CIN
Zerchot	Christopher		2031(u)
Zettwoch	Laurie		2173
Zhang	Shiping		2000
Zhou	Huixian		2173
Zickur	Tracy		2000
Ziegler	Barbara		2131
Ziegler	John		2173
Ziegler	Kim		2173
Ziegler	Russell		2000(1), 2173
Ziehlermartin	Paige		2000, 2173
Ziehm	Debrah		2173
Zielen	Robert		2173
Zielinski	Betsy		2173
Zielinski	Jennifer		2173
Zielke	David		2173
Zilbergeld/Z	Leah		2000, 2173
Zilberstein	Gene		2173
Zima	Antonia		2173(u)
Zimdars	Eric		2173
Zimmer	Cheryn		2173
Zimmer	Louise		2000, 2173
Zimmer	Sandra		2173
Zimmer	Susan		2173
Zimmer Jr	Harold		2173
Zimmerman	Amy		2173
Zimmerman	Carl		2131
Zimmerman	John		2173
Zimmerman	Julie		2173
Zimmerman	Kathleen		2173
Zimmerman	Mary Jane		2131
Zimmerman	Ned		2173
Zimmerman	Pam		2173
Zimmerman	Paulette		2000, 2173(u)
Zimmerman	Robert		0066
Zimmerman	Steven		2173
Zimmerman-Barry	Debra		2173
Zimmermann	Adele E		2131(u)(1)
Zimmermann	Andreas		2000(1)
Zimmermann	Arthur		2173
Zimmermann	Karin		2000
Zimmermann	Richard		2131, 2173
Zimnick	Robin		2173
Zinder	David		2000
Zingg	Barbara		2131, 2173
Zink	Amy		2173
Zink	Lydia		2000
Zinn	Andrea		2131
Zinn	Danice		2173
Zinn	Eric		2173
Zinn	John and Sandy		2131
Zinno	Jeanine		2000, 2173
Zinteck	Marcia		2173
Zinter	Yvonne		2131
Ziolkowski	Joe		2000
Ziolkowski	Kim		2173
Zippert	John		2173
Zirbes	Madeleine		2131
Zirngast	Julie		2173
Ziroli	Colleen		2173
Zissler	Mary		2173
Zitelli	Jennifer		2173
Zivley	Bruce		2173
Zizelis	Nicholas		2131
Zizza	Daniel		2000, 2173
Zober	Pam		2173
Zoch	Lynn		2173
Zoch	Margaret		2000, 2173
Zoldak	Laura		2173
Zollars	Jan		2173
Zombeck	Linda		2131(u)
Zomber	Michael		2173
Zomer	Isabelle		2000
Zontek	Ken		2000, 2173
Zook	Saz		2173
Zopf	Karen		2131
Zornesky	Jerome		2173
Zotos	Bonnie		2173
Zovic'	Michelle		2173
Zovich	Beatrice		2131
Zrakovi	Clark		2131
Zrapp	Alex		2173
Zrobek	Ann		2173
Zucker	Lori		2173
Zucker	Marguerylee		2000(2), 2173
Zuckerman	Arlene		2000, 2173
Zuckerman	Michael		2173

Last Name	First Name	Org	CIN
Zuckerman	Sandra		2173
Zuckermann	Emil and Monika		2173
Zuercher	Stefan		2173
Zufelt	Danielle		2173
Zuiderwijk	Patricia		2173
Zuk	Dennis		2173
Zuk	Kristen		2173
Zukoski	Edward		2131(u)
Zukoski	Katie		2173
Zuleta	Laura		2000, 2173
Zuniga	Arleen		2173
Zuniga	Dennis		2000(1)
Zuniga	Suzanne		2173
Zupancic	Ryan		2173
Zupko	Barbara		2173
Zupnik	Marilyn		2173
Zurawski	Ronald		2173
Zurheide	Tara		2173
Zuverink	Timothy		2131
Zvonik	Kaaren		2131, 2173
Zweber	France		2173
Zwez	Mary		2000
Zwingelberg	Sandra		2173
Zwingle	Christopher		2173
Zwirtz	Debra		2173
Zychowski	Dawn		2173
Zyga	Natalia		2131
Zyla	Alison		2000, 2173
Zywan	Katherine Barrett		2173

A.4.2 Comment Letters, Forms, E-mails and Oral Testimony Received During the Public Comment Period (December 8, 2017 through March 8, 2018)

A.4.2.1 Unique Public Written Comments (CINs 0001-0338)

0001

Not just local, this case has world-wide implications. We Americans are the first ever with the foresight to preserve land for its own sake for ALL citizens. Yosemite and Red Rock would long ago have been chopped up and chopped down, but wise past leaders established a trend to preserve land, now copied around the globe. However, MANY self-interested parties are DROOLING to see these Refuge acres usurped for the precedent to then exploit ANY AND ALL Federal and State lands and waters. EACH acre of this amazing Refuge is still as valuable as ever for preservation.

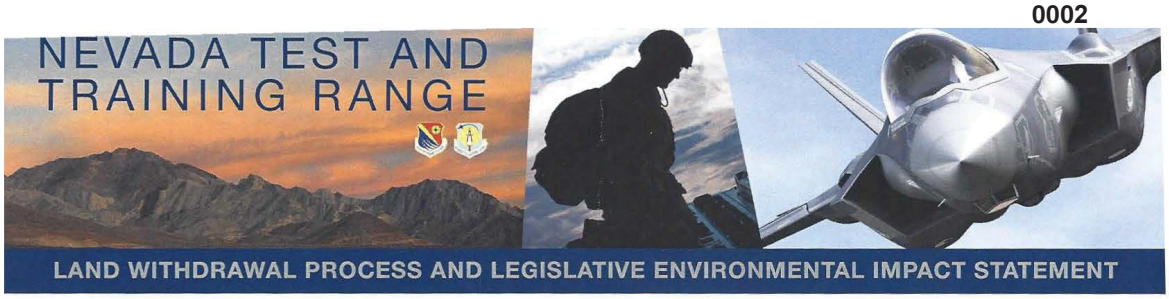
Truly, THANK YOU of the military FOR YOUR SERVICE, BUT...if military "exercises" in these mountains are deemed "necessary" for our safety, I, for one, would rather be "unsafe" by such standards. THANK YOU for willingness to go into harm's way, but do not, please, be agents of harm to beautiful places in your own country! The US military ALREADY has massive practice acreage! Use it well, while VALUING and PRESERVING the rest of the country you are sworn to PROTECT, not sworn to DESTROY in the name of supposed protection!

We humans are so adaptable, a strength and a weakness. We are good at "accepting" accumulated small losses and moving on. While driving with my Grandmom in the 1960's, she often spoke with dismay about new development, once a farm with a beautiful swimming pond, or once a lovely woodlot. Too easily, people say "Oh it's inevitable, that's the way humans are!" This is FALSE! We only have tendencies prolonged by such short-sighted attitudes. Consider phonograph records; recall listening to a perfect treasured record, but bit by bit, it developed many scratches…not quite sure where any of them came from, but eventually the record is unlistenable! Once its beauty is gone, it's not coming back. Los Angeles used to be surrounded by natural land, as Las Vegas still is. Vegas recently was more like Pahrump…and today's Pahrump was more like rural Beatty ! Oh, a bit "taken" here, a bit there, but before you know it Vegas will become another city like LA endlessly surrounded by sprawl and no natural spaces.
including those of us in the military
So… we can again mutely acquiesce to the chipping away of treasured lands around us, or …we can thoughtfully preserve our wild heritage. If we are smart enough, we can have all the benefits of modernity but without all the disadvantages.

Therefore, I call on you to be thoughtful leaders, not just within your sphere of duty and short-term interests, but for all now and onward. We humans need to develop a healthier relationship with our necessary and beautiful planet. YOUR decisions here are NOT just local and can set **the new trends** based on intelligent foresight, instead of following old trends based on fear and greed. Will your children and grandchildren consider you another myopic enabler of our planet's degradation for short-term interest or gain? Instead, …By your decisions, BE THE HEROES who enable your descendants to look proudly back and appreciate the **healthy** planet you thoughtfully cared for and bequeathed to them ! Thank You

2:51

0002



Written Comment Form

LOCATION: Alliante Casino DATE: January 23, 2018

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: Ariadne C. Carder

Organization:

Address: [redacted]

City/State/Zip: [redacted]

☐ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☐ No, do not include my name and address on the mailing list.

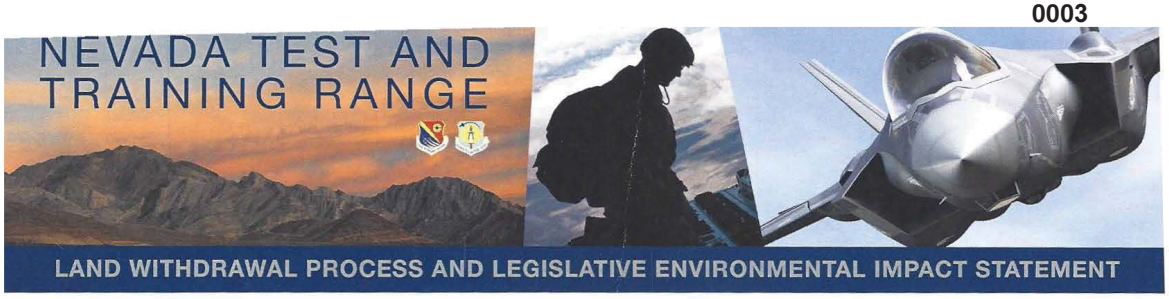
All comments will be fully considered in the Final LEIS without providing a full address.

THANK YOU FOR YOUR INPUT.
COMMENTS MUST BE POSTMARKED BY MARCH 8, 2018 TO BE CONSIDERED IN THE FINAL LEIS.

PLEASE PRINT LEGIBLY.

I was excited about moving here
I was excited about getting to know its hidden beauty
I was excited to be able to walk this land.
I was exaited to breath fresh air.
I was excited because I came from a place were the air, the land and the water are polluted. I came from where the eyes see smog and refineries as far as the eye can see. Were the fish are not safe to consume and you doubt of the water you drink.
I moved here with the big expectations to show my students how wonderful Earth (still) is. The kind of places where BIG HORN calls home.
But this is not about me or what I like. This is about respecting the land and Its Inhabitands. It is about preserving the land for future generations
This is about giving a voice to those who cannot defend themselves but they love this land more than I do.
In this shrinking world this is still their land, their home, their last refuge and its our moral responsibity to keep it that way.

0003



Written Comment Form

LOCATION: Las Vegas DATE: 1/23/18

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: Bob Fulkerson

Organization: PLAN

Address: [redacted]

City/State/Zip:

☒ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☐ No, do not include my name and address on the mailing list.

All comments will be fully considered in the Final LEIS without providing a full address.

THANK YOU FOR YOUR INPUT.
COMMENTS MUST BE POSTMARKED BY MARCH 8, 2018 TO BE CONSIDERED IN THE FINAL LEIS.

PLEASE PRINT LEGIBLY.

The singlemost dangerous threat to the USA is Donald Trump and his collusion with corporations and the Russians to line his own pockets. The USAF can take over the entire state of Nevada, and that threat would remain.

More land and airspace in the hands of the military will not make this country secure.

0004

I would like all of you to Visualize a white piece of paper. Then. Visualize Lines on that paper

Now put musical notes on that paper. Think about how much - Soft music, Lullabies, Soothing Hymns, anything that brings harmony.

Now, Take that memory and imagine all those Notes Now looking Like a Giant Paper of Loud, Jumbled, Bold, overtaking Lines that make you angry, upset, depressed Violent. This is what you ARE doing to yourselves and your families. Think ABOUT It!!

Please do more - as a Human Living on This planet. What is the effect of The Privately owned D.O.D Without paying you or your family any damages. Please! I beg anyone of you to think about your own Brains. The Brains of your children -

Now.. Take a look at ALL the Native, indigeneous, Ancestors of US All Practiced and participated in Harmonic Therapy. It Could Save

Millions of Veterans with P.T.S.D, Addiction, depression, ect. You Owe them above all to look into this personally Since they are You

0004

in the future. They are being mistreated already -
Dont let "Need to know" policy persuade you from knowing whats available to the public already by looking online - without your very watched devices and look at what is really going to happen with this. You are killing your own Brains.
Time to remember you are Not just your "Title"... You are a fellow human being on the Planet Earth.

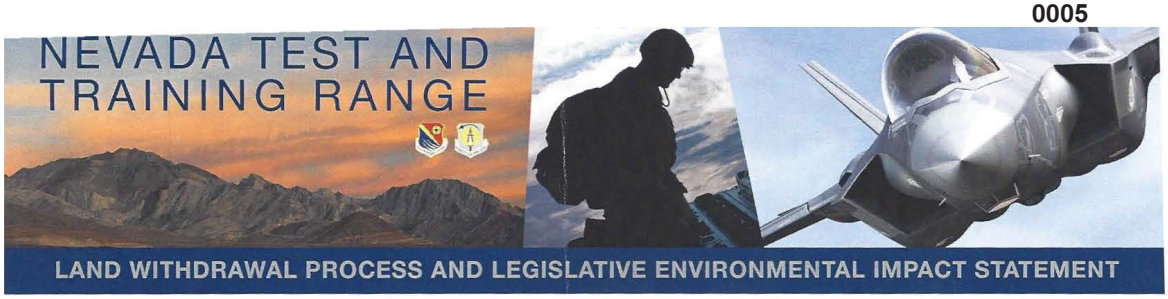
Think First

Please! as a fellow human being I like you alive and healthy - want that for yourself also.

Thank you All for the work you do - Congress

We love our fellow people - as you are - Dont Harm Yourselves or Us!

0005



Written Comment Form

LOCATION: ALIANTE CASINO DATE: JAN 23, 2018

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: GARY CAVALIER

Organization:

Address: [redacted]

City/State/Zip:

☒ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☐ No, do not include my name on

[redacted]

0006

As I See It

The Air Force is in the business of forcing its will on a target (enemy, entity or otherwise). Congress, as a governing body of our country, directs the Air Force as to who, what, where is the target. To this end Congress has put in place a series of Departments, Agencies, Services, Acts, and Laws all mandated with detailed documentation outlining form, fit, function, and requirements based on an evolution of trial and error.

Comes the Air Force with an idea to expand its peacetime (I assume it will be a peaceful) assault on the natural world. The Air Force already knows the targets it must attack because Congress has them structured neatly in a row. So the attacks begin and each of the targets fall to the will of the Air Force. Congress looks over the documentation with favor and makes its decision.

As a citizen of this country, my role is clear- DO NOTHING- I can't find arguments to stop the attack on the natural world. I can't find arguments to dissuade or limit the attack. Seems the best I can do is NOT give my blessing, bow to the scientific community reports and give comments:

BIOLOGICAL RESOURCES (I dislike the term "resources", wherever it is used it implies something that is to be used up, exploited or altered- perhaps we could substitute Biological Treasures)- I would like to see a management plan outlining Air Force requirements for care and propagation of all listed (T&E Federal and State) plant and animal species, similar to steps taken for Desert Tortoise and Gila monsters. Additionally, the plan would include periodic surveys to evaluate declines/increases. Plan would include oversight by independent agencies. It is my view that with all the state & federal listings of endemic, threatened, endangered, and concerned species of plants and animals in the extensive area of NTTR the Air Force must take on the role as stewards of the land and become wildlife managers similar to current wildlife refuges. BI-4

WATER RESOURCES ("Resources" implies use)- With all the documentation in this module I couldn't find who is responsible to STOP contamination if reports show parameters above (or below) established limits. Also, who is responsible for oversight? Are they independent of the Air Force? HZ-3

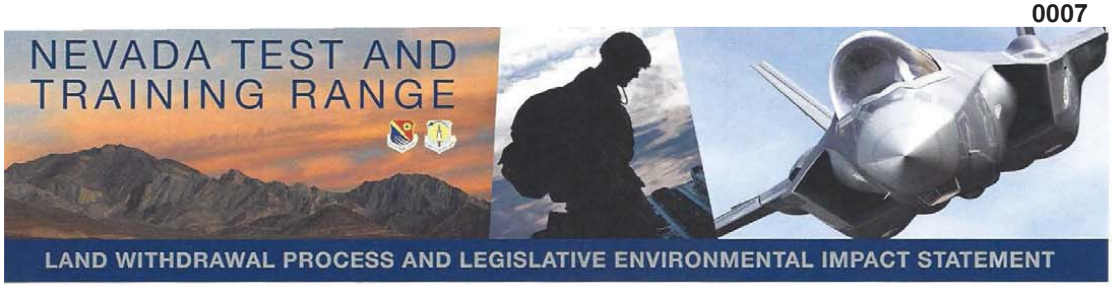
A great concern of mine is the contamination the groundwater aquafer. Those springs and seeps that supply water to Ash Meadows (and Death Valley springs) are potentially recipients of groundwater contamination that begins within the area of NTTR.

CONTAMINATION- Ground and water contamination at NTTR is established as a cocktail of pollution ranging from typical home products, mechanical & industrial products, radiological material including depleted uranium. Management of these materials are a major concern and while the documentation indicates some checks are in place to address human health and well being I see nothing to address plant, animal and environmental well being. I would like to see a budget in place to deal with the radioactive sites currently in the NTTR area (some 34 sites, I believe). Also, a budget (money allocated) must be in place to pay for clean-up of contamination that will occur in the future. Perhaps to assist with clean-up an inventory of munitions received and munitions spent could expedite the clean-up process, at least have some numbers for collection during clean-up operation. Are our allies (using the facility) contributing to NTTR management and site clean-up? HZ-4 HZ-1

Hal Fairfield - January 24, 2018

Hal Fairfield
Volunteer Fish Biologist
Ash Meadow NWR
[redacted]

0007



Written Comment Form

LOCATION: Beatty DATE: 1-24-18

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: Hank & Joi Brackenbury

Organization:

Address: [redacted]

City/State/Zip:

☒ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☐ No, do not include my name and address on the mailing list.

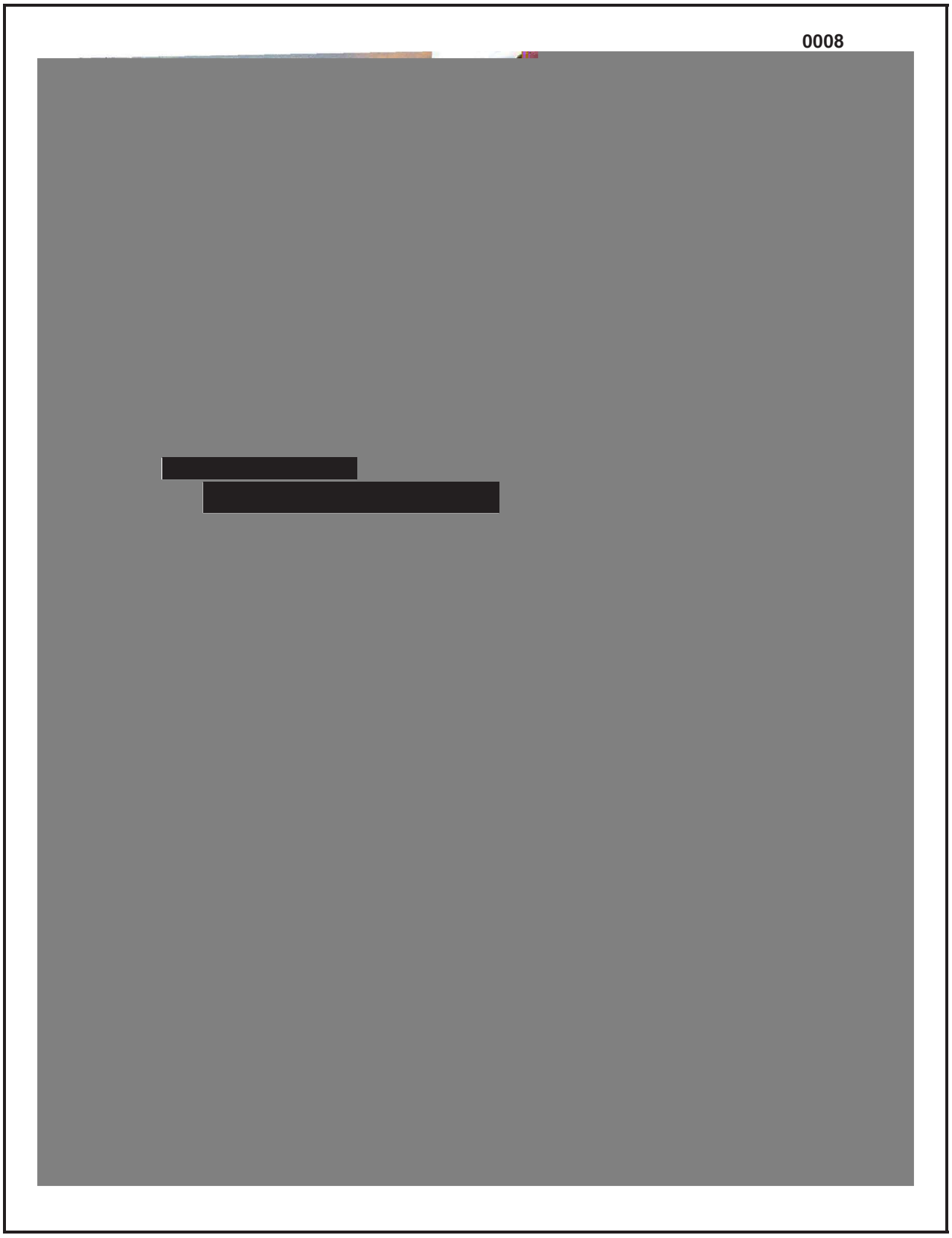
All comments will be fully considered in the Final LEIS without providing a full address.

THANK YOU FOR YOUR INPUT.
COMMENTS MUST BE POSTMARKED BY MARCH 8, 2018 TO BE CONSIDERED IN THE FINAL LEIS.

PLEASE PRINT LEGIBLY.

The proposed withdrawal takes our BLM land east of the ranch. If we are granted special use to graze (on NTTR), will this grant carry over to future ranch owners? I.e. be "grand-fathered" in as a grazing right?

LU-3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[redacted]
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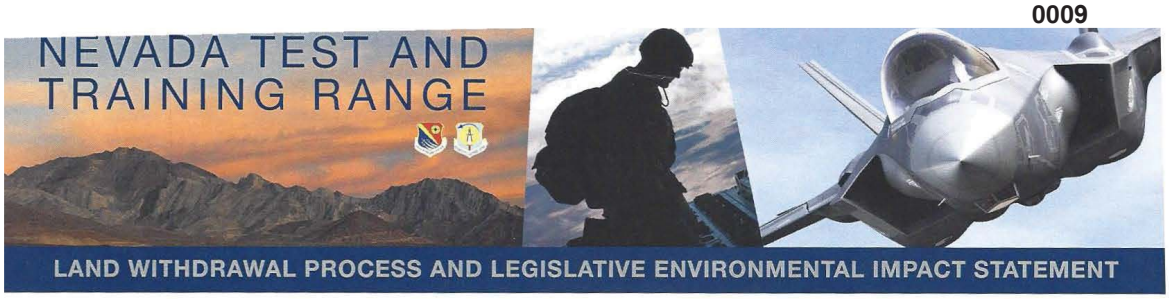
0009



Written Comment Form

LOCATION: Allante DATE: 1/23/2018

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: Julia Occhiogrosso

Organization: [redacted]

Address:

City/State/Zip:

☐ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☐ No, do not include my name and address on the mailing list.

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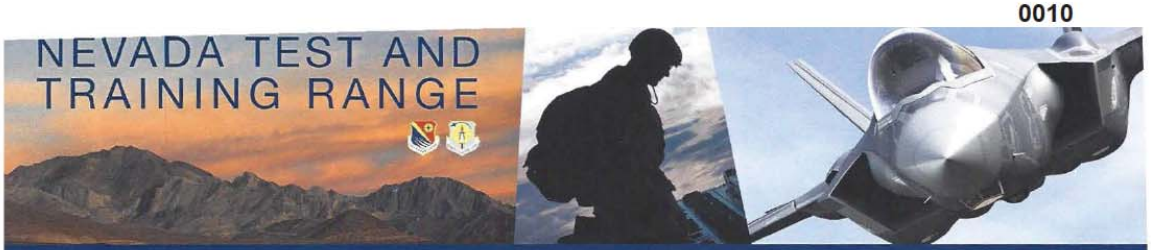
THANK YOU FOR YOUR INPUT.
COMMENTS MUST BE POSTMARKED BY MARCH 8, 2018 TO BE CONSIDERED IN THE FINAL LEIS.

PLEASE PRINT LEGIBLY.

I am totally opposed to any expansion. There is nothing positive about developing more distructive tactics. The U.S. has enough fire power + weaponary to do enough damage. It is time to look at alternatives to violence.

The consistent use + destruction of the natural world for military endevors has got to change.

0010



Written Comment Form

LOCATION: North Las Vegas DATE: 01/23/18

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: Kimberly Estrada

Organization: Progressive Leadership Alliance of Nevada

Address:

City/State/Zip: [redacted]

☐ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☐ No, do not include my name and address on the mailing list.

All comments will be fully considered in the Final LEIS without providing a full address.

THANK YOU FOR YOUR INPUT.
COMMENTS MUST BE POSTMARKED BY MARCH 8, 2018 TO BE CONSIDERED IN THE FINAL LEIS.

PLEASE PRINT LEGIBLY.

It is already bad enough that the current NTTR land expands into Paiute cultural land and into the Desert Wildlife Refuge, Proposing to take more of this land and to significantly and negatively impact the economies of Beatty and Alamo is government overreach and fundamentally injust. I strongly oppose any alternative that includes expansion. SO-1

0011

QUESTION (TO BE POSED TO THE MODERATOR OF THE NTTR LEIS PUBLIC HEARING)

Since the concept of "ready access" is integral to all alternatives except the *Status Quo* and the *No Action* alternatives, would you please spend a few minutes explaining (1) the *concept* and (2) the *limitations* of *ready access* as it's intended to be applied to range management and MCO test and training missions within the withdrawal lands, especially the South Range.

PA-2

Please address, especially, the *adequacy* element of *ready access* mentioned in Section 1.4.1* of the Draft LEIS which seems to convey the intent that the Air Force shall have completely untrammeled, unfettered control over the use of the withdrawal lands.

PA-3

***Ready access is operationally defined at Section 1.4.1 of the Draft LEIS as follows.**

Ready access consists of four essential elements: *adequacy*, *flexibility*, *timeliness*, and *variability*.

Adequacy means the *complete* ability to *fully utilize all* of the withdrawn land and its many features to meet NTTR mission requirements. [*emphasis added*]

Flexibility entails sufficiently permissive and cooperative management under applicable regulatory standards that allows the DoD and supported agencies to meet mission requirements, while

timeliness is described in terms of the ability to conduct mission activities in a time-sensitive manner relative to National Security timelines, including short-notice, urgent missions, following established measures for expediting any necessary coordination.

Finally, **variability** identifies the ability to adjust testing and training activities over time, including realignment of sites on lands withdrawn for the NTTR and varying the uses of such lands to meet DoD and Establishing ready access in the South Range would considerably increase the capabilities there for MCO test and training missions.

SUBMITTED BY: Larry Dunn [redacted]

animals. Potential roads and fences will destroy the natural mobility of animals

0012

Marisa Lindsey
[redacted]

23 January 2017

US Air Force

To Whom It May Concern,

The Desert National Wildlife Refuge (DNWR) is a vital part of Nevada. It became a refuge in 1936 and since then has become the home for thousands of plants, insects, birds, mammals, and reptiles. This refuge ensures a protected area where animals can thrive and prosper.

The proposal by the Air Force to take up to 75% or 1.2 million acres of the 1.6 million acres of land that comprises the refuge will do irreparable damage to wildlife and the people who recreationally enjoy this area. The DNWR is home to the desert tortoise and bighorn. If the Air Force gains control of parts of the DNWR, damage will inevitably destroy the habitats for these much beloved animals. Potential roads and fences will destroy the natural mobility of animals' movement across the desert that is imperative to their survival.

BI-1
LU-1

BI-1
BI-1
BI-5

First and foremost this area that is the DNWR is a refuge for wildlife. I want to keep it a refuge. This land must be preserved, protected, and kept out of the hands of the Air Force. Secondly, the DNWR is one of the best places to recreate. Hikers and nature enthusiasts like myself have spend many days and nights respectfully exploring this vast desert refuge. The land belongs to the wildlife who call it home and to Nevadans who enjoy its wonderful landscape.

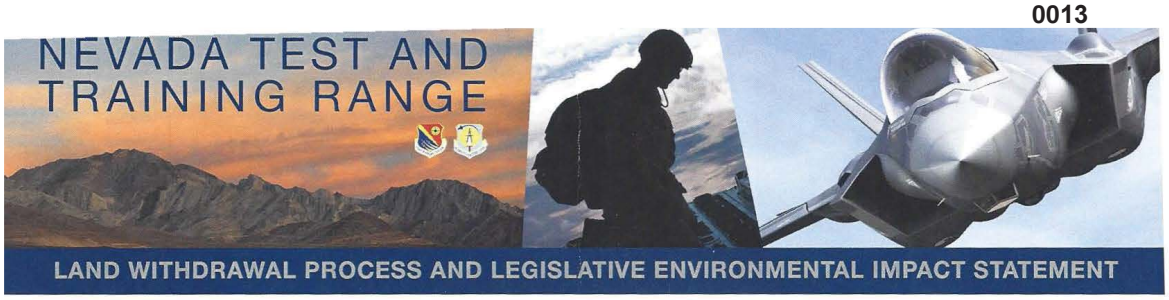
I am opposed to this hostile takeover of the DNWR by the Air Force, and I speak for all those bighorn who cannot speak for themselves.

Sincerely,

Marisa Lindsey

☑ YES include my name on mailing list

0013



Written Comment Form

LOCATION: Alante DATE: 1/23/18

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: Maurice B. Friedman

Organization: Sierra Club

Address: [redacted]

City/State/Zip: [redacted]

☑ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☐ No, do not include my name and address on the mailing list.

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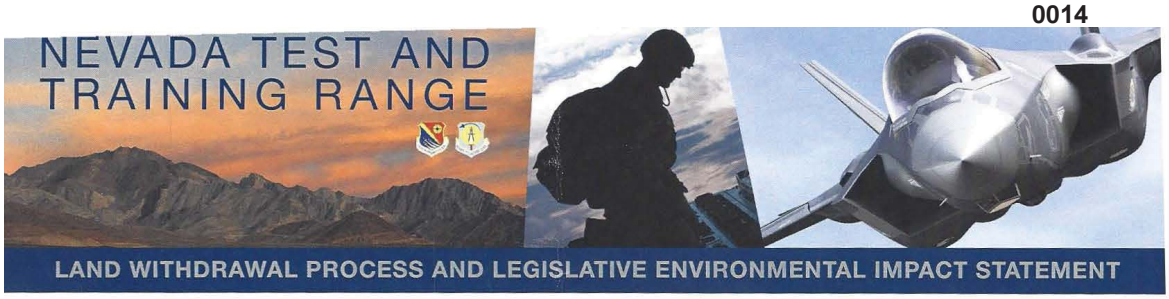
THANK YOU FOR YOUR INPUT.
COMMENTS MUST BE POSTMARKED BY MARCH 8, 2018 TO BE CONSIDERED IN THE FINAL LEIS.

PLEASE PRINT LEGIBLY. I oppose development on the Desert National Wildlife Refuge - I see this as damaging to our environment - Public Land needs to remain un "developed." The military has enough land now.

0014



Written Comment Form

LOCATION: Alamo DATE: 1/23

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: Mili Hartizela

Organization: Educator

Address:

City/State/Zip:

☐ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☐ No, do not include my name and address on the mailing list.

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THANK YOU FOR YOUR INPUT.
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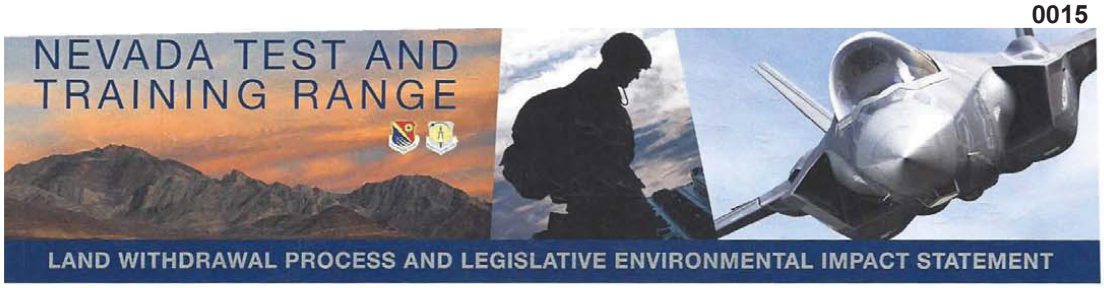
PLEASE PRINT LEGIBLY.

All in all I feel that despite our public comments & pushback the military will obtain this land. What saddens me is that in the last year I have seen Bears Ears taken from the public to be used to exploit oil & now the National Wildlife taken to be used for the extension of military use. As an educator it is sad to see our funds go to this. With regards to a compromise it would be advisable to allow an allotted time for public access. We should be allowed to see the land & if it is so pristinely preserved as the scientists working say we should be allowed to see a land well taken care of.

LU-2

0015



Written Comment Form

LOCATION: ALIANTE CONFERENCE DATE: 1/23/2018

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: NANCY J. OLDS

Organization: SIERRA CLUB

Address: [redacted]

City/State [redacted]

☒ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☐ No, do not include my name and address on the mailing list.

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THANK YOU FOR YOUR INPUT.
COMMENTS MUST BE POSTMARKED BY MARCH 8, 2018 TO BE CONSIDERED IN THE FINAL LEIS.

PLEASE PRINT LEGIBLY: I AM NEW TO THE AREA. WE ARE ORIGINALLY FROM RESTON, VA, VERY CLOSE TO WASHINGTON D.C. WE, my HUSBAND & I, WE BOUGHT A HOME IN [redacted] BECAUSE WE LOVE THE BEAUTY OF THIS REGION. WE WANTED TO ENJOY THE RECREATIONAL ACTIVITIES, BOATING, SCUBA (LAKE MEAD), HIKING AND MUCH MORE. I AM A PROFESSIONAL PHOTO JOURNALIST. I ENJOY WILDLIFE PHOTOGRAPHY AND HAVE DONE THAT EXTENSIVELY ON THE EAST COAST. I'VE ALSO BEEN A MEMBER OF THE SIERRA CLUB BACK EAST AND I RE-JOINED THIS NON-PROFIT AFTER MOVING HERE. AFTER A MEETING WITH THE SIERRA CLUB I LEARNED ABOUT THE ISSUES ONGOING WITH THE USAF AND THE PUBLIC LANDS BELONGING TO THE DESERT NATIONAL WILDLIFE REFUGE. AS A NEW RESIDENT AND ENVIRONMENTALIST, I AM CONCERNED ABOUT THE PROPOSED IMPACT TO ENDANGERED WILDLIFE, POSSIBLE BLOCKAGE OF ROADS, REDUCED ACCESS TO PUBLIC LANDS AND SEVERAL ISSUES THAT COULD AFFECT WHAT WE ENJOY →

BI-1

LU-1

0015

WE ACTUALLY CAME HERE FOR; TO ENJOY AND EXPLORE THESE WILDLIFE TREASURES NEAR THE LAS VEGAS REGION. WE RETIRED FOR THE PURPOSE OF APPRECIATING THE BEAUTY OF THESE OUTSTANDING PUBLIC LANDS. ONE EXTRA CONCERN IS THE INDICATED 65 DECIBEL NOISE LEVEL AS NOT BEING TOO HIGH LEVEL NOISE. ARE WE JUST INCLUDING HUMANS? ANIMALS HAVE MORE ACUTE HEARING I DISAGREE!

NO-3

FOLD HERE SECOND

AFFIX STAMP

99th Air Base Wing Public Affairs
4430 Grissom Ave. Suite 107
Nellis AFB, NV 89191

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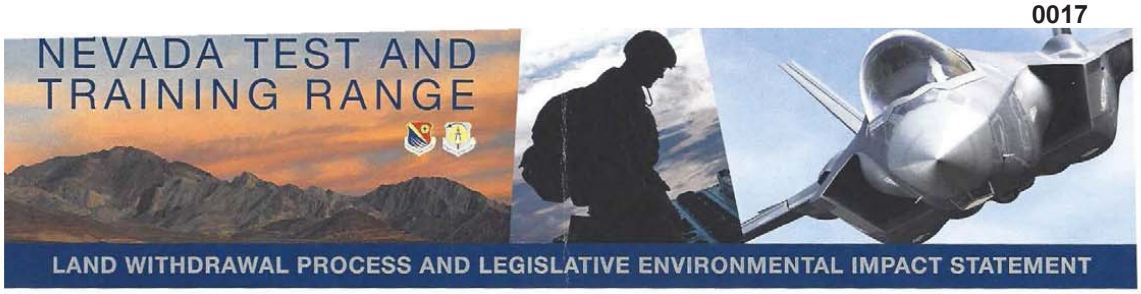
0016

0017



Written Comment Form

LOCATION: ALIENTE HOTEL DATE: 23 JAN 2018

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: STU GOLDSTEIN

Organization:

Address: [redacted]

City/State/[redacted]

☐ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☒ No, do not include my name and address on the mailing list.

All comments will be fully considered in the Final LEIS without providing a full address.

THANK YOU FOR YOUR INPUT.
COMMENTS MUST BE POSTMARKED BY MARCH 8, 2018 TO BE CONSIDERED IN THE FINAL LEIS.

PLEASE PRINT LEGIBLY.

THE PUBLIC HEARING HANDOUT, ON PAGE 13, STATES THAT "DUE TO PAST ACTIVITES AND LAND USE, CONSTRAINTS (I.E. CONTAMINATION) CERTAIN AREAS MAY CONTINUE TO BE RESTRICTED TO THE PUBLIC."

QUESTION: WOULD ANY OF THE ACTIVITIES OF ANY OF THE PROPOSED ALTERNATIVES ADD TO THE CONTAMINATION? (I SEE NO MENTION OF CONTAMINATION IN THE DESCRIPTIONS OF THE PROPOSED ALTERNATIVES.) HZ-3

THANK YOU VERY MUCH.

0018

January 23, 2018

United States Air Force
LEIS
Military Land Withdrawal of the Desert National Wildlife Refuge

Terri Robertson
[redacted]

Comments against withdrawal:

82 years ago a group of people came together with a common love for what we call the Desert National Wildlife Refuge. As someone who has been involved in four campaigns that required federal legislation to preserve land treasures in Southern Nevada, I know the time and effort that goes into such things. Right now one of those campaign areas is under siege. My heart breaks at the thought that Gold Butte's boundaries may be reduced.

When you visit the Desert National Wildlife Refuge today, you see it almost exactly like that group of people who worked so hard for the special land designation, saw it. Is that not a miracle in itself? All the beauty and treasures there are still available for anyone wanting to visit and to explore this wonderful place. They would be proud that the antique Ford truck still sits where it was left, that the springs still flow and the bighorn sheep and all the wildlife within are still there.

While I am asking for myself today that this military land withdrawal be stopped in its tracks, I'm also asking on behalf the wonderful group of citizens, 82 years ago, who know the importance of preserving the refuge and worked to make it so.

This request is a travesty that has to be stopped. Our community will not allow it to happen. We stand as strong today as those citizens did in 1936. Not now, not in another 82 years, not ever.

0019

From: Lawrence Walker
To: nttrleis
Subject: EXTERNAL: Comments on Desert National Wildlife Refuge
Date: Sunday, February 18, 2018 3:52:55 PM

Dear Folks: I am appalled that the military is attempting to take over more of the DNWR in southern Nevada. As an avid hiker, a biologist who studies disturbance and recovery of ecosystems, and a researcher who has examined bristlecone pine regeneration in the Hidden Forest area and Hayford Peak areas, I understand the importance of maintaining ecosystems intact for flora, fauna, research, and recreational activities. The initial usurpation of a large proportion of the DNWR during WWII was unfortunate. This latest land grab should be no means be allowed. While there can be ecological benefits of fenced off military bases (such as the exclusion of invasive animals) the overall effect of bombs, tanks, fuel dumping, and other military maneuvers is near irreversible destruction of the terrain. I have written about these subjects in several of my books, collating information from several bases. We know from the mountain lion studies in the Sheep Range (conducted by Dr. Kathy Longshore and other USGS scientists) that larger than normal territories are needed for large animals in arid lands. The original purpose of DNWR was to save the bighorn sheep populations. I do not think that "national security" is measured in better practice areas for fighter jets but is instead measured by the health (and recreational dollars) of natural ecosystems that provide us with much more than just enjoyment, but with ecosystem services including clean water and air.
Please deny the military their requested expansion into our valuable natural space.

PA-13

Sincerely,

Lawrence R. Walker
Professor of Plant Ecology
UNLV

--
Lawrence R. Walker
Professor of Plant Ecology
School of Life Sciences

0020

From: Stephen Lowe
To: nttrleis
Subject: EXTERNAL: DNWR & Nellis AFB request for 278, 000 acre expansion including access to Alamo Road
Date: Friday, December 08, 2017 9:51:33 AM

All:

In reading about Nellis AFB's request for an additional 278,000 acres, I note and object to any plan which so vastly reduces Nevada citizens' access to their own, extremely limited public lands, especially restrictions on Alamo Road and Mormon Well Road. LU-1

Nevada has the lowest percentage of State owned or controlled land in the US. Desert National Wildlife Refuge is one of the few of it's kind near the population center of Las Vegas. Federal control of lands force Las Vegans to drive extreme distances to get to places like DNWR.

It is a poor example for DOD and Nellis AFB to have no alternatives to offer the remaining users of this site, except to offer their "need" for such locations. Sure seems one sided to me, and myopic of DOD leaders. LU-2

Regards,

Stephen Lowe
[redacted]

0021

From: Debra Patla
To: nttrleis
Subject: EXTERNAL: DO not expand NTTR
Date: Sunday, January 21, 2018 8:12:47 PM

Dear Nellis Air Force Base,

As an American citizen, I highly value the Desert National Wildlife Refuge and its crucial role of conserving habitat for bighorn sheep in Nevada. When our country decides to set aside areas for wildlife protection purposes, that should be respected by loyal Americans who love our Homeland and care about the future.
The proposal to expand the Nevada Test and Training Range (NTTR) into the refuge is a disastrous idea.
You already have vast areas of our Homeland for war games, areas taken from the public and greatly harmful to wildlife and wild country. Our country has the armaments and expertise already to destroy the earth and most of its life, many times over. We can no longer afford to keep giving resources to the military, while 20% of the childrn in American are malnourished. Please select Alternative 1, to keep the status quo. Better yet, reduce the area of NTTR and reduce your spending. Seek non-destructive ways to preserve peace and protect our priceless heritage of freedom and Western landscapes.

Thank you,

Debra Patla

[redacted]

0022

From: Jane Hirshfield
To: nttrleis
Subject: EXTERNAL: I OPPOSE turning desert refuge into bombing practice ground
Date: Saturday, February 10, 2018 10:05:01 AM

I write to oppose the proposal to transform a carefully worked out setting aside of desert lands, currently a refuge for endangered tortoises and humans who appreciate the chance to experience wilderness, into an additional site for practicing bombings. The military agreed to this set aside because there are other areas to train in. There is no reason or need for that agreement to be changed, and irreparable damage will be done to yet another national treasure if it is. PA-1

Yours,

Jane Hirshfield

****

[redacted]

0023

From: Wick Beavers
To: nttrleis
Subject: EXTERNAL: NO NO NO NO NO!!!!
Date: Thursday, February 15, 2018 4:24:31 PM

Stay Away from Our Public Recreation Lands!!
No More stripping away Our Heritage!!!

VOTE NO to any deal that might give even a 1/4" of OUR LAND to the military!!

Grow Up!!

Sincerely,

Wick Beavers
[redacted]

0024

From: Steve Stern
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, January 16, 2018 10:36:52 PM

The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. and I am one of those people.

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Steve Stern [redacted]

0025

From: Guy Starbuck
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, January 16, 2018 7:39:38 PM

The Desert NWR was designated in 1936 to provide habitat and protection for desert bighorn sheep

Clearly, bombing practice in an area set aside by congress to protect bighorn sheep violates the purpose of the refuge. PA-1

The current status of the refuge should not change. If anything, public access to the refuge should grow larger.

The Air Force could do military exercises on its northern border towards Tonopah in areas were bighorn are absent. PA-5

Thank you,

cc: Nevada Congressional Delegation

Yours sincerely, Guy Starbuck [redacted]

0026

From: Kate Walker
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, February 11, 2018 3:32:24 PM

Hello,

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range.

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement.

Thank you for your time.

Sincerely, Kate Walker

[redacted]

0027

From: Chip Carroon
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, January 25, 2018 9:22:13 PM

I am writing in disapproval of the military's proposed acquisition of Desert National Wildlife Refuge land. The refuge provides protection for animals and protection of valuable landscapes that many people appreciate and use. After decades of using the huge amount of land that the military already has, including times of much greater military preparedness, I do not see a strong argument for their acquisition of even more land, and furthermore, if they want to destroy more land, I would suggest that they choose less valuable land farther from population centers. Thank you. PA-7 PA-5

cc: Nevada Congressional Delegation

Yours sincerely, Chip Carroon [redacted]

0028

From: Tim Buchanan
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment -
Date: Monday, February 12, 2018 1:03:04 PM

RE: Opposed to Military Expansion in the DNWR

The Desert National Wildlife Refuge, in addition to being the largest refuge in the USA and the home of the largest population of Desert Bighorn Sheep, is a unique area of public lands that is frequently-used by local residents and others to enjoy its wilderness characteristics and opportunities for solitude. It is a highly valued public resource in terms of its proximity to a major urban area, and the US Fish and Wildlife Service has proposed 70% of the DNWR's Great Basin mountain ranges and Mojave Desert valleys as Wilderness.

I am opposed to the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR. I also believe that all of the proposed Wilderness within the DNWR be designated as Wilderness and that public access should continue to be provided. WI-2 LU-1

The Desert Refuge was created specifically to protect the habitat of the desert bighorn. In the intervening It has become an important public lands resource for the public. I am opposed to Military Expansion within the DNWR. The Federal Government controls a huge area of the State of Nevada for defense-related activities and installations. We have sacrificed enough!

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Tim Buchanan

[redacted]

0029

From: Barbara michel
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Monday, February 12, 2018 12:50:01 PM

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement. I think the ecological costs of expansion are too great.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Barbara michel

[redacted]

0030

From: Kevin Parkinson
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, February 13, 2018 8:05:02 PM

The Desert National Wildlife Refuge is the largest wildlife refuge in the lower 48 states. It is an important natural habitat for bighorn sheep, and an unspoiled wilderness area.

I am writing to express my concerns about the military withdrawal proposal in the Desert National Wildlife Refuge for the Nevada Test and Training Range. I am worried about the damage that this action would have on the wilderness. WI-1

I don't want the land to be altered in any way to make way for training. I would prefer it if the military were allowed to train on the land as it is, without any construction or modification. It is especially important that the land does not lose its wildlife refuge status, because that would leave it vulnerable to construction in the future.

America is special because of its large stretches of empty land. It would be sad to lose some of those

Thank you.

cc: Nevada Congressional Delegation

Kevin Parkinson [redacted]

0031

From: Zack Ballinger
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 16, 2018 1:01:44 AM

Hello there, I'm Zack.

I haven't usually done these comments before, but lately I've found myself completing more and more. It's quite sad that you all feel the need to increase the bombing range, seeing as in all honesty it's completely unnecessary. You might think that it's just land, and the Bighorn Sheep and the rest of the delicate animals making up the ecosystem are just that, animals. However, this isn't just about animals. This is about protecting something that, to be honest, is the only thing the United States has going do it, especially when compared to other first world countries. I'm of course talking about our beautiful land. Having traveled all throughout the United States, Canada, and western Europe, nothing compares to the beauty of the USA. We have such a diverse natural system filled with unique, endemic/endangered species. The south west and Nevada (second only to Washington and Arizon) is my favorite place to visit. The land truly is wonderful, peaceful, and, even PA-1

though I'm not particularly religious, spiritual in a sense. I try to visit once every year or so, and it's a treat every time.

I'm sad though. I'm sad seeing all of our land being stripped away for profit or for some supposedly "vital" military training space. You might say it's just 200,000 acres, but there's always more to take, and it always happens. I've seen it. You only take a bit, but then you need more. Please, don't. Use what you have, there truly is not need for this. I'm sure you don't care what we the people have to say, but just know that we ARE saying something. I was given the option to just send a pre-written statement that was filled with examples and numbers, but I figured this was more personal and it meant more. Anyway, please listen to the comments, and just don't take from the people's land just to have a larger bombing range.

Thanks you for taking the time to read this, and have a nice day.

cc: Nevada Congressional Delegation

Yours sincerely, Zack Ballinger [redacted]

0032

From: Neha bali
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, January 17, 2018 1:26:19 PM

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Neha bali

[redacted]

0033

From: Mrinal Bali
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, January 17, 2018 2:55:43 PM

I am highly concerned about this military expansion into our lands.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Mrinal Bali [redacted]

0034

From: Wendy Dodd
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, January 18, 2018 2:41:16 PM

Many mammals have already been extirpated in Nevada. The bighorn sheep is our state animal. We can't take their home away too. Please don't bomb the bighorn sheep! I am not in favor of this proposal. PA-1

[redacted]

0035

From: Fawn Peterson
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, January 19, 2018 8:14:29 AM

My daughter lives in Nevada and we visit often. We enjoy spending time outdoors enjoying the wonder of Nevada. I do not like the idea of land and wildlife being destroyed. Let the Air Force make use of its current allotment for its training exercises.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Fawn Peterson [redacted]

0036

From: Tari Shibata Hawks
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, January 19, 2018 5:16:14 PM

I go to the dnwr a couple times a month. It is my peace, sanity, right-sizing get-away. I see bighorns a top the cliffs. You have no right to take their home away! To bomb, destroy that of which we did not create! Do not steal that land!!! Evolve!!! Try selflessness!!!!

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Tari Shibata Hawks [redacted]

0037

From: Sarah Mortimer
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, January 19, 2018 7:07:17 PM

The Desert National Wildlife Refuge is an important part of Nevada. The refuge was created to protect and preserve- what is the point of designating an area as protected, if it obviously is not protected and in danger of being withdrawn? I'm not only concerned for the bighorn sheep but for ALL species residing in this area of critical habitat. Please preserve this area to protect this important piece of our desert and the plants and animals that reside there. BI-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Sarah Mortimer [redacted]

0038

From: Kathy Jaeb
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, January 21, 2018 12:54:48 PM

Nevada is a state of wide open spaces. Why is it necessary to confiscate the big horn habitat? PA-5

[redacted]

0039

From: Harlan Stockman
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Monday, January 29, 2018 1:18:24 PM

I've read through the EIS, as well as EIS for several other modern bombing ranges. The stated "need" to expand into current DNWR territory on north Alamo Road is based on one assumption that we are asked to accept without documentation.

The assumed bomb "safety footprint" is oddly shaped, and this odd shape, when rotated 360 degrees, is what "requires" the acquisition of control for DNWR land. Without proof I can examine, I continue to believe this bomb footprint is fallacious. and note that the USAF could simply move some of their operations on existing land. PA-12 PA-5

No, I'm not an expert on bombing, but do have my PhD from MIT, have done lots of engineering studies for government entities, and I can smell BS from miles away. Please don't give me the BS about special new craft and bombs; other ranges are testing similar gear and don't produce huge bomb "safety" footprints. Unless the bombs are extremely defective or the pilots inordinately bad, no such long "tail" on the footprint is required. Yes, I know about the SNAFUs caused by poor laser guidance, and the solution to that problem is non-stupid placement of the lasers. PA-12

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Harlan Stockman

[redacted]

0040

From: John Wasserburger
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, January 16, 2018 8:01:20 PM

I strongly support Alternative 1 Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, John Wasserburger [redacted]

[redacted]

1

0041

From: Carol Corbett
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS
Date: Thursday, January 25, 2018 7:17:19 PM

I have lived in the Las Vegas area for 50 years and discovered what a wonderful place DNWR was early on. Over the years I have returned there to hike or drive through it, or simply to sit and enjoy the solitude. It is such a valuable resource. We need to hang on to areas like this that are within easy driving distance of a big metro area like Las Vegas. It gives people relief and restores their sanity. Not to mention the primary purpose of wildlife preservation in the reserve. That mission still needs to be respected as well.

I am in favor of Alternative 1 of the LEIS. I am not in favor of Alt 2 or 3 or any sub-alts..

I would also like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Carol Corbett [redacted]

0042

From: Marc Imlay
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Friday, December 08, 2017 1:25:58 AM

Be sure to include review of positive or negative impact on non-native invasive species, existing or candidate federal, state, threatened and endangered species, and plant and animal wildlife migration corridors. Thanks. BI-1

Marc Imlay, PhD,
MD Chapter, Sierra Club, Natural Places Working Group Chair
Chair, MAIPC Biological Control Working Group

Virus-free. [redacted]

0043

From: [redacted] on behalf of Ryan Carle
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 09, 2018 11:35:45 PM

11/27/2016

Dear Nellis Airforce Base,
I am writing to comment on the draft Legislative EIS for the proposed expansion of the Nellis Test and Training Range onto parts of the Desert National Wildlife Refuge (DNWR). I have several concerns with the proposed plan and the adequacy of your draft LEIS document.

First, I support Alternative 1 of the LEIS, which would maintain the status quo, allowing the air force to train on the already-huge current Nellis Test and Training Range while protecting the existing DNWR from disturbance. The military already controls and restricts access to over 3 million acres of land in Nevada; the current Nevada Testing and Training Range is 4,351 square miles**.** There is plenty of land already withdrawn in Nevada for military training. The proposed expansion of military operations onto the DNWR, 70% of which is proposed wilderness, is an unnecessary sacrifice of one of the few places in the desert southwest that has been set aside specifically to provide habitat for wildlife.

More specifically, I am concerned that the LEIS does not adequately address the impact on the federally threatened Mojave Desert Tortoise. I believe there has not been adequate assessment of how many desert tortoises are actually utilizing the proposed expansion area. As the "Appendix H-Biological Resources" section of the LEIS states, "No formal desert tortoise surveys have been conducted on the proposed expansion areas." A desert tortoise habitat model was used, which appears to indicate that the majority of the South Range is desert tortoise habitat (Appendix H of LEIS, Figs. H1& H2). Given the high likelihood that DNWR is high-quality desert tortoise habitat, a formal survey should be conducted since the habitat model has not been locally validated. One good cautionary example of the need for local information on tortoise habitat *before* project implementation is the Ivanpah Solar Project, where pre-project planning estimated 32 tortoises on site, but based on the number of tortoises found during construction, these numbers were changed to 162 adults and 608 juveniles (Brightsource 2013; Quartz magazine article, 2013). BI-2

Likewise, the proposed methodology for dealing with tortoises that get in the way of military operations appears to favor the military operations over the well-being of the species. It is clear that if tortoises are located in places the military would like to use for construction or live-fire training, the tortoises will simply be "cleared" of the area first via relocating them off site (Appedix H, page 12). The proposed standard policy would be to destroy any tortoise burrows in areas conflicting with military use, to prevent tortoises reentering dangerous zones (Appendix H, page 12).; however, this also means their habitat and burrows would be destroyed, with serious implications for their survival. The tortoise translocations proposed in this plan (remove the tortoises from site, up to 1,000 feet away), are over relatively short distances, but appear irresponsible for the well-being of the tortoises. For example, the recommendation to place tortoises in the shade under a shrub after collapsing their burrow (Appendix H, page 13)—as if the shade of a shrub made up for losing their burrow? A recent study found that translocated male tortoises sired zero hatchlings four years after translocation, indicating that translocation may result in significant negative impacts on tortoise reproduction and ultimately population health (Mulder et al. 2017). The impacts of the proposed translocations and collapsing of burrows for the Nellis expansion are unknown, but may be significant and negative for this threatened species—therefore, more study is needed before implementing this base expansion. Better yet, choose Alternative 1, and continue to protect the DNWR and its tortoises. BI-2

0043

I'm also concerned about the impacts that the proposed expansion would have on desert bighorn sheep. BI-1

The DNWR was created specifically to protect desert bighorn sheep. The extensive research documented in the LEIS is commendable; however it does not appear that the proposed actions of the LEIS square with the research findings—such as the fact that much of the proposed range expansion would be into important bighorn habitat (NTTR Large Mammal Report, Figs. 26-28), or the troubling decrease in lamb production in the study area (NTTR Large Mammal Report, Fig. 20). Your own research suggests to me that the expansion will disrupt critical habitat of a struggling population of bighorn sheep in an area that is currently the last, best protected habitat in the world for this species. For this reason, please choose Alternative 1, which will continue to protect this population. BI-3

Finally, this refuge is for people too--all people. The proposed wilderness areas in the DNWR should be designated as wilderness, so that proposals like this cannot happen again, and so people of all backgrounds can enjoy the spectacular wildlife, solitude, and rejuvenation of this desert refuge, free of the noise and disruption of screaming jets and exploding bombs. WI-2

Thank you,
Ryan Carle

[redacted]

Citations:
Brightsource Energy. 2013. Desert Tortoise Care and Protection at the Ivanpah Solar Plant. Brightsource Energy, Oakland CA.

Mulder, K.P., Walde, A.D., Woodman, A.P., Latch, E.K., Fleischer, R.C. 2017. No paternal genetic integration in desert tortoises (Gopherus agassizii) following translocation into an existing population, *Biological Conservation* 210(A): 318-324. doi: 10.1016/j.biocon.2017.04.030

Woody T. The imperiled desert tortoise is paying the price for the solar boom. Quartz magazine article, October 23, 2013. https://qz.com/138471/the-imperiled-desert-tortoise-is-paying-the-price-for-the-solar-boom/

0044

From: Carol Savonen
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 11:22:48 AM

I visited for a week, the Desert National Wildlife Refuge. As a biologist I was duly impressed that the country had protected this area, so close to Las Vegas. This area needs to stay protected. For animals, for the future of human beings, and because we don't need more bombing space so close to a huge city. PA-1

The Desert National Wildlife Refuge is amazing and was sorely needed by wildlife, as much of the desert in the area has been fragmented already by already established military areas. Animals like tortoises and big horn sheep need this refuge if we want to protect them as species, as they are sorely imperiled.

Sincerely, Carol Savonen

[redacted]

0045

From: roods4
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 9:20:38 PM

NO EXPANSION INTO WILDLIFE REFUGE. thanks

[redacted]

0046

From: michael neely
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Monday, January 15, 2018 6:53:48 PM

I'm in favor of this. You have to train like you fight like you trained.

Michael S. Neely
[redacted]

0047

From: Kelley
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Thursday, January 18, 2018 11:12:56 AM

Why in the world does Nellis need more land?

The U.S. has the largest military than the next 7 nations COMBINED-including China & Russia. You don't need to expand. Not to mention the impact on wildlife and taking land way from a Desert National Wildlife Refuge. Nellis has not been a good steward to the land they already control, why give it any more that it can ruin and mismanage? BI-1

Frankly, I've grown very tired of Nellis and their constant flyovers on my house, scaring my dog as well as ruining the peace at all hours of the day and night (as I write this at 7:30 in the morning, I am listening to the constant noise of the planes already). I even have a friend whose dog choked to death because a Nellis plane flew so low over their house while the dog was eating, it scared it and choked to death. So I am not inclined to let Nellis have any more land in Southern Nevada. Las Vegas now has 2 million people, perhaps it's time to relocate the entire base entirely instead of trying to expand Nellis. The future of the U.S. security and the military is not in bombing or aerial dogfights, it will be drones and cybersecurity. So why does Nellis need more land to make a "realistic" flying maneuvers? That is a very 20th century mindset, let's think in 21st century ideas. So NO on the land grab! NO-1

Kelley
[redacted]

0048

From: Rod T
To: nttrleis
Cc: Rodney Thompson
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Wednesday, January 24, 2018 1:22:05 PM

I am opposed to these expansions.

Rodney Thompson
[redacted]

0049

From: Beneth Morrow
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Wednesday, January 24, 2018 6:04:47 PM

The proposed Air Force Land Withdrawal in the Southern Range, nearest to Las Vegas, is a mere fragment of the 42 percent reduction of land still in the Desert Wildlife Refuge which the Air Force currently requests. No map or data was provided to show citizens a map of the refuge and the proportion already used by the military. PA-8

In the most accessible area near Corn Creek, boundaries would be expanded into the western slopes of the Sheep Mountains to an altitude of 4,000, effectively closing the unpaved Alamo Road and easy access to Joe May Canyon, Cow Camp Canyon, Hidden Forest Canyon, Dead Horse Canyon, and, for the adventurists, a Jeep trail as far as a dry lake and Rt. 93. Amateur botanists like me and my friends will be cut off from the nearby canyons with their spectacular stands of endangered indigenous Bearpaw poppies, forests of healthy Joshua trees, expanses of penstemons, Apache Plume, cliff roses, beaver tail cactus and desert wildflowers far more impressive than any other areas near our city. Many others, photographers, geologists, campers, hikers and stargazers retreat to the Sheep Mountains for solitude, beauty and quiet wilderness. PA-9 LU-1

Surely, somewhere in the vast NTTR which extends through three southern Nevada counties, military "access" areas can be found other than the Alamo Road, closest to Las Vegas and treasured by local naturalists. PA-5

Beneth B. Morrow
January 24, 2018

[redacted]

0050

From: [redacted]
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Saturday, February 03, 2018 1:11:57 AM

Below are my comments regarding the proposed expansion of the Nevada Training Range.

I feel that something is terribly wrong in our world when a government agency needs to take 1100 pages to explain why they want to do something. In this instance what they want to do is lock the public out of another 301,507 acres. However the public never is given more land to enjoy. LU-1

The Nevada Training Range already covers more than 2.9 million acres in Clark, Lincoln and
Nye counties. If the military can't manage to do their training on a piece of land that size perhaps what needs to be considered is who is conducting the training.

Unfortunately the military is no different than any other government agency – always wanting more from the citizens. Want to increase spending – no problem the people can give us more money – want to increase the size of the land we control – no problem the people can give up their multiple use. Well actually NOT.

I strongly disagree with proposed land grab.

I am part of the 5th generation of my family on both my Mother and Father's sides to live and enjoy the lands of Northeast Clark County. However, I continue to see with each stroke of a pen my ability to get out and enjoy the areas I grew up restricted and removed. I can remember enjoying the lands of Sheep Mountain. When it was designated the Desert National Wildlife Refuge, my opportunities to enjoy this area were restricted. When the Military started using part of it for training, my ability to enjoy it were further restricted. Now you want to make those restrictions permanent and not allow me any way to enjoy it.

Please do not proceed with this proposed expansion; in fact please request Congress to reduce the size of the Nevada Test Site.

Lola Egan
[redacted]

0051

From: Randy Mathews
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Thursday, February 08, 2018 4:42:06 PM

I'm a former Air Force Pilot and understand that the scope and scale of warfare has grown significantly requiring additional space to train both in the air and on the ground.

As an off-road adventurer I realize the need of open space for the expanding population in the Southern Nevada area.

There are two current examples where both can coexist:

1: The Marine land withdrawal at 29 Palms into the Johnson Valley OHV area.

2: The Berry Goldwater Range/Cabeza Prieta National Wildlife Refuge in South West Arizona.

In both examples absolute public exclusion is not required.

For that reason Alternatives 2, 3A-1, 3B and either 4B or A would be the most sensible actions.

PA-10

Randy Mathews

[redacted]

[redacted]

0052

From: gregory mckay
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Wednesday, January 10, 2018 6:30:21 PM

To Whom this concerns-
January 10,2018.

I support area to address your training and operational needs but would appreciate the opportunity to consider its impact on Off-highway vehicle operation. LU-4
It appears that Alternative 3A-1 appears most receptive to addressing our concerns the best.
I support this alternative and encourage you to work with OHV groups before your implementation.
Sincerely,
Greg McKay
Nevada OHV Commission member

0053

From: j urioste
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Proposed Legislation
Date: Wednesday, January 24, 2018 9:22:25 AM

Dear Sirs,

We have been avid wilderness hikers since my husband and I moved to [redacted] in 1974 (George took a position as Anthropology Professor at [redacted] at that time and taught for 35 years). We have done long hikes in the Sheep Range a number of times, particularly to the summits of Sheep Peak and Hayford Peak.

As our world grows, there is increasing pressure to nibble away at protected public lands. We would strongly propose that The Sheep Range remains open to public hiking.]LU-1

We would NOT like to see this land partially transferred to military use.

Thank you for considering our opinions.

Yours truly,
Joanne Urioste, RN
George L. Urioste, professor emeritus, [redacted]

0054

From: Christine Hein
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 2:34:20 PM

Dear Nellis Air Force Base,

If you need a place to practice bombing, go to the medical east where they are plenty of countries that support terrorism. Or take a look at China where they eat dogs and cats (disgusting) or even India whose human population is out of control and is slowly killing the environment. Please do not use the Mojave Desert, it is a refuge for animals. PA-1

Christine Hein

[redacted]

0055

From: kajsa ingelsson
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 2:54:36 PM

Dear Nellis Air Force Base,

Honestly, bombing animals? What is wrong with you? How would you like it if someone started to drop bombs on you? Please, recognize this nonsense and cruely for what it is and find another solution that harms no one. Thank you for your time. PA-1

kajsa ingelsson

[redacted]

0056

From: Vickie Tracy
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 7:38:37 PM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert.Why in God's name would you need to bomb an area where beautiful animals roam freely and in peace..please don't do this PA-1

Thank you,

Vickie Tracy

[redacted]

0057

From: Katherine Kelly
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Friday, January 19, 2018 5:08:25 AM

Dear Nellis Air Force Base,

I am the daughter of a Vietnam Veteran who flew F100s out of Phan Rang. He died young (service related but not combat related) or I would have him send this himself.

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Katherine Kelly

[redacted]

0058

From: Phillip Luchetta
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Friday, January 26, 2018 11:16:04 AM

Dear Nellis Air Force Base,

Hello, you already have nearly 3 Million acres. Please utilize that land and do not take any more. Im pro military but things like this make it difficult to stay that way.

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Phillip Luchetta

[redacted]

0059

From: Gilbert & Sonya Leyva
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Monday, January 15, 2018 10:59:11 AM

Dear Nellis Air Force Base,

We do not want the Desert National Wildlife Refuge to be appropriated for bomb test. It's designation was to protect the largest herd of desert bighorn sheep in the southwestern United States. Your land grab proposal will forever take public lands out of public hands. PA-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Gilbert & Sonya Leyva

[redacted]

0060

From: Emma Kelsey
To: nttrleis
Subject: EXTERNAL: No to expansion of the Nellis Test and Training Range
Date: Thursday, February 15, 2018 4:28:44 PM

Dear Nellis Airforce Base,
I am writing to comment on the draft Legislative EIS for the proposed expansion of the Nellis Test and Training Range onto parts of the Desert National Wildlife Refuge (DNWR). I have several concerns with the proposed plan and the adequacy of your draft LEIS document.

First, I support Alternative 1 of the LEIS, which would maintain the status quo, allowing the air force to train on the already-huge current Nellis Test and Training Range while protecting the existing DNWR from disturbance. The military already controls and restricts access to over 3 million acres of land in Nevada; the current Nevada Testing and Training Range is 4,351 square miles**.** There is plenty of land already withdrawn in Nevada for military training. The proposed expansion of military operations onto the DNWR, 70% of which is proposed wilderness, is an unnecessary sacrifice of one of the few places in the desert southwest that has been set aside specifically to provide habitat for wildlife.

More specifically, I am concerned that the LEIS does not adequately address the impact on the federally threatened Mojave Desert Tortoise. I believe there has not been adequate assessment of how many desert tortoises are actually utilizing the proposed expansion area. As the "Appendix H-Biological Resources" section of the LEIS states, "No formal desert tortoise surveys have been conducted on the proposed expansion areas." A desert tortoise habitat model was used, which appears to indicate that the majority of the South Range is desert tortoise habitat (Appendix H of LEIS, Figs. H1& H2). Given the high likelihood that DNWR is high-quality desert tortoise habitat, a formal survey should be conducted since the habitat model has not been locally validated. One good cautionary example of the need for local information on tortoise habitat *before* project implementation is the Ivanpah Solar Project, where pre-project planning estimated 32 tortoises on site, but based on the number of tortoises found during construction, these numbers were changed to 162 adults and 608 juveniles (Brightsource 2013; Quartz magazine article, 2013). BI-2

Likewise, the proposed methodology for dealing with tortoises that get in the way of military operations appears to favor the military operations over the well-being of the species. It is clear that if tortoises are located in places the military would like to use for construction or live-fire training, the tortoises will simply be "cleared" of the area first via relocating them off site (Appedix H, page 12). The proposed standard policy would be to destroy any tortoise burrows in areas conflicting with military use, to prevent tortoises reentering dangerous zones (Appendix H, page 12).; however, this also means their habitat and burrows would be destroyed, with serious implications for their survival. The tortoise translocations proposed in this plan (remove the tortoises from site, up to 1,000 feet away), are over relatively short distances, but appear irresponsible for the well-being of the tortoises. For example, the recommendation to place tortoises in the shade under a shrub after collapsing their burrow (Appendix H, page 13)—as if the shade of a shrub made up for losing their burrow? A recent study found that translocated male tortoises sired zero hatchlings four years after translocation, indicating that translocation may result in significant negative impacts on tortoise reproduction and ultimately population health (Mulder et al. 2017). The impacts of the proposed translocations and collapsing of burrows for the Nellis expansion are unknown, but may be significant and negative for this threatened species—therefore, more study is needed before implementing this base expansion. Better yet, choose Alternative 1, and continue to protect the DNWR and its tortoises. BI-2

I'm also concerned about the impacts that the proposed expansion would have on desert bighorn sheep. BI-1
The DNWR was created specifically to protect desert bighorn sheep. The extensive research BI-3

0060

documented in the LEIS is commendable; however it does not appear that the proposed actions of the LEIS square with the research findings—such as the fact that much of the proposed range expansion would be into important bighorn habitat (NTTR Large Mammal Report, Figs. 26-28), or the troubling decrease in lamb production in the study area (NTTR Large Mammal Report, Fig. 20). Your own research suggests to me that the expansion will disrupt critical habitat of a struggling population of bighorn sheep in an area that is currently the last, best protected habitat in the world for this species. For this reason, please choose Alternative 1, which will continue to protect this population. BI-3

Finally, this refuge is for people too--all people. The proposed wilderness areas in the DNWR should be designated as wilderness, so that proposals like this cannot happen again, and so people of all backgrounds can enjoy the spectacular wildlife, solitude, and rejuvenation of this desert refuge, free of the noise and disruption of screaming jets and exploding bombs. WI-2

Thank you,
Emma Kelsey

Citations:

Brightsource Energy. 2013. Desert Tortoise Care and Protection at the Ivanpah Solar Plant. Brightsource Energy, Oakland CA.

Mulder, K.P., Walde, A.D., Woodman, A.P., Latch, E.K., Fleischer, R.C. 2017. No paternal genetic integration in desert tortoises (Gopherus agassizii) following translocation into an existing population, *Biological Conservation* 210(A): 318-324. doi: 10.1016/j.biocon.2017.04.030

Woody T. The imperiled desert tortoise is paying the price for the solar boom. Quartz magazine article, October 23, 2013. https://qz.com/138471/the-imperiled-desert-tortoise-is-paying-the-price-for-the-solar-boom/

0061

From: Kevin Kitz
To: nttrleis
Subject: EXTERNAL: Opposition - NTTR Military Land Withdrawal Legislative EIS
Date: Friday, December 08, 2017 2:49:02 PM

Dear Nellis AFB and Idaho Congressional Delegation:

I am writing to oppose the proposed military expansion the Nellis Test and Training Range into the fragile Desert National Wildlife Refuge. The 300,000 acres of the Desert National Wildlife Refuge sought for withdrawal are beautiful and irreplaceable. I have spent many many weekends there before I lived in Idaho. Is our need to bomb so great that we can't make do with the enormous tracts of land we already have, but that we must now irreparably destroy lands being held for future generations? PA-1 PA-5

Some known facts which illustrate why this is such a poorly conceived idea.

1. It was created in 1936 to provide habitat and protection for desert bighorn sheep, when the footprint of humans in this environment was tiny compared to now. In short, then it was worthwhile then, now it is essential
2. The Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges, it provides the highest quality intact habitat for desert bighorn sheep and other wildlife that depend on the fragile ecosystem of the Great Basin and Mojave Desert.
3. 70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The area has been managed for over 40 years as wilderness, but the conversion to military reserve would destroy this investment in our grandchildren's future. WI-1
4. As populations increase, it shuts out the public from areas that have historically been heavily used for outdoor recreation, diminishing the quality of life for the citizens who the military serves. LU-1
5. Overall, this landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation.

As a citizen of the US, I strongly oppose conversion of any DNWR land toward an expansion of the Nellis Test and Training Range.

Kevin Kitz, P.E.
[redacted]

0062

From: ********** Navato
To: nttrleis
Subject: EXTERNAL: THE MILITARY SHOULD GIVE ALL THE LAND BACK TO STAY PRISTINE. THE LAND IS NOT HERE TO BE DESTROYED!!!!
Date: Friday, February 02, 2018 4:03:41 AM

Dear Sirs, we're not here on Earth to destroy it. Sincerely, Brian Timothy Navato.

By the way. I go by my middle name, that's why it's blank

[redacted]

0063

From: yvonne colon
To: nttrleis
Subject: EXTERNAL:
Date: Monday, February 26, 2018 1:56:12 PM

To Whom it may concern:

I recently read that the military has its eye on a section of the Mojave desert for training purposes.
It looks like according to a map that accompanied the article, that the military already has plently of land.
I really think that it is of great importance to keep as much land available to it's natural inhabitants as well as appreciative outdoors people such as myself..

Please keep this land out of the hands of the military.

Thank you.

0064

From: Carrie
To: nttrleis
Cc: Jimmy Carpenter
Subject: EXTERNAL: Desert National Wildlife Refuge
Date: Wednesday, February 21, 2018 4:22:51 PM

To Whom It May Concern:

I am writing this letter in opposition to the expansion of the Nevada Testing Range. My reason? The military has enough land out there in their disposal. You don't really need any more. Let Nevada be wild. The reason we love this state is because it's one of the few places left in the world where there is some open space to breathe.
I could say it's because of the impacts to the plants and animals, the spread of contamination and damage to the existing desert and groundwater table, but it's more than that.. it's freedom. Our land is a special thing.
Use what you have.. it's more than plenty!

Carrie Stowers
[redacted]

0065

From: Jerry Van Dyke
To: nttrleis
Subject: EXTERNAL: Nellis AF base expansion
Date: Wednesday, February 21, 2018 1:51:05 PM

The proposed expansion of Nellis AF base by the military is another example of the government controlling of public lands. Needing nearly 3 million acres is just such an encroachment on the publc's right of use of lands created by Pres, Rossevelt in so many park lands across the country. I am a frequent user of public designated lands, parks and open space and find it to be a great benefit as a senior citizen. While I understand the ever changing needs of our military to keep the country safe, I do not feel that segregating lands for the non use of the public serves the needs of the ever increasing senior population who are very active, not to mention our young people who are growing up with the appreciation and value of outdoor exercise and exploration. I would definitely vote NO on this expansion.

Jerry Van Dyke
[redacted]

0066

From: [redacted]
To: nttrleis
Subject: EXTERNAL: NTTR Land Withdrawal
Date: Wednesday, February 21, 2018 1:45:21 PM

I am opposed to the proposed reduction in the Desert National Wildlife Refuge. This area is one of the most biodiverse places in Southern Nevada. I have enjoyed hiking, camping and exploring this unique and beautiful area. Because access to the area is limited by the rough roads into it there is an inherently low risk to the public by the training at the Nevada Test and Training Range. Access to areas like the Hidden Forest and the rest of the Desert National Wildlife Refuge should not be sacrificed to expand the safety zone around the test range. The military is capable of positioning, operating, and maintain isolated electronic stations in the Desert National Wildlife Refuge and other portions of the proposed land withdrawal without excluding civilian access. Joint management with the U.S. Fish and Wildlife Service and the Nevada Department of Wildlife should continue. PA-12

Robert Zimmerman
[redacted]

0067

From: Ellen Hamil
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Thursday, February 22, 2018 12:25:16 PM

I am Ellen Hamil at [redacted] and I wish to comment on the proposed land withdrawal from the Desert National Wildlife Preserve.

I have lived in Las Vegas since 1992 and seen the tremendous growth. I also never knew about the Desert National Wildlife Preserve until last year, 2017. Now whenever I have company I make it a point to take them there and they are always impressed.

We need to preserve any open space we have in and around this city be it wilderness preserve or park. The city is in another growth spurt with the incoming NFL team and the newly proposed music venue. This means more carbon particles in the air, more macadam to hold the heat, more heat due to climate change, etc. A balance of open and undeveloped space is crucial for our future.

City growth equals environmental impact. Open and protected land means refuge for wildlife, solace for visitors, physical and mental balance for the inhabitants be they 2-legged or 4-legged.

Let's protect what we have and hope we can add to it in the future. We don't want to lose it to anyone!

Thank you. Ellen Morton-Hamil [redacted]

0068

From:	Kerry Esparza
To:	nttrleis
Subject:	EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date:	Saturday, February 24, 2018 10:14:10 PM

Hello, just wanted to comment that in the times our country is in I believe we need all the training necessary to defend ourselves.
And yes, sorry we are interrupting our lifestyles with added noise et cetera, we must sacrifice.
My family has known since Oct of 2015 what it means to be threatened in our present neighborhood due to noise caused by some kind of manufacturing and the sight of human trafficking going on.
So no longer do we live in a neighborhood that cares what the federal law say about everyone being entitled to quiet enjoyment in one's own home.
That is even after the local ordinances are mailed to them too.
So yes, I wholeheartedly support the military request. I have seen what a 'gang' of people can do when they are serving their own interests and trying to get rid of those of us who are the more law abiding persons.
Thank you for letting me express myself on this matter.
Kerry Esparza

0069

From: Bob Tyson
To: nttrleis
Cc: Bob Tyson
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Saturday, February 24, 2018 2:43:11 PM

I have read through the NTTR Military Land Withdrawal Legislative EIS. It appalls me that the removal of so substantial an area of public land and critical wildlife habitat is even being contemplated.

I write to express my opposition to the withdrawal or requalification as a military reserve of any lands in the Desert National Wildlife Refuge. The Air Force has ample alternatives, as the EIS itself clearly describes. The loss to public use, scientific inquiry into desert bighorn sheep and much more, and the damage to my deep pride as an American at so useless and unnecessary a step, would be tragic. LU-1 LU-5

I urge the EIS be taken seriously on its many points of fact for which withdrawing these lands will be a loss with no commensurate gain, either for national security or for the tangible and intangible benefits of continued public access.

Sincerely,

Robert R Tyson

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

0070

From: Bobby Shamim
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 21, 2018 8:01:39 PM

Dear Armed Forces,

Protect our lands. Literally.

Keep Nevada Wild.

Yours sincerely, Bobby Shamim

[redacted]

0071

From: Joe Klein
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 21, 2018 10:24:24 PM

This area is not just a desert. It's a place of refuge for many people. Please keep it protected!!

- Joe Klein

[redacted]

0072

From: Megan Ortiz
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, February 22, 2018 3:50:05 PM

The Desert National Wildlife Refuge is valuable land for not only recreation but for maintaining the ecosystem. Invading the land will drive out natural species, possibly bring invasive ones, and overall contribute to the dying out of certain flora and fauna of the desert. Humans are dependent on a surviving ecosystem to maintain their own health, and to dismiss this when the Air Force has plenty of room to begin with would be irresponsible and inconsiderate. BI-1

[redacted]

0073

From: Charles Truettner
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, February 22, 2018 3:50:31 PM

To whomever it concerns,

I have been researching in the Sheep Range in the DNWR for the last four years. This is a very important area in which we study how precipitation regimes are shifting, including the monsoon. Drought frequency and intensity rely on precipitation to lessen the effects on humans and ecosystems. Please save this area! LU-5

Sincerely,

Charles Truettner, PhD Candidate

[redacted]

0074

From: Brittany Carpenter
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, February 22, 2018 5:19:43 PM

Our wilderness is being destroyed every day. I am writing because I want to see it come to an end soon. Nevada is my new home, I haven't gotten to see all of it's beauty yet. Please don't take the land away from the people of Nevada and more importantly the wildlife that lives there. They cannot fight for themselves so I will. Every single day.

Thank you for taking our words into consideration, Brittany Carpenter “Home Means Nevada”

[redacted]

0075

From: Nora Kaufmann
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, February 22, 2018 5:31:01 PM

The Desert National Wildlife refuge is an amazing place. Beautiful mountain ranges, intact habitat for desert bighorn sheep and other wildlife, and a huge variety of different eco zones from Mojave desert to high alpine, make this unique refuge ideal for not only the animal that make it home, but for the humans that choose to seek solitude, adventure, and recreation within its bounds.

I am extremely concerned about the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. Once we ruin wilderness with our roads, developments, and other impacts, we do not get them back. Not only would the current proposal shut out the public from opportunities for recreation and exploration, it would erode the wilderness characteristics and threaten the wildlife populations that thrive in them. WI-1 LU-1 WI-1 BI-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

When I first moved to the state, I visited and volunteered on the refuge, and it was the first time I saw how beautifully and diverse Nevada's landscape truly is. I find the Refuge's wilderness characteristics to be inherently valuable, but I also feel that it is one of the last places where you can experience silence, solitude, and aloneness. I see value in human experience, wilderness, and pristine habitat, but I do not see value in military expansion in the Nevada Desert National Wildlife Refuge.

#dontbombthebighorn

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Nora Kaufmann

[redacted]

0076

From: joshua harrison
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, February 22, 2018 8:37:53 PM

I just moved to WY from NV. I love Nevada. The proposed expansion would also impinge on valuable habitat, for bighorn sheep, but also for other organisms. I moved to NV because of the outdoor opportunities. I love recreating out in the Great Basin…I would like to see that land protected. BI-1

If you can expand and maintain conservation priorities then I could possibly be on board with the expansion. It would be nice if the public could get some access to the land too. BI-4 LU-2

[redacted]

0077

From: George Breaz
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 12:11:24 AM

The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape.

I am writing In suppport of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub alternatives

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, George Breaz [redacted]

0078

From: Michael Boyd
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 8:58:35 AM

Hi!

I'm not from Nevada but have driven down 3 times now in the last 5 years from the Seattle area to hike in Southern Nevada – specifically the Desert National Wildlife Refuge.

I am really expansion of your bombing range and the effective closure of the road north from Corn Creek to Alamo. This will essentially make most of the Desert NWR inaccessible. This will essentially make tourism to the area impractical. PA-1 LU-1

Besides its sere appearance, there are great wildlife viewing opportunities that we're all going to lose if you expand the bombing area and close the road. PA-1 LU-1

I favor Alternative 1 among your choices.

Thanks for reading my viewpoint on this issue, and God bless you.

Michael Boyd [redacted]

cc: Nevada Congressional Delegation

[redacted]

0079

From: Katryn Davis
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 3:34:31 PM

I'm writing to express my profound concern over the the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. Our public lands and preserves are integral to our shared identity as Americans and residents of the west. Once development replaces our irreplaceable traseures they will be gone forever. I urge my Nevada representatives to prioritize the preservation of the Desert National Wildlife Refuge above the easy expansion of the NTTR.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Katryn Davis

[redacted]

0080

From: Stephen Hedgecock
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Saturday, February 24, 2018 2:08:50 PM

I'm a new resident to Nevada and Las Vegas. I'm originally from southern West Virginia, home of the New River Gorge National River. I moved to Vegas to work, the outdoor recreation, including the Desert National Wildlife Refuge, is one of the things that will keep me here. I can work anywhere in the country but I always seek out places rich and abundant in outdoor areas to explore. Leave the Refuge as it is.

cc: Nevada Congressional Delegation

Yours sincerely, Stephen Hedgecock [redacted]

0081

From: Francis Golden
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 9:44:26 PM

I find it difficult to understand why addition space is needed for a bombing range when the total number of combat aircraft and other offensive aircraft platforms have decreased to levels far below that of the Vietnam era. Between China Lake and other training areas within the operation area, there is adequate land if proper planning and coordinating is done. I refuse to bow down to lazy staff officers who choose the easy way out and simply demand more resources. Use what you have and use it well. PA-14 PA-5

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Francis Golden

[redacted]

0082

From: Elaine Carrick
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Monday, February 26, 2018 3:10:38 PM

TO: NELLIS AIR FORCE BASE RE LEIS DRAFT FOR DESERT WILDLIFE REFUGE I AM VERY MUCH OPPOSED TO TAKING 1.2 MILLION ACRES OF THE DESERT WILDLIFE REFUGE TO USING FOR BOMBING PRACTICE. I REALIZE BOMBING TRAINING IS IMPORTANT BUT SO IS OUR ENVIRONMENT & OUR NATURAL RESOURCES. I WOULD BE IN FAVOR OF ALTERNATIVE #1. THE BOMBING EXERCISES SHOULD NOT BE EXPANDED. OUR WILDLIFE & PUBLIC ACCESS TO THIS LAND SHOULD BE GIVEN PRIORITY OVER BOMBING PRACTICE. CURRENTLY THERE IS CONTINUAL DESTRUCTION TO OUR NATURAL ENVIRONMENT CAUSING STRESS ON OUR WILDLIFE DUE TO HABITAT LOSS FROM HUMAN DEVELOPMENT. WE DO NOT NEED TO TAKE AWAY MORE NATURAL ENVIRONMENT FOR BOMBING PRACTICE. PLEASE RECONSIDER THIS PROPOSAL & KEEP THIS WILDLIFE REFUGE IN TACT. THANK YOU. ELAINE CARRICK

PA-1

PA-1

PA-1

[redacted]

0083

From: Ashlyn Moreno
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 21, 2018 6:46:58 PM

I am writing to you today to express my concerns on the military expansion for the Nevada Test and Training Range and withdrawal proposals for the Desert National Wildlife Refuge. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

While I see the importance of national defense, I also feel passionately that the military can and should be able to use the vast land (over 2 million acres!) they currently manage to execute their mission. Public Lands are multi-use, meaning they should serve the interests of multiple groups. The Desert National Wildlife Refuge is not just Bureau of Land Management Land of National Forest Land, it is a wildlife refuge! It was established as a wildlife refuge in 1936 to protect the wildlife resources the area provides. Outdoor recreationists also find tremendous value in this pristine desert sanctuary. Additionally, indigenous groups who have historically used the land still consider the area to hold spiritual significance. If the military already has such a tremendous area of land, and a significant portion of refuge, co-opting more of the refuge does not move us any closer to the goal of management for multi-use? LU-2 CU-1

Wildlife, outdoor enthusiasts, hunters, indigenous groups, OHV users, all have expressed their favor for Alternative 1 – maintaining the status quo. The military moving forward with the proposed expansion would not at all reflect the democratic process that this nation was built on. It would be un-American for only one seat at the table to be allowed to execute their agenda at the expense of every other interests group's clear opposition.

I am only in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR. I am absolutely opposed to Alternative 4, which would allow the expansion to continue in perpetuity. The military's occupation of the Desert National Wildlife Refuge must continue to be reassessed for need every 20 years.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Ashlyn Moreno

[redacted]

0084

From: Melanie Croft
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS from Melanie
Date: Thursday, February 22, 2018 7:27:23 PM

Please don't use the Desert national Wildlife Refuge as more military training space! The wilderness is eternal, and flight training will be obsolete soon anyways. Everything is becoming drones now anyways.

SAVE OUR WILDLIFE REFUGE PLEASE!

Sincerely,

Melanie Croft Vice president of Nevada State College Student Body

[redacted]

0085

From: Frank Maier
To: nttrleis
Subject: EXTERNAL: Re: Comments regarding land withdrawal for military purposes
Date: Thursday, February 22, 2018 10:59:33 AM

The LVW NEWS reported 2.15.18 in an article, with pictures, that the military seeks more wilderness areas for the purpose of destroying it. When is enough enough? As can be seen on the picture, the military has already a tremendous land area, that they are currently using to play war. While the additional land wanted appears to be small by comparison to the land the already occupy, it represents 300,000 acres, no small potato. What this picture clearly demonstrates is, that the military has already grabbed a considerable land area, that the taxpaying people can no longer enjoy for recreational use. WI-1

The military may be a necessary evil, however, there has to be a limit on how much they can take from the public domain. Already the quality of life is severely impacted by tremendous noise pollution, caused by low flying jets over the homes of many. At times our homes and its contents are severely shaken in the process. NO-1

Merriam Webster defines Land Grab as follows.: a usually swift acquisition of property (such as land or patent rights) often by fraud or force.

We have become a nation where violence and destruction is all around us; our children are no longer safe in schools. Young impressionable minds absorb all this diet of violence we feed them with video games, depicting military brutality at every turn. The AK-47 and AR-15 weapons have become the weapon of choice to kill our children in their classrooms. Instead of preserving wilderness areas for the present and future generations for peaceful, educational, and recreational purposes, the military with their apparent unsatisfiable appetite for more land will diminish this opportunity. The military, who is to be ready to protect the homeland, from the enemy, looks now more and more like the enemy, by destroying our homeland. Land taken from the people is for all intense and purpose, land destroyed, along with nature and animals in it. When is enough enough?

_____

"Treat people as if they were what they ought to be, and you help them become what they are capable of being." Johann Wolfgang Goethe - Loose translation by FJM

"All that is necessary for the triumph of evil is that good men do nothing." Edmund Burke

"Loser quit when they fail. Winners fail until they succeed." – Robert Kiyosaki

Please join my effort for social change and visit http://frankjm-socialconcerns.blogspot.com/ and follow; there is strength in numbers.

0086

From: Amanda Jennings
To: nttrleis
Subject: EXTERNAL: Save the big horn!!
Date: Thursday, February 22, 2018 3:42:27 PM

Save the big horn!! cc: Nevada Congressional Delegation

Yours sincerely, Amanda Jennings [redacted]

0087

From: nan stevenson
To: nttrleis
Cc: nan stevenson
Subject: EXTERNAL: TAKING MORE LAND AWAY FROM PROTECTION...I"M AGAINST IT!!!!
Date: Monday, February 26, 2018 1:36:18 PM

I don't think appropriating this land will be helpful to you or the animals and habitat in the desert we are trying to save (from extinction). You have enough land already to bomb...you don't need any more....PLEASE reconsider this proposal....Can't we just have some quiet, beautiful places in this county? You have ENOUGH!!!!

0088

From: Lester Astro
To: nttrleis
Subject: EXTERNAL: Wildlife refuse
Date: Thursday, February 22, 2018 8:22:59 PM

Please do not destroy this wildlife refuge. Expand your base by Nellie airbase. We can't keep destroying the balance of nature. PA-5

[redacted]

0089

Comments by Alan O'Neill on the NTTR LEIS prepared by the Air Force

My name is Alan O'Neill. I am a 31-year resident of Nevada. I worked for the Department of the Interior for 34 years, the last 13 years as Superintendent of Lake Mead National Recreation Area for the National Park Service. I am very familiar with the military mission and presence in the California/Mohave Desert as I served as the National Park Service coordinator for implementation of the California Desert Protection Act. As part of that role, I helped set up and manage the California Desert Managers Group from 1995-2000. That Group included representatives of the six military bases in the California/Mohave Desert, including Nellis AFB. As a result, I believe I have a good perspective on the roles and missions of all the different governmental agencies that manage land in the Mohave/California Desert.

I believe the present Air Force proposal to expand their control over an additional 300,000 acres of lands in the Desert National Wildlife Refuge is a ***huge overreach*** and not justified at all. The adverse impacts of the proposed expansion of the NTTR on purposes for which the Desert National Wildlife Refuge was established and managed today would be enormous. It is clear to me that the Air Force is tunneled in their analysis of the proposed expansion of the NTTR and not looking at alternatives with the other military ranges to utilize the military operational areas in the Mojave/California Desert that are already withdrawn. There is, in my opinion, ample opportunity to develop a more integrated military response to nation-wide battlefield scenarios. What I have witnessed over the years is a lack of collaboration between the military branches at the field level to look at a truly coordinated response. The military branches seem pigeon-holed in their own needs rather than looking at options that may better serve the region and county as a whole, both militarily and from a perspective of doing our best to preserve America's heritage resources.

PA-5

There is a lot at stake here as it relates to how our country plans to balance the needs of national security with those to protect the most outstanding examples of our national and cultural heritage resources. To me, the Desert National Wildlife Refuge is one of the most significant landscapes anywhere in the United States and I have been to almost all of our country's outstanding natural and cultural heritage sites over my 52 years working on public land and conservation issues. Establishment of the Desert National Wildlife Refuge in 1936 was Congressional recognition that this landscape was important to our country in a preserved state, not one to be chopped to pieces through incremental military creep.

You simply cannot find a place this size in the lower 48 states that has been so un-disrupted by the presence of man. I tell folks that the drive on both the Mormon Wells and Alamo Roads is truly a drive-through wilderness experience. Virtually, the only visual elements of the presence of man are the narrow roads and a few modest recreational facilities. There are no transmission or electric lines or other man-made structures. This is amazing in today's world and will becomes even more valuable over time, as humankind even further encroaches on our natural landscapes.

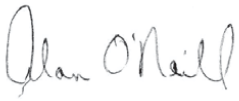
0089

I find this drive-through wilderness experience on the two Refuge core roads to be extraordinarily valuable, particularly for people with physical disabilities that cannot strap on a backpack and hike into a wilderness area. And to think this area is so close to major populations centers in the Southwest, and bordering Las Vegas, one of the fastest growing metropolitan area in the country. How in the world can you put a value on something that doesn't exist anywhere else in America. And to think we might lose this to what I consider a rather dubious effort by the Air Force to exercise complete control over an expanded area they simply do not need to carry out their mission.

Because man has very marginally disrupted this landscape, we have perhaps the most intact desert ecosystem in the country. The wide range of elevation, topography, and rainfall contribute to the habitat, wildlife and plant biodiversity present within the Refuge. I find it quite amazing that there are seven distinctly different life zones within the Refuge. The biodiversity present today is extraordinary, and the value of this to science in the future cannot be overstated.
The expansion of military jurisdiction over the majority of the Sheep Range would unravel these delicate ecosystems. A good example is the impact on one of the key species present on the Refuge, the iconic Desert Bighorn Sheep. Expanding the NTTR into an additional 300,000 acres could permanently displace desert bighorn sheep from seasonal crucial habitat as well as disrupt lambing in some areas. The results of this could significantly affect sheep population numbers and survival rates

BI-3

I recommend that Alternative 1 be the preferred alternative. This extends existing land withdrawal & management of the NTTR. This allows the military to continue their mission within the existing NTTR as it exists today where the U.S. Air Force and U.S. Fish & Wildlife Service share use and management of 846,000 acres where the Nevada Test & Training Range overlap the Desert National Wildlife Refuge. On these overlap lands, I believe it is critically important for the US Fish & Wildlife Service to have continued primary jurisdiction of land use. Adoption of Alternative 1leaves open the possibility that a bulk of the areas proposed by the U.S. Fish & Wildlife Service for wilderness designation can be designated by Congress in the future.



Alan O'Neill
[redacted]

0090

Tina L Bond-Kuglin

[redacted]

01/24/2018

Dear Nevada Test and Training Range,

My name is Tina L. Bond-Kuglin, I attended your public meeting on January 23, 2018 at Aliante Hotel and Casino. I did try speaking there but I am not good at public speaking. I am going to try with a letter to express my opinion on the proposed military land withdrawal of the Desert National Wildlife Refuge. First thing I would like to say is I am not against the military or any first responders. I am a proud parent of an Army National Guard MP and a sister to four brothers, one in each branch. I will always have their six!

My husband Roderick M. Kuglin was also present for the meeting and feels as strongly as I do regarding this issue. Both my husband and I are part of the Las Vegas Wheeling community. We run our own 4x4 group, called OUR LOCAL 4X4 GROUP, there are 35 other 4x4 groups in the Las Vegas area & we participate with several of them. Both my husband and my self participate in the Nevada Site Stewardship Program, we monitor several Nevada sites. We are partnered with the BLM with clean up project on the Coyote Springs gun range. We wish to continue being involved in our out-door community as much as possible with everything we can help with.

Another part of my life is my horse Toyota "FJ". I grew up on the east coast with horse for the 21 years of my life, along with hunting, fishing, wheeling basically anything that go you back to nature. So now here in Nevada even though I stall my horse, I load him in his trailer and take him everywhere. Special those trails on Alamo that you now wish to close. I don't live in Las Vegas for the tourism nor the gamble, in fact I didn't like living here until I got my off-road vehicle Toyota FJ Cruiser and began exploring Nevada and the surround areas. That passion for the out-doors grew even more when I got my horse FJ and got to explore even more of Nevada and the back roads.

0090

Now that you know why I am against the Military Land withdrawal of the Desert National Wildlife Refuge I have some questions and comments. There are so many closed military bases, why don't you utilize them? Have you researched any other states or locations for this purpose? On your map why are they skipping one section that would close off and square up your area for you? You talked about clean up at the meeting but, yet when I am on Alamo Trail dry lake bed it is filled with shrapnel from the military exercises. Why hasn't the military, implemented a yearly clean-up of all the surrounding areas?

PA-5

PA-11

HZ-1

So many groups, schools, clubs, organizations, and families use these trails and areas that the military want to take away. Most people that move to Vegas only come for the jobs, but when they discover Nevada has so much more to offer, specially the out-doors, they chose to stay. If the military keeps expanding there hold on the land, Nevada will lose economic growth, their community, their animals, all that is nature. Please don't expand on any more of Nevada land, we are against all proposals.

SO-2

Warm regards,
Tina L. Bond-Kuglin

0091

From: Defenders of Wildlife on behalf of Tina Arnold
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Please Stop the Military Takeover of Desert National Wildlife Refuge!
Date: Monday, March 05, 2018 10:08:52 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Why do we insist on destroying our natural environment?

Please do NOT let the military take over our Desert National Wildlife Refuge in Nevada.

Places like this are absolutely necessary to give our remaining wildlife a place to lead a natural, safe life. We cannot keep taking their habitat away from them.

Please do the right thing and stop the military takeover of our precious Desert National Wildlife Refuge!

Sincerely,

Ms. Tina Arnold
[redacted]

0092

From: Joslyn Rogers
To: nttrleis
Subject: EXTERNAL: Comment for Draft LEIS
Date: Saturday, March 03, 2018 7:35:46 PM

Dear Nellis Airforce Base,

I am writing to comment on the draft Legislative EIS for the proposed expansion of the Nellis Test and Training Range onto parts of the Desert National Wildlife Refuge (DNWR). I have several concerns with the proposed plan and the adequacy of your draft LEIS document.

First, I support Alternative 1 of the LEIS, which would maintain the status quo, allowing the air force to train on the already-huge current Nellis Test and Training Range while protecting the existing DNWR from disturbance. The military already controls and restricts access to over 3 million acres of land in Nevada; the current Nevada Testing and Training Range is 4,351 square miles. There is plenty of land already withdrawn in Nevada for military training. The proposed expansion of military operations onto the DNWR, 70% of which is proposed wilderness, is an unnecessary sacrifice of one of the few places in the desert southwest that has been set aside specifically to provide habitat for wildlife.

More specifically, I am concerned that the LEIS does not adequately address the impact on the federally threatened Mojave Desert Tortoise. I believe there has not been adequate assessment of how many desert tortoises are actually utilizing the proposed expansion area. As the "Appendix H-Biological Resources" section of the LEIS states, "No formal desert tortoise surveys have been conducted on the proposed expansion areas." A desert tortoise habitat model was used, which appears to indicate that the majority of the South Range is desert tortoise habitat (Appendix H of LEIS, Figs. H1& H2). Given the high likelihood that DNWR is high-quality desert tortoise habitat, a formal survey should be conducted since the habitat model has not been locally validated. One good cautionary example of the need for local information on tortoise habitat before project implementation is the Ivanpah Solar Project, where pre-project planning estimated 32 tortoises on site, but based on the number of tortoises found during construction, these numbers were changed to 162 adults and 608 juveniles (Brightsource 2013; Quartz magazine article, 2013). BI-2

Likewise, the proposed methodology for dealing with tortoises that get in the way of military operations appears to favor the military operations over the well-being of the species. It is clear that if tortoises are located in places the military would like to use for construction or live-fire training, the tortoises will simply be "cleared" of the area first via relocating them off site (Appedix H, page 12). The proposed standard policy would be to destroy any tortoise burrows in areas conflicting with military use, to prevent tortoises reentering dangerous zones (Appendix H, page 12).; however, this also means their habitat and burrows would be destroyed, with serious implications for their survival. The tortoise translocations proposed in this plan (remove the tortoises from site, up to 1,000 feet away), are over relatively short distances, but appear irresponsible for the well-being of the tortoises. For example, the recommendation to place tortoises in the shade under a shrub after collapsing their burrow (Appendix H, page 13)—as if the shade of a shrub made up for losing their burrow? A recent study found that translocated male tortoises sired zero hatchlings four years after translocation, indicating that translocation may result in significant negative impacts on tortoise reproduction and ultimately population health (Mulder et al. 2017). The impacts of the proposed translocations and collapsing of burrows for the Nellis expansion are unknown, but may be significant and negative for this threatened species—therefore, more study is needed before implementing this base expansion. Better yet, choose Alternative 1, and continue to protect the DNWR and its tortoises. BI-2

I'm also concerned about the impacts that the proposed expansion would have on desert bighorn sheep.The DNWR was created specifically to protect desert bighorn sheep. The extensive research documented in the LEIS is commendable; however it does not appear that the proposed actions of the LEIS square with the research findings—such as the fact that much of the proposed BI-1 BI-3

0092

range expansion would be into important bighorn habitat (NTTR Large Mammal Report, Figs. 26-28), or the troubling decrease in lamb production in the study area (NTTR Large Mammal Report, Fig. 20). Your own research suggests to me that the expansion will disrupt critical habitat of a struggling population of bighorn sheep in an area that is currently the last, best protected habitat in the world for this species. For this reason, please choose Alternative 1, which will continue to protect this population. BI-3

Finally, this refuge is for people too--all people. The proposed wilderness areas in the DNWR should be designated as wilderness, so that proposals like this cannot happen again, and so people of all backgrounds can enjoy the spectacular wildlife, solitude, and rejuvenation of this desert refuge, free of the noise and disruption of screaming jets and exploding bombs. WI-2

Thank you,
Joslyn Rogers

Citations:

Brightsource Energy. 2013. Desert Tortoise Care and Protection at the Ivanpah Solar Plant. Brightsource Energy, Oakland CA.

Mulder, K.P., Walde, A.D., Woodman, A.P., Latch, E.K., Fleischer, R.C. 2017. No paternal genetic integration in desert tortoises (Gopherus agassizii) following translocation into an existing population, Biological Conservation 210(A): 318-324. doi: 10.1016/j.biocon.2017.04.030

Woody T. The imperiled desert tortoise is paying the price for the solar boom. Quartz magazine article, October 23, 2013. https://qz.com/…/the-imperiled-desert-tortoise-is-paying-t…/

0093

From: Teri Harbour
To: nttrleis
Subject: EXTERNAL: comments on land withdrawal proposal
Date: Thursday, March 01, 2018 7:20:47 PM

Hello,

After reading an article about the proposed withdrawal of Desert National Wildlife Refuge land to go towards military use, I am very concerned. I live in Las Vegas and am witness to the endless sprawl and encroachment of material objects on our natural surroundings. It is imperative that we view this situation with a long-range lens. We may think we need this finite piece of land for present-day use but the impact over the long-haul will be exponentially detrimental to our fragile ecosystem. The decision we make today will most likely result in an irreversible devastation on the land and animals. We are all intricately linked to this ecosystem and it WILL negatively impact humans as well. I implore the military to find an alternate solution.

Sincerely,
Teri Harbour
[redacted]

0094

From: thomas wright
To: nttrleis
Subject: EXTERNAL: Desert National Wildlife Refuge
Date: Wednesday, February 28, 2018 11:47:44 AM

I am strongly opposed to the Air Force taking over part of the Desert National Wildlife Refuge. This protected area contains an amazing amount of biodiversity, both fauna and flora, which would be disturbed or even eradicated if subjected to Air Force maneuvers. Furthermore, from a human perspective, the Refuge is a wonderful escape from Las Vegas's urban sprawl.
Please reject the Air Force plan. Thank you.
Thomas C. Wright
[redacted]

0095

From:	Jimmi
To:	nttrleis
Subject:	EXTERNAL: DNWR
Date:	Tuesday, February 27, 2018 1:06:46 PM

I have lived in Las Vegas since the mid fifties. and have camped hiked and enjoyed the rustic beauty of DNWR. I believe it is important to protect this area and opposed the Military expansion. I Myself and several of my friends travel through and camp there several times a year. This remote area should remain protected and open, to be enjoyed by the public.

Thank you

Jimmi Meyer

--
Meyer and Associates
Wilfrid (Jimmi) W. Meyer
[redacted]

0096

From: Marilyn Benoit
To: nttrleis
Cc: Archive
Subject: EXTERNAL: Military Land Use
Date: Wednesday, February 28, 2018 11:25:49 AM

This is an email about my shock about the plans to withdraw land that is home to hundreds of species of animals and plants, used by the Moapa Band of Paiutes for their various needs, and available to all of us in Nevada to get away from the pollution and noise and stress of urbanization. My husband and I have been here since 1975, and moved here to enjoy the quick access to the serenity of nature. CU-1

After just fighting for the end of the practice of "collecting" reptiles for commercial use, thereby killing most of them and thousands of collateral dead, I was hoping for some relaxation. But NO, now I must try to explain that blasting the desert is not acceptable. It is not only wrong for the flora and fauna of the delicate desert, but also for the proximity to the ever-expanding population of people in the Northwest valley. Please stop this effort for the sake of all of us. Find a more remote and less damaging place to practice, please! PA-5

Thank you,
Marilyn Benoit
[redacted]

0097

Please don't take my Mountains AWAY. I like to hike and explore them.

JOCELYN

Jocelyn Rand
[redacted] yr. old
[redacted] resident.

0098

From: Bernard Riedel
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 8:19:07 PM

Good day. I am not in favor of the U S Air Force taking any more land. Every time the government needs any more land or money, they come back to the tax payer. Well, the U S Air Force can learn to live with they have, just like everyone else on a budget. Don"t come back everytime you need something. Live with you have. Once this land is gone, it will not come back to the public. I remember back in the 80s, the same land grab happened to protect the area 51from people looking at it from a mountain top ,miles away. So here we are years since that time ,asking for more. I say no more. Have the schedulers at Nellis ever thought of flying on Saturday and Sunday for this training time? No, because of the public complaining of the noise. Well ,everyone must sacrifice something for freedom. Hey, I was at the first meeting in the Alicante Casino. All they talked about was all the flights that are happening. Well, you are not using all the time in a week, hey fly on Saturday and Sunday. Use all the time available. War fighting does not happen 5 days a week,it happens every day.

PA-25

[redacted]

0099

From: [redacted]
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Wednesday, February 28, 2018 10:12:59 PM

My wife and I are opposed to the proposed increase in size to the Nevand Test and Training Range for the following reasons;
1. The current training range is nearly three million acres, covering an area 150 miles wide and 110 miles long.
The proposed land withdrawal would increase the size by between 18,00 and 27,000 acres.
2. The proposal would increase the aircraft and munitions noise by an additional 30 percent. The listed levels of sound, both subsonic and supersonic for the area where I live are listed as between 45 and 65 decibels with a claimed six sonic booms a day with an increase of one sonic boom.

the listed noise levels and sonic boom count are hopelessly optimistic. A regular passenger car produces more than 45-65 decibels of sound. Likewise, the sonic booms we have recorded have exceeded 10 in a single day. We used to record and report the sonic booms to the Air Force and were asked questions like "Did you get the tail number of the plane ?"
We never observed any change to the flying habits of the pilots and had to assume nothing had been done. We eventually gave up recording or reporting the sonic booms.
The current level of sonic booms has cracked our ceilings, window sills and exterior walls. Our pets have been so traumatised they have to be tranquilized during flight operations.
Flight operations and sonic booms occur any time from early morning to after midnight.

NO-2

NO-1

3. Current flights frequently involve air to air combat or ACM, over residential areas instead of in the training area away from civilian housing..
With the proposed increase in flights this would only increase the danger. Several years ago an F-15 crashed against the hillside only a few miles away.
4. The proposed withdrawal would take up to an additional 227,000 acres of land from the citizens of Nevada, preventing use for mining, grazing, hunting,offroad activity, camping or developement.

LU-7

0100

From: Shelley Stauffer
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, February 27, 2018 2:50:36 AM

Please please please!!!! Leave this area alone! I've been going out there for the past 25 years & have driven the old road to Alamo before! There's not only our precious & beautiful desert with all of the amazing wildlife but there is history! The petroglyphs are sacred & I just can't imagine you preserving them for a bombing range! I've been out there & to every county in this state…you have enough land! Leave this refuge alone!!!! Pretty please! PA-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Shelley Stauffer [redacted]

0101

From: Barb Giacomini
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, February 27, 2018 11:13:16 AM

The military in every state in the country already has huge tracts of land to bomb and train on. I am an archaeologist and i have been on many of those ranges. There is no reaon to expand any of these areas, bomb what has already been made available. PA-5 PA-1

cc: Nevada Congressional Delegation

Yours sincerely, Barb Giacomini [redacted]

[redacted]

0102

From: Roberta McIntosh
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, February 27, 2018 1:59:21 PM

I write to express my opposition to the withdrawal or requalification as a military reserve of any lands in the Desert National Wildlife Refuge. The Air Force has ample alternatives, as the EIS itself clearly describes. The loss to public use, scientific inquiry into desert bighorn sheep and much more, and the damage to my deep pride as an American at so useless and unnecessary a step, would be tragic. LU-1 LU-5

I urge the EIS be taken seriously on its many points of fact for which withdrawing these lands will be a loss with no commensurate gain, either for national security or for the tangible and intangible benefits of continued public access.

Sincerely, Roberta McIntosh

[redacted]

0103

From: Adam Mirochnik
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, February 27, 2018 11:14:33 PM

The Air Force should not be erasing land that protects wildlife and the bighorn sheep!

[redacted]

Please reply to Adam Mirochnik [redacted]

[redacted]

0104

From: Kimberly Barber
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 28, 2018 8:38:46 AM

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

I have been spending time in the DNWR for 27 years and it is the place that first challenged me to embrace therugged beauty of the desert. The 2nd time I was there to hike up to a cave I had seen the week before on a drive with a friend. My friend told me as we hiked that distance is tricky in the desert because you can't always see all of the terrain. And she was right! A few hours later as we reached the cave and looked down from that perspective I could see where the natural drainage wash had filled with huge boulders. We made that our path for descent and as I rested on one of the boulders, I understood.

I climbed higher on my feet that day than I ever had in my life and I did it in the heat of desert summer. I am from Michigan, a land of water and trees but not mountains and scorching sun. I learned who I was that day and I have returned again and again to remind myself.

I also recently brought my niece and nephew for the first time. We walked the paths by the visitor center and they can't wait to come back to experience more of the Refuge.

I am not scientist so all I can say is that I love the DNWR and it is the place I can go and completely be away from the city.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Kimberly Barber [redacted]

0105

From: Diana Arias
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 28, 2018 11:12:03 AM

Protect our nation's largest refuge. Please do not continue to encroach onnprotected land. Further destruction of this refuge can only lead to the ecological damage of the wildlife that deserves to remain in this designated area. Otherwise, wildlife will only be forced out into surrounding neighborhoods and put themselves and the public in danger. Please respect the protection set in place. It was put there for a reason. BI-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Diana Arias [redacted]

0106

From: Gaeble Jones
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 28, 2018 6:11:42 PM

Please save public land!! It's very important we preserve what is left of the natural world so coming generations have something to compare with. It means so much to me, my friends, and family, who enjoy this beautiful land and all its animals.

[redacted]

Please reply to Gaeble Jones at [redacted]

[redacted]

0107

From: Joseph Lankowski
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 28, 2018 6:27:41 PM

I am writing to you today to express my Disapproval of the plan for military expansion that would destroy our Wilderness and threaten the wildlife populations that live there. WI-1 BI-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today.

Furthermore, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness. WI-2

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Joseph Lankowski [redacted]

0108

From: Jordan Dills-weaver
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 28, 2018 7:36:43 PM

Please preserve the beauty of our desert for the public to enjoy. The history of Alamo road is too rich be cut off.

cc: Nevada Congressional Delegation

Yours sincerely, Jordan Dills-weaver [redacted]

0109

From: Mackenzie Davis
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 28, 2018 7:34:50 PM

First Bears Ears, now this, what next? Where is the wildlife supposed to go? Where are they going to go? Down the road, as people keep encroaching on more and more open space, we won't have any bighorn sheep or other wild species left. The animals and wildlife that have no say in how much land they get to roam will be diminishing. People can stand up for them and try and save space for them. Save the 200,000 acres of the Desert National Wildlife Refuge for the wildlife and the land that is still intact, because as other places are crowded and erased for human consumption, the wildlife that is still left need somewhere to go. Let this refuge be one of those places. What will 200,000 acres do for people that 2.9 million acres aren't already doing? That 200,000 acres of habitat and life that currently exists has more purpose and LIFE worth saving than it would benefit the Nevada Testing and Training Range. Don't bomb the bighorn, save the refuge, and don't be ruthless. PA-1

Yours sincerely, Mackenzie Davis

[redacted]

0110

From: Robert Anderson
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 01, 2018 4:18:33 AM

Though I am a veteran and support our military, I am concerned about military expansion and withdrawal proposals that will expand into the Desert National Wildlife Refuge from the Nevada Training Range.

I would like to see the proposed Wilderness outside of the current NTTR boundaries designated as a “wilderness area” and to provide for public access which is safe. Surely there is enough room in Nevada for military training and for public access to wilderness areas. The population of Clark County has grown by 250,000 residents in the last 4 years alone. Residents need to be able to access wilderness areas that are not restricted to the government alone. There is plenty of land for all of us. WI-2 LU-1

Thank you for your service to our country… and our people.

Yours sincerely, Robert Anderson

cc: Nevada Congressional Delegation

[redacted]

0111

From: Keri Vance
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 01, 2018 8:23:50 PM

I may only be 15, but I know that we NEED the wildlife refugee lands because if we as animals and humans don't have a quiet place to call home. I love visiting these areas with my family. If they disappeared then where would we go to do our recreational activities? We need the clean air for ourselves and the poor animals that are losing their homes because us as humans want to sprawl across all the land we can get. Hiking and trail running is one of my favorite activities and I would be very sad and angry to lose them. LU-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Keri Vance [redacted]

[redacted]

0112

From: Shawn Wheatley
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 01, 2018 5:21:34 PM

I am writing to you today to express my concerns on the current military expansion.

As a veteran I can appreciate the need for adequate training areas, however I cannot condone the expansion of sites which could be detrimental to the fragile ecosystem that our desert land is a part of. There clearly just needs to be better organization of the grounds already appointed to the USAF.

It's hard enough to survive in the desert, there's no sense in making it inhabitable for any living thing.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Shawn Wheatley [redacted]

0113

From: Sarah Jane Woodall
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, March 04, 2018 4:17:23 PM

Please leave the Desert National Wildlife Refuge alone! Vegas is already at the bottom of most lists as far as quality of life for residents… One of the only things we have going for us is the abundance of beautiful natural scenery and wilderness areas surrounding our city. Turning the dnwr into a bombing range just reinforces the stereotype of Nevada as a wasted wasteland that no one cares about. I have lived here longer than I've lived anywhere else and consider Las Vegas my home, I am very passionate about Nevada and enjoy sharing the beauty of Nevada with others on my YouTube channel. I am a huge booster for the state of Nevada, not just some nutjob hippie :-) PA-1

[redacted]

Please reply to Sarah Jane Woodall [redacted]

[redacted]

0114

From: Tom Harvey
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Saturday, March 03, 2018 12:07:53 AM

As an ex-member of the US Air Force and an active supporter of our natural resources I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range.

I fully understand the need for pro-active preparation to defend our nation, I shared responsibility for that preparation for 11 years. But I also understand the need to maintain a nation worth defending. As a nation we have so much to offer the world and it is important that we lead by example. Our planet's natural resources are finite; we cannot grow or manufacture more. And while some may consider the Desert National Wildlife Refuge just a small piece of the overall amount of land we have, and as such, expendable, it is land that harbors precious life and natural beauty that is there for us to enjoy. But, to enjoy it we must assume responsibility for protecting it, from ourselves. And, our obligation is not only to our own species but also to those species who cannot speak for themselves and are thus powerless to defend themselves and the habitat that is their home.

I ask that Air Force leadership and government officials consider what this land provides us; an opportunity to connect with nature, with our fellow members of the animal kingdom, and the peace that only nature and solitude can provide. Yes it is small in relative terms but it is priceless.

Respectfully,

cc: Nevada Congressional Delegation

Tom Harvey Henderson, [redacted]

0115

From: Daniel Carrick
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Monday, February 26, 2018 11:00:50 PM

Please do not change this important conservation area. Please leave this Refuge intact!

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Daniel Carrick

[redacted]

0116

Nevada Test and Training Range (NTTR) Land Withdraw Process and Legislative Environmental Impact Statement (LEIS)

Comment Date: March 2, 2018

Public Comments from: Hal Fairfield

POSITION: I am against the withdraw expansion of the South Range as proposed by the Air Force NTTR, Dated January 2018. Furthermore, I would support a move by NTTR to abandon claim to the South Range and have the area placed with Desert NWR (Desert) administered by U.S. Fish and Wildlife Service (FWS). Also, I would like the Air Force to reconsider their training and land use approach for the balance of the NTTR (both North and South Ranges) and share un-polluted lands with Bureau of Land Management or FWS (where appropriate).

LAND STEWARDSHIP: My opinion is that NTTR and the Air Force does not show good land stewardship for the entire land area under NTTR control. The fact that "mission" takes president over Integrated Natural Resource Management Plan (INRMP) indicates that the destructive nature of the military "mission" is incompatible with effective management of desert land and natural resources of the Mojave Desert. Furthermore, the integration of a natural resource management plan with a destructive military mission plan is impossible.

The use of a checklist to indicate Project, Goal, and Due Date (indicating Completed or Annual) falls short of management of T&E, Critical, or Sensitive species of plants and animals. If the NTTR is closed to public access how can wildlife assessment and discoveries of new species be made before they are lost to science (referring, in part, to aquatic habitats including rare invertebrates [i.e. springsnails]). While close coordination with FWS is indicated in the INRMP how can verifications be made by FWS if NTTR is a closed and secured area. I was informed at a public meeting in Beatty, NV on January 24, 2018 that the Air Force does the oversight for the NTTR- this is akin to the fox watching the hen house. LU-2

Currently, the shared use of South Range by NTTR and Desert NWR (with Desert NWR with primary administration) falls short of any cooperative effort- NTTR forbids entry acting as if they have exclusive use, but they are limited to the below 4,000 ft. elevation in specified locations.

0116

CONTAMINATION CLEAN-UP: I have a concern about the current and future contamination containment. The Ash Meadows groundwater sub-basin lies below the North Range of NTTR and this groundwater aquifer flows, then converges narrowly to the region of Ash Meadows NWR (ultimately flowing to Death Valley, CA). At Ash Meadows this groundwater is forced upward to supply the more than 20 springs that form the most unique desert spring systems in the United States and second (Quatro Cienegas in northern Mexico is premier) in North America. The area serves as home to three (3) species of fishes [one (1) species documented as two (2) subspecies], seven (7) species of unique plants and one (1) aquatic bug (naucorid) all of which are ESA listed as T&E species. Additionally, several plant and animal species in the area are endemic and not found or limited elsewhere in the world. HZ-1

The Air Force current management of ground/groundwater contamination is short sighted and leaves clean-up to future generations. The Air Force should be proactive in site cleanup and money should be budgeted to "clean-up as you go" rather than postponing contamination management to some unclear time in the future. This means cleanup of industrial waste, spent and live ordinance, radioactive contamination to ensure groundwater infiltration is eliminated thus protecting the fragile habitats and unique species at Ash Meadows NWR. HZ-1

If NTTR reverts back to public land or is shared access, then all contamination sites must be delivered clean, including industrial, ordnance, and nuclear waste types of contamination. HZ-1 HZ-2

GROUNDWATER PUMPING: Similarly, groundwater pumping by entities of NTTR needs to be curtailed to protect the Ash Meadows groundwater sub-basin aquafer to maintain critical water levels suppling the multiple spring at Ash Meadows NWR. See Contamination Clean-up, above for importance of Ash Meadows NWR. WA-3

DESERT BIGHORN SHEEP (Sheep): I am concerned with the management of the Sheep herd within the NTTR boundaries. I'm suspicious that Sheep hunt quotas are set using economics to distribute perks to a chosen clientele who may have influence beneficial to NTTR goals and not based on science. LU-6

SIMULATORS: The way I see it currently, air attacks are conducted by aircraft using live munitions to assalt ground based units (no air to air attacks are conducted at NTTR, at least not with live munitions). This means pilots are in no danger from ground unit attacks using live munitions. As planes move through the course "hits" are registered for the pilots score. This does not bode well for anyone or thing near the ground target. Additionally, I see no eminent danger to pilots, in fact it becomes a turkey shoot for them- how can this be remotely similar to battlefield conditions?

My suggestion for Air Force training of our pilots and our ally pilot's is to generate simulators as the primary training tool and abandon "live" ordnance training. This approach seems to me a more cost effective (and kinder to the PA-6

0116

environment) approach to training while supplying a tool that can be re-programed to simulate all sorts of battlefield scenarios.

I understand that you may believe that the better training is based on producing near battlefield conditions, however, the Air Force could establish air to ground sensors to detect electronic ordnance (= eOrdnance) being fired from aircraft and being detected as a "ground target hit". Conversely, ground to air sensors could be established to detect "aircraft target hit" by ground unit eOrdnance.

In this age of expanding populations and less limitless land we cannot abide exclusive access by a single entity for their exclusive use to destroy habitat, pollute freely, with ever expanding "needs" for more land and continuing the same assault on our natural resources.

This eOrdnance training concept would eliminate ground impacts by projectiles, curtail military ground usage (air space usage would continue), better protect our natural resources, allow actions to protect our endemic and T&E species, open exclusively held land to recreation, scientific study, and at the same time increase readiness of our Air Force to protect us all.

PA-6

CONCLUSION: Our Mohave Desert land area viewed through eyes of our fathers and grandfathers were to them "marginal wastelands" and were sacrificed to be strafed, bombed, blasted, and exploded with all manner of military hardware. This sacrifice was justified due to the eminent danger produced by World War II. While our current world is by no means any safer, we have the technology to produce superior training of our military and to do away with exclusive and expanding use of our natural resources. These natural resources, as our population expands, become more and more precious and we cannot afford to sacrifice our valuable "marginal wasteland" to unlimited and exclusive use of the military where alternatives exist to share land use.

For those of us who live here, the Mojave Desert is a place of wonder and excitement with changing vistas, recreational and exploration opportunities, which include plant and animal discoveries for either personal or scientific edification, and the pursuit of solitude.

Thank you for listening to my comments.

Hal Fairfield

0117

From: [redacted]
To: nttrleis
Subject: EXTERNAL: Preserve Desert National Wildlife Refuge All 1.6 Million Acres
Date: Tuesday, February 27, 2018 11:54:10 AM

To whom it may concern,

Please DO NOT WITHDRAW the parcels sought by military.
The Mojave is one of the most biodiverse places in the world and must be preserved as wildlife refuge and sacred land of Native Peoples.
Please preserve the 1.6 million acre Desert National Wildlife Refuge!!

Thank you,

Debra McGuire
Concerned Citizen
[redacted]

0118

From: Defenders of Wildlife on behalf of Antonia Shouse-Salpeter
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:56:18 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I am ABSOLUTELY opposed to the destruction and pollution of our national wildlife refuges by the military.
We KNOW that this will damage the land, pollute our waters and destroy wildlife.

NO WAY could the Desert National Wildlife Refuge in Nevada be used for military exercises without destruction and pollution of the environment and all the wildlife therein. Such a plan demonstrates NO WISDOM, NO WAY IS THIS PLAN ACCEPTABLE.

Sadly, none of the proposed alternatives evaluated in the LEIS fully analyze impacts of expanded military use of the refuge. PA-15

We are not alone on this earth, the Desert Refuge is home to desert bighorn sheep, mule deer, mountain lions and more than 300 species of birds.

Additionally, this is the ancestral homeland of Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. CU-3

It is time we sought alternatives to the brutality of war, this poison of war-making is behind every mass shooting in this country...the trickle down effect.

Sincerely,

Ms. Antonia Shouse-Salpeter
[redacted]

0119

From: Defenders of Wildlife on behalf of Daisy Kates
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:04:57 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

We need to do all possible to protect and preserve the precious wildlife that remains on our planet. This is the legacy we leave to future generations and we should do everything to protect this essential habitat and the continuation of species living in the refuge.

Sincerely,

Ms. Daisy Kates
[redacted]

0120

From: Defenders of Wildlife on behalf of Maggie Frazier
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:55:35 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

This brings back Pres.Eisenhower's comments on allowing the
"military complex" to take over our government!
Allowing aerial bombing in a WILDLIFE REFUGE - really? Other than the
destruction of environment, wildlife & their habitat - how exactly
is this going to benefit the military?
I think the Air Force should do a bit of research & education &
stop this attempt to "renew" its use of the NTTR.
Protect our wildlife & its habitat! Restricting wildlife from
their own habitat so that this arm of the military can play war?
NO

PA-1
PA-7

Sincerely,

Ms. Maggie Frazier
[redacted]

0121

From: Defenders of Wildlife on behalf of Laura Moore
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:58:14 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Laura Moore
[redacted]

0122

From: Defenders of Wildlife on behalf of Karen Agee
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:27:41 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Please study the impacts of military operations in Desert Refuge and continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). Three million acres should suffice. PA-15

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyzes the impacts of expanded military use of the refuge. Both recreation and habitat issues would need to be addressed. PA-15, LU-1, BI-1

Because the land coveted by the Military lies within the ancestral homeland of area Native American tribes, the Air Force must justify its proposed expansion while taking into consideration their cultural artifacts and tribal history, as required by the National Historic Preservation Act. CU-3

Sincerely,

Ms. Karen Agee
[redacted]

0123

From: Defenders of Wildlife on behalf of Frederick Hovey
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:31:05 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I strongly urge the U.S. Air Force to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). Losing any of the Desert Refuge will damage fragile eco-systems, lead to unnecessary extinctions, and degrade life on our planet.

Sincerely,

Mr. Frederick Hovey

[redacted]

0124

From: Defenders of Wildlife on behalf of Shelley Carda
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:57:19 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Calling something a 'refuge' and then using it for target practice is a lie at its very core. There are places that have been used for bombing and target practice so long that there are no living things left there. Those places are already decimated: continue to use them. PA-1

Expanding areas of total destruction on our own continent is, to put it mildly, inexcusably perverse. DO NOT DO IT.

Sincerely,

Mrs. Shelley Carda
[redacted]

0125

From: Defenders of Wildlife on behalf of Helen Caswell
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:57:18 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Our country needs its desert spaces and desert life to be preserved for future generations without our military worrying about killing wildlife species or future generations concerned about un exploded bombs.

It is so important that we preserve these areas. I urge you in the strongest way to think of the wildlife and habitat you would destroy or cripple with overflight training.

You have other options. Please don't chose this one.

Sincerely,

Ms. Helen Caswell
[redacted]

0126

From: Defenders of Wildlife on behalf of Brett Warnock
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:23:55 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Seriously, where is your humanity, people. You are still humans, yes? What is the purpose of a robust military, if we destroy the environment that sustains us? Is it worth destroying earth so that we can "win?"

Please, no expansion into the Desert National Wildlife Refuge.

Thank you,
Brett Warnock
[redacted]

Sincerely,

[redacted]

0127

From: Ellen Ross
To: nttrleis
Subject: EXTERNAL: Alternative 1 Against The US Air Force proposing to expand the Nevada Test and Training Range.
Date: Friday, March 09, 2018 1:15:22 AM
Importance: High

As a 40 year dedicated resident in the [redacted] I am strongly against the US Air force expansion. The US Air Force is proposing to expand the Nevada Test and Training Range over approximately 300,000 more acres of land now managed by the US Fish and Wildlife Service and Bureau of Land Management, in order to increase irregular warfare training, and for buffers for bombing targets in the military ranges (the military already controls almost 3 million acres here already, with no public access). This will close off recreational opportunities to the public, and prevent biologists from managing bighorn sheep in the Desert National Wildlife Refuge in the best and most transparent way. Hundreds of miles of fences will be built across the Sheep Range that may hinder wildlife movement and genetic connectivity. Increased bombing, over-lights. Explosions, over-flights and sonic booms will disturb bighorn sheep and other wildlife. More air traffic and bombing will increase the risk of wildfire on the refuge and elsewhere. The increased use of explosions will potentially contaminate watersheds in the Desert National Wildlife Refuge and the Amargosa River. More explosions may damage sensitive archeology sites. Close to 200 miles of public access to roads and mountain bike trails would be cutoff. This will hurt local economies.

Public land is also proposed to be withdrawn for military use near the town of Beatty NV, impacting recreation and pronghorn antelope habitat.

The existing base is 2.9 million acres – about the size of the state of Delaware. Please explore an alternative that utilizes the existing land on the base instead of impacting a cutting off access to an additional 300,000 acres of public land.

Please select Alternative 1 which maintains the Status Quo and allows the Air Force to continue existing operations while maintain existing access, and Alternative 4C--a 20-year withdrawal period before the next review.

LU-2
LU-1
LU-2
BI-5
BI-3
HS-1
WA-1
PA-1
CU-2
LU-1
SO-1
SO-3
LU-1
BI-1

Thank you and let's keep our desert native and natural!

Ellen Ross
[redacted]

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0128

From: Phillip Luchetta
To: nttrleis
Subject: EXTERNAL: Desert National Wildlife Refuge
Date: Friday, March 09, 2018 1:03:37 AM

The Air Force should not take this land from the public. It was designated for the benefit of bighorn sheep and is a real gem for Southern Nevada. There are fabulous outdoor recreational uses there that should not be lost.
Please utilize the 2.9M acres you already control!

Thank you.
Phil luchetta

0129

From: Defenders of Wildlife on behalf of Paul Grove
To: nttrleis
Subject: EXTERNAL: Desert National Wildlife Refuge
Date: Monday, March 05, 2018 1:25:11 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Public safety is a concern and I appreciate all the Air Force has done to upload our laws and national concerns.

A huge concern for us nationally is the preservation of our National Wildlife Refuges, especially the Desert National Wildlife Refuge in Nevada. For that reason, and as a former Nevadan who wandered these wilds, I strongly oppose increasing or changing the current boundary of the Nevada Test and Training Range (NTTR).

You have nearly three million acres, more than enough for testing and training, and although I support our armed service branches, I DO NOT support the invasion of our Desert National Wildlife Refuge or any other public lands.

Sincerely,

Mr. Paul Grove
[redacted]

0130

From: [redacted] on behalf of [redacted]
To: nttrleis
Subject: EXTERNAL: DOD - NTTR Military Land Withdrawal Legislative EIS
Date: Tuesday, March 06, 2018 5:51:51 PM

Dear .:

The Desert National Wildlife Refuge (Desert NWR) is a huge and special place. It has seven plant zones, six mountain ranges, 500 plant species, 300 bird species,50 mammal species, and 35 reptile species. But the refuge has more than wildlife habitat. It has 450 recorded prehistoric sites. And because it is close to Las Vegas, it is an important outdoor recreation area, used by many for hunting, horseback riding, camping, and hiking.

Remarkably, the U.S. Fish and Wildlife Service (FWS) is not the sole manager of the Desert NWR, as is the case at most of the nation's more than 500 national wildlife refuges.

That's because the U.S. Air Force (USAF) has access to about half of the Desert NWR, which it uses for testing and training. This has been made possible by a partnership between the USAF and FWS. The USAF has access to half of the Desert NWR, the FWS has primary jurisdiction, and the needs of the two organizations have been met through shared management of the refuge. This partnership has been a decades-long success story.

But this successful partnership is now threatened. The USAF has requested that Congress give them complete control ("ready access") to over two-thirds of the Desert NWR (about 1.1 of 1.6 million acres).

I oppose this request. If the USAF needs to expand their use of the refuge, that use should be jointly agreed upon and managed through the partnership that has worked so well for so long. According to the USAF, their proposed expanded uses in the Desert NWR will have minimal impact on the refuge's wildlife. If so, there is no reason it can't be managed by both partners.

Shared management of the Desert NWR has worked well and should be continued. I ask that you deny the USAF's request for ready access to more than two-thirds of the Desert NWR.

Sincerely,

Todd Paddock
[redacted]

0131

From: [redacted] on behalf of [redacted]
To: nttrleis
Subject: EXTERNAL: DOD - NTTR Military Land Withdrawal Legislative EIS
Date: Tuesday, March 06, 2018 7:11:45 PM

Dear .:

I have been a volunteer in the National Wildlife Refuge System for 18 years. I was concerned to hear that the Air Force is requesting primary jurisdiction over 826,000 acres of the Desert Refuge, plus an additional 260,000 acres of the refuge.

The relationship between the Air Force and the US Fish and Wildlife Service has worked effectively up until now and I don't see any reason for it to change. Our public lands are under attack by a host of bad actors and it seems that the military is attempting to take advantage of this situation.

I strongly urge you to maintain the status quo and deny the Air Force's request for ready access to these refuge lands.

Sincerely,

Lisa Mayo
[redacted]

0132

From: [redacted] on behalf of Doug Hay
To: nttrleis
Subject: EXTERNAL: DOD - NTTR Military Land Withdrawal Legislative EIS
Date: Monday, March 05, 2018 7:21:46 PM

Dear .:

The Air Force request that Congress give them "ready access" (complete control) over one half of the Desert National Wildlife Refuge is unnecessary. The bordering Nellis Test and Training Range altready provides the Air Force with access to half of the Refuge, under a cooperative agfreement with the U.S. Fish and Wildlife Service. The FWS should retain primary jurisdiction over this area, which is the largest block of intact desert bighorn sheep habitat in the Southwest, and also a home to numerous other species.

Sincerely,

Doug Hay
[redacted]

0133

From: Leilani
To: nttrleis; BLM_NV_SNDO_NTTR_Withdrawal@blm.gov
Subject: EXTERNAL: LEIS Public Comment Regarding the Desert National Wildlife Refuge in Nevada
Date: Thursday, March 08, 2018 11:51:22 PM

I'd like to address the potential environmental and human consequences resulting from the proposal to extend the Nevada Test and Training Range (NTTR) land withdrawal.

It's my understanding that the NTTR already occupies more than 2.9 million acres of land in the southern Nevada desert. It's a neighbor to the Desert National Wildlife Refuge which is home to a diverse population of wildlife and bird species who depend on the desert as a habitat critical to their survival. The NTTR is proposing an additional land grab of 301,507 MORE acres which currently belongs inside the boundaries of the Wildlife Refuge. This would reduce the size of the refuge down to a point where the wildlife population would begin to decline and the natural migration of herds would be affected. The proposal would allow the US Air Force to encroach upon the air space of more than 320 recognized bird species, and the test bombings deployed from the Air Force military planes, hitting the surface of the Earth, would impact mammals and plant species found nowhere else on Earth. PA-1

The NTTR **does NOT need THREE MILLION ACRES** to test bombing equipment or air space for training pilots. It **already has** 2.9 MILLION ACRES. The Desert National Wildlife Refuge should remain intact and allowed to flourish - As Is. It deserves to be protected as a habitat set aside in 1936 as a home for desert bighorn sheep and as the largest wildlife refuge outside of Alaska with a much SMALLER 1.6 MILLION Acres - HALF of what the Air Force currently occupies! This National Wildlife Refuge is just that - a Refuge - from the noise, destruction, and encroachment of humans into an area that transitions from the High Deserts of the Mojave to the Great Basin Desert teeming with diversity - something that deserves to continue to be PROTECTED.

I would appreciate feedback on this comment and have it included as a recorded public comment for consideration by all involved in this decision. Thank you.

Leilani Beard
Email: [redacted]

0134

From: Defenders of Wildlife on behalf of N Burns
To: nttrleis
Subject: EXTERNAL: No to any Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:32:16 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As a regular voter and supporter of wildlife, I oppose any and all threats to our national wildlife refuges-

The expansion of military use of Desert National Wildlife Refuge in Nevada is wrong.

The Air Force must select an alternative.

Please ensure that the Desert Refuge continues to meet its legal mandate to conserve wildlife for present and future generations.

thank you-

Sincerely,

Mr. N Burns
[redacted]

0135

From: Margot Cunningham
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Monday, March 05, 2018 6:32:35 PM

The US Air Force's proposal to expand the Nevada Test and Training Range over approximately 300,000 more acres of land now managed by the US Fish and Wildlife Service and Bureau of Land Management would have devastating effects on wildlife as well as on local economies. BI-1, SO-1, SO-3

It would close off recreational opportunities to the public, and prevent biologists from managing bighorn sheep in the Desert National Wildlife Refuge in the best and most transparent way. Hundreds of miles of fences would be built across the Sheep Range that may hinder wildlife movement and genetic connectivity. Increased bombing, over-lights, explosions, over-flights and sonic booms will disturb bighorn sheep and other wildlife. More air traffic and bombing will increase the risk of wildfire on the refuge and elsewhere. The increased use of explosions will potentially contaminate watersheds in the Desert National Wildlife Refuge and the Amargosa River. More explosions may damage sensitive archeology sites. Close to 200 miles of roads and mountain bike trails would be cut off from public access, which will hurt local economies. LU-1, LU-2, BI-5, BI-3, HS-1, WA-1, PA-1, CU-2

Public land is also proposed to be withdrawn for military use near the town of Beatty NV, impacting recreation and pronghorn antelope habitat. LU-1, SO-1, SO-3

The existing base is 2.9 million acres – about the size of the state of Delaware. Please explore an alternative that utilizes the existing land on the base instead of impacting and cutting off access to an additional 300,000 acres of public land. LU-1, BI-1

Please select Alternative 1 which maintains the Status Quo and allows the Air Force to continue existing operations while maintaining existing access, and Alternative 4C--a 20-year withdrawal period before the next review.

Thank you,

--
Margot Cunningham
[redacted]

0136

From: Bill Daniel
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Tuesday, March 06, 2018 1:53:57 PM

I am writing to voice my opposition to increased military activity and land acquisition in our American western deserts.

Specifically:
Please select Alternative 1 which maintains the Status Quo and allows the Air Force to continue existing operations while maintain existing access, and Alternative 4C–a 20-year withdrawal period before the next review.

Thank you,

William Daniel
[redacted]

0137

March 7, 2018

TO: U.S. Air Force

SUBJECT: Comments on NTTR Land Withdrawal Draft EIS

Overview

The Desert National Wildlife Refuge is a jewel in the desert, and deserves to be protected as it has been since 1936.

I first visited the refuge in1964, while there were still a few Desert Bighorn Sheep held in pens at Corn Creek. These animals had been part of a lengthy and successful study to determine what was causing a die off of these iconic animals. The numbers of bighorn sheep have now reached a sustainable level in the refuge. The sheep appear to be successfully co-existing with the current level of use by the Air Force. However, to propose extending the perimeter of the tests conducted, and increasing the number and size of the tests, and the resulting noise and chaos on the ground, will certainly push the desert bighorn to a precarious population level. BI-3

Bighorn sheep do not coexist well with fences and roads, and extensive expansion of both are proposed. Do not lose sight of the fact that this area was set aside in as a REFUGE, and not a bombing range. BI-1 BI-5 PA-1

Socioeconomics

The expansion of the NTTR, while being a jackpot for some government contractors, will have a negative impact on eco-tourism and wilderness experience near Las Vegas. Other nearby areas such as Red Rock Canyon, Mount Charleston, Valley of Fire and Lake Mead National Recreation Area are big draws for tourists and locals alike. Red Rock Canyon is being loved to death by hikers and sightseers. Those outdoor recreationists who can no longer tolerate the crowds at Red Rock Canyon and Mount Charleston presently have the option of hiking and camping in the DNWR. Access will be severely limited by the proposed NTTR expansion. SO-3 WI-1 LU-1

The planned expansion of NTTR near Beatty would negatively impact the budding eco-tourism and outdoor recreation opportunities in that area.

Cultural

The indigenous people in the Southwest have seen their sacred sites and ancestral trails destroyed for every imaginable development. The refuge is one of the few relatively untouched areas where ancestral trails and sites can be visited. If the road between Corn Creek and Pahranagat is closed, this will deny their access to important cultural areas. This road is clearly shown on a 1914 California Auto Club Map, and was in use by native peoples for hundreds of years prior to the arrival of explorers and settlers. CU-1

0137

Page two

Biological

As mentioned in the opening paragraphs, this area supports a sustainable herd of bighorn sheep. It is highly unlikely that this herd will continue to thrive if the level of expansion, road building, fencing, building of structures and bombing proposed comes to pass. BI-3

The headwaters of the Amargosa River originate in the area of the proposed NTTR expansion near Beatty. What effect will the expansion have on the aquifer, as well as the potential impact to the protected Amargosa Toad? If this expansion is done without anwering these questions, it may well be too late for both the aquifer and the toad. WA-2 BI-6

Wilderness

Very few places remain anywhere in the U.S. that are as untouched as much of the refuge is. With a population of approximately 2.5 million in Clark County, the solitude of the refuge offers a respite from the populous valley just a short drive away.

National Defense

I have always supported the military, and many aunts, uncles, and cousins have served in all branches of the military from World War 2 to the present time. However, the proposed expansion appears to be a gross overreach. I continue to read how manned military aircraft are becoming obsolete. The level of sophistication of the super computers, coupled with the use of unmanned drones for modern warfare, seem to indicate that manned bombers and fighter planes are on the way to obsolescence. It seems unnecessary to expand an existing test range that already occupies hundreds of thousands of acres..

Essentially, Nevada has done her part to support the national defense over the last seventy plus years, beginning with the Las Vegas Gunnery Range and Tonopah Test Range where military personnel trained to fight in Word War 2. Then the creation of the Atomic Energy Commission's Nevada Test Site in the 1950's where nuclear tests were conducted into the 1990's, and which is still closed to the public. To create even more areas that will be off-limits to the public is unnecessary to accomplish training for today's military.

In closing, I recommend Alternate 1 (leaving the boundaries where they are) and Alternate 4C (extending the life of the NTTR for no more than 20 additional years).

Sincerely,

Judy Bundorf

[redacted]

0138

From: Laurie wambeke
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Thursday, March 08, 2018 9:36:21 PM

This is wrong. The earth needs healing not more weapons. Stop testing on animals space.

[redacted]

0139

From: Dennis Brownridge
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Thursday, March 08, 2018 11:21:10 PM

I support Alternative 1 (status quo) or the No Action alternative. The military already exerts sole control over vast areas of the Western states, while the MOAs heavily impact much more land, including great national treasures such as Death Valley and Sequoia National Parks. Half of Desert NWR has already been appropriated by the Air Force. Further losses are simply unacceptable. The proposed Alamo Expansion would shut the public out of an enormous and very high quality part of the Refuge, equivalent in area to Greater Las Vegas. Most of the important access routes, including Alamo Road, Pine Canyon, White Rock Canyon Road, Dead Horse Canyon Road, and Cabin Spring Road, would be lost. Desert Lake and the fine dunes to the northeast would be lost. This remarkably unspoiled public land provides an increasingly rare respite from the din of Las Vegas. It is a precious resource that should remain protected. As a veteran, I believe the Air Force needs to recognize that the American people and the American land are not "the enemy." LU-1

0140

From: Susan Wainscott
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 08, 2018 10:50:06 AM

I am writing to support Alternative 1 of the Nevada Test and Training Range Military Land Withdrawal Legislative Environmental Impact Statement. Military training and testing purposes can continue under this alternative while protecting unique and irreplaceable resources for recreation, scientific study, and ecosystem services. Indeed, one valuable and rare thing that Nevada and the Desert National Wildlife Refuge provides is the quiet and solitude of spaces that qualify as wilderness- an experience vital to so many of our returning military veterans and our first responders. Nevada's other public lands that are under the vast military airspace provide ample opportunities for training and testing. The NTTR overlapping the Desert National Wildlife Refuge is not the correct space to expand those activities at the expense of this amazing resource.

I am opposed to alternatives 2 and 3.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Susan Wainscott [redacted]

0141

From: Alex Cabrera
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, March 07, 2018 5:30:04 PM

To whom it may concern,

I am a native Nevadan that loves my state with all my heart. The designation of this refuge protects something important to me. The military has enough land in Nevada. They do not need more. Please, protect the refuge.

Thank you, Alex Cabrera

[redacted]

0142

From: Marilyn Welch
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, March 07, 2018 1:12:54 PM

The Desert National Wildlife Refuge is treasured habitat for wildlife and humans.

The military expansion proposed would destroy 1.2 million acres of this pristine land—it would be gone, kaput from the earth, restoration not possible.

Please proceed with Alternative 1 of the Legislative Environmental Impact Statement, allowing armed forces to train on the range as is. Please DO NOT proceed with Alternative 2, 3, or any alternatives that would allow for NTTR expansion. Jurisdiction should remain with the US Fish & Wildlife Service.

Furthermore, I urge you to designate the land outside of the current NTTR boundaries to be Wilderness that is accessible to the public. WI-2

The importance of this refuge cannot be understated, especially in regards to its initial purpose of protecting the desert bighorn sheep habitat.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Marilyn Welch [redacted]

0143

From: Sierra Lechner
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, March 07, 2018 12:03:16 AM

As a resident of Nevada I would like to see the Desert National Wildlife Refuge stay wild and managed by the Department of Fish and Game. I support military training in the enviroment as it is. I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Sierra Lechner

[redacted]

0144

From: Fred Bell
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, March 06, 2018 10:58:43 PM

Please utilize Option #1. SAVE THE REFUGE!

Sincerely, Fred Bell

[redacted]

0145

From: Elliot Pembrook
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, March 06, 2018 12:32:05 PM

Please don't do this, north of Vegas there is already a giant swath of land (doe and air force) that isn't available to the public we don't need even more land that's off limits.

[redacted]

Please reply to Elliot Pembrook at [redacted]

[redacted]

0146

From: Reinhard Brodesser
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, March 06, 2018 10:31:31 AM

We are running out of pristine habitat not only for big horn sheep, but for people also. Please consider not using this area as a weapons testing area. Can't an already despoiled area be used instead? PA-1 PA-5

[redacted]

Please reply to Reinhard Brodesser at [redacted].

[redacted]

0147

From: Chris Thienel
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 08, 2018 5:30:20 PM

When will we realize that taking away our natural resources is a bad idea ? Do you have kids ? I do .. and I'd like to see to the preservation of our natural resources .. I'm from a military family – support the military 100% – I draw the line at taking away land already designated for conservation ..

Please do the right thing here .. Stop the expansion ..

[redacted]

Please reply to Chris Thienel at [redacted]

[redacted]

0148

From: Jami Johnson
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 08, 2018 2:30:03 PM

People who live outside on Nevada look at this land involved and just see ugly desert and scrub. But to those of us who live here, this is beautiful land and part of our heritage! This is the home of the largest herd of bighorn sheep (our State animal). It is the largest national wildlife refuge in the lower 48 states. The military already has access to 2.9 million acres! If this land were cordoned off from the public, we would lose the Alamo Road (part of our history), the sheep would be greatly disturbed, and a connection between this refuge and the Pahranagat NWR. LU-1 BI-3

Please reconsider and then cancel this land grab!!

Thank you,

cc: Nevada Congressional Delegation

Yours sincerely, Jami Johnson [redacted]

0149

From: Bill Helmer
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 08, 2018 3:42:00 PM

I am not in favor of any Alternatives in the LEIS which expands the Nevada Test and Training Range (NTTR) and thus will be harmful to the land and animals which occupy the Desert National Wildlife Refuge (DNWR). I am also against any alternative which will close Alamo Road and public access to the DNWR as it exists today. In 1996, I visited the Desert National Wildlife Refuge and saw a herd of bighorn sheep from a rock shelter which contained an ancient pack rat midden which was many thousands of years old. If the expansion occurs, unique and priceless experiences like this will be forever lost to my grandchildren. This doesn't need to happen.

Devise new training scenarios which don't need to take out more public lands of irreplaceable value. Let the expansion of the base not be an option, and then come up with a solution. PA-5

Also, the US Fish and Wildlife Service should have primary jurisdiction over the DNWR.

Thank you.

Bill Helmer [redacted]

0150

From: Michelle Napoli
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 08, 2018 7:02:20 PM

Thank you for the opportunity to comment on the NTTR Military Land Withdrawal/Desert National Wildlife Refuge Draft LEIS.

First, I would like to reiterate my verbal comment from the January 23 public hearing in Las Vegas: I believe that both the Air Force and the Fish and Wildlife Service have important work to do on behalf of our country. I sincerely recognize and appreciate that our military's preparedness and national security are important priorities. So, too, are the conservation of wildlife habitat, protection of Wilderness and the public's continued access to our lands.

We must strike a balance between these two needs, which is why I am in favor of Alternative 1. More than merely maintaining the "status quo," Alternative 1 maintains that needed balance. It allows our military to continue training on the range as it currently does, allows the Fish and Wildlife Service to continue its mission, and honors the 110 years of conservation legacy that has protected this special place – our country's second largest wildlife refuge.

I oppose Alternative 2, which would transfer primary jurisdiction from the Fish and Wildlife Service, and I also oppose Alternative 3 and all of its sub-alternatives, which would result in a significant expansion of the NTTR. The military expansion as currently proposed would destroy more than 1 million acres of Wilderness-quality habitat and landscape, and it would close these lands to the public, forever barring them from areas that have been used for a variety of outdoor recreation pursuits. WI-1 LU-1

Furthermore, I urge Congress to permanently protect all Proposed Wilderness outside of the current NTTR boundaries by designating those lands as Wilderness, and to continue to provide for public access to these areas. WI-2 LU-1

In addition, I have the following comments after reviewing the Draft LEIS:

• The Draft LEIS does not adequately describe or analyze what the real impacts an expansion of the NTTR will have on the Desert Refuge's land and wildlife in general, and Proposed Wilderness and Wilderness Study Areas in particular. The expanded on-the-ground activities that are described – including the construction of roads, two runways, and pads for threat emitters that will be "moved to new locations on a regular basis"; cross-country motorized travel; and the installation of 60 miles of fencing that will obviously fragment wildlife habitat – will surely do significant and irreversible damage that is not fully addressed.

• The Draft LEIS does not adequately address another potential alternative – using the adjacent Nevada National Security Site (aka Nevada Test Site) for expansion – despite acknowledging that it can provide "adjacent secure and controlled airspace and land." As you do note, the NNSS lands are already withdrawn from public access and are already impacted. PA-11

• The Draft LEIS does not adequately examine the impact that closing these lands to the public will have on residents as well as other public lands in the area. As the population grows and development expands, protecting these finite resources becomes increasingly important. Our most popular public lands, Red Rock Canyon Conservation Area, is so heavily visited now LU-12

0150

that there have been times in recent months when the entrance gates were closed because the loop road was deemed "at capacity." The Desert Refuge, despite its proximity to the city, provides an alternative and easy escape from the city. People of all ages and abilities currently enjoy the Desert Refuge, whether it be for wildlife viewing; hiking and backpacking; exploring natural, cultural and historical resources; hunting; backcountry road touring; primitive camping; or simply seeking the kind of solitude that has become harder and harder to find. LU-12

• Potential damage to cultural artifacts/archaeological resources are not adequately addressed, nor is the impact to area Native American communities by way of land closures that will keep them from their traditional and ceremonial sites. CU-2 CU-1

• The Draft LEIS does not fully take into consideration the importance of, and impact on, the outdoor recreation economy for the Las Vegas Valley. Outdoor recreation represents an important diversification of our local and state economy. LU-1 SO-3

• How the Air Force will handle wildfire prevention/management is not addressed. HS-1

While the Air Force asserts that no other military facility can provide for its expansion needs, the Draft LEIS fails to examine this possibility in any real detail. Yet we are faced with the very real risk of irreversibly damaging a vast landscape, Wilderness-quality lands and critical desert bighorn sheep habitat – including in particular the Sheep Range, the largest roadless area remaining in Nevada – and closing off these lands from the public forever. There is far too much at stake to proceed without a full evaluation of all potential alternatives and all potential impacts, and there is far too much at stake to not find a balance between military readiness and the public good of conservation and public lands access. PA-5

Sincerely, Michelle Napoli

cc: Nevada Congressional Delegation

[redacted]

0151

From: Jennifer Wilcox
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 08, 2018 11:36:25 PM

As a biologist and great lover of unspoiled wild spaces, I am saddened by the prospect of the US Air Force taking what little wilderness remains only to turn it into a bombing range, etc. For shame. Please leave the DNWR to the wildlife. PA-1

cc: Nevada Congressional Delegation

Yours sincerely, Jennifer Wilcox [redacted]

0152

From: Cyrus Moqtaderi
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 08, 2018 11:43:52 PM

I oppose the forfiture of any public lands. If you authorize the removal of any public lands from our federal system you will forever be remembered as thieves and robber barons who traded irreplaceable treasure for a short-lived swindle. Please make the right decision!

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Cyrus Moqtaderi

[redacted]

0153

From: Nancy Bee
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, March 09, 2018 2:15:10 AM

The DNWR draws me from Oregon to enjoy wild Nevada.

I am in favor of Alternative 1. NOT alt 2.

cc: Nevada Congressional Delegation

Yours sincerely, Nancy Bee [redacted]

0154

From: Nina Wouk
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Monday, March 05, 2018 12:41:03 PM

You don't need to bomb a bunch of animals in a wildlife refuge. There is plenty of non-protected desert to practice in. PA-1 PA-5

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Nina Wouk

[redacted]

0155

From: Li Sa
To: nttrleis
Subject: EXTERNAL: NV test and training parcel
Date: Thursday, March 08, 2018 12:06:00 AM

Do not expand the Nevada Test Site. Public access to open lands is a matter of National Trust. Shrinking these resources even for well-meaning military purposes is not in the interest of First Nations, recreation, or the local, expanding population.
Sincerely,
Lisa Goldschmidt
[redacted] resident

0156

From: Defenders of Wildlife on behalf of Lisa Doyle
To: nttrleis
Subject: EXTERNAL: Please don"t take over the Refuge!
Date: Monday, March 05, 2018 12:25:30 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Please reconsider using refuge land for military training!

Sincerely,

Mrs. Lisa Doyle
[redacted]

0157

From: Defenders of Wildlife on behalf of Carrie Anderson
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:02:05 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training.

Please select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Carrie Anderson
[redacted]

0158

From: Defenders of Wildlife on behalf of Austin Lear
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:25:45 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Please do the right thing for wildlife. We already have plenty of room for military testing in this country

Please do the right thing

Sincerely,

Mr. Austin Lear
[redacted]

0159

From: Defenders of Wildlife on behalf of Dolores Proubasta
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:51:44 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Are we going to assault every last refuge wild animals have left?

While the US Air Force is playing war games against Bighorn and other desert life, Russia and China are loading up on armament.

We are lo lame. Let wildlife be in peace.

Sincerely,

Mrs. Dolores Proubasta
[redacted]

0160

From: Defenders of Wildlife on behalf of jacoub solomon
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:52:29 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Is the testing for a more powerful bomb than a Hydrogen?? For space defense and protection???? Im sure the locals would need to permit this before exceeding further. PA-27

Sincerely,

Mr. jacoub solomon

[redacted]

0161

From: Defenders of Wildlife on behalf of Tony Bennion
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:55:23 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I don't know what the others have written on this...The proposals to use a wild refuge for military "practice"of any kind is diabolical!
I would suggest you instead put your money and resources into building a world without bombs and weapons of any kind!If you and your colleagues feel compelled to "protect"and "defend".Then start with defending the Earth you and every other being lives on!..Work on protecting what we have and what is left after so much damage and killing!
Work on yourselves in being better human beings, transcending the stupidity and enslavement to accepted norms and the current general conditioned consciousness!

Best wishes,

Tony Bennion

Sincerely,

Mr. Tony Bennion

0162

From: Defenders of Wildlife on behalf of Cynthia Powell
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 1:55:58 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Matthew 25:40
And the King shall answer and say unto them,Verily I say unto you, Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me.

Those who would wantonly kill wildlife with bombs are no better than the Romans that crucified Jesus.

Matthew 25:41
Then shall he say also unto them on the left hand, Depart from me, ye cursed, into everlasting fire, prepared for the devil and his angels:

Sincerely,

Ms. Cynthia Powell
[redacted]

0163

From: Defenders of Wildlife on behalf of John O"Connor
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 3:49:52 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I am concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential animal habitat. The mission of a Wildlife Refuge is to protect wildlife; how does bombing the refuge comply with that mission?

PA-1

Sincerely,

Mr. John O'Connor
[redacted]

0164

From: Defenders of Wildlife on behalf of Mary Bowler
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 7:49:53 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Please don't do this. Surely you have funds to use simulators. They may not be as much fun but these animals were here before we were. They are part of the whole ecosystem. We truly DO need all of them in their proper place. Might is not right in this issue. PA-6

Sincerely,

Ms. Mary Bowler

[redacted]

0165

From: Defenders of Wildlife on behalf of Paula Narbutovskih
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:21:49 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Our wildlife has a right to life on this planet, just as much (or maybe more as they are rarely destructive to the environment) as we humans. We are leaving no way for them to survive. Leave the Desert National Wildlife Refuge alone and intact! We don't need more weapons of war!

Sincerely,

Ms. Paula Narbutovskih

[redacted]

0166

From: Defenders of Wildlife on behalf of Martha Marks
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 4:09:31 PM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I am a wildlife photographer... and a lover of wild creatures and the natural habitats that sustain them.

I've spent many happy days photographing the birds and other wildlife at Desert National Wildlife Refuge in Nevada. I also love the landscape there. It's one of the best places I know to find peace and solitude.

This gorgeous wild land *must* be protected for the creatures who depend on it, including human beings. It must not be reduced to rubble by bombing runs. PA-1

Please do the right thing.

Protect the Desert National Wildlife Refuge as it was meant to be protected, for the American people as well as for America's increasingly imperiled wildlife.

Thank you in advance for doing the right thing.

Sincerely,

Ms. Martha Marks
[redacted]

0167

From: Toni Gogert
To: nttrleis
Subject: EXTERNAL: test and training range
Date: Thursday, March 08, 2018 2:58:31 AM

The Air Force doesn't need any more land. Any testing or training program requires a high degree of simulation. With a little innovation and imagination, simulation can take the place of more land and more installations. It is, of course, easier to hope for a land grab in a climate of fear. These irreplaceable wild lands and wild life should not be not be sacrificed just for convenience. PA-6

Jim Hrudicka

0168

From: Defenders of Wildlife on behalf of Michael Monroe
To: nttrleis
Subject: EXTERNAL: The Military Already Controls Enough of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:51:41 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Preserving wildlife and open space is a far greater priority than increasing the scope of bombing exercises. The Air Force is a resourceful institution. It can make do with the land it already has for bombing practice and experimentation. PA-1

Please think in the long term.

Sincerely,

Mr. Michael Monroe
[redacted]

0169

From: Carol Wiley
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date: Thursday, March 08, 2018 3:28:13 PM

I am writing to oppose this expansion which would take 220,000 acres from the Desert National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service, and an additional 80,000 acres of BLM land. The military already controls almost 3 million acres which allows no public access. This would cut access by hikers, bicycle riders horse riders and biologists who are managing the bighorn sheep in the area.

LU-2
LU-1
LU-2

This expansion would also threaten wildlife and plant life in the area, which is prime habitat for bighorn sheep and tortoise. Other serious treats include increased over-flights, sonic booms, explosions and also midfires which could increase possibility of wildfires. This plan also proposes the construction of 2 large runways on pristine wilderness playas and 115 miles of fencing. All this would seriously impact the wildlife, plants, archaeology sites and the Amargosa River.

BI-1
PA-37
BI-5

I support Alternative 1, which maintains the Status Quo allowing the military to continue existing operations

BI-1
CU-2
WA-2

Sincerely,

Carol A. Wiley

0170

[redacted]

February 21, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107l
Nellis AFB, NV 89191

To Whom It May Concern;

While I fully support the mission of the United States Air Force (Air Force) and its use of lands in Nevada for testing and training. However, I strongly oppose the following actions proposed in its Nevada Test and Training Range Legislative Environmental Impact Study (LEIS):

- Giving the Air Force priority management of areas the Desert National Wildlife Range (Refuge) now managed by the United States Fish and Wildlife Service (USFWS).
- Expansion of the Air Force Lands to include any of the areas proposed in this LEIS.
- Absolution of the Air Force to provide reason and accountability for the reauthorization of its use of the lands currently withdrawn from public uses every 25 years.

I have no doubt that it is accurately stated that the Air Force has maximized its use of the lands it controls. I do, however, disagree that the solution is to convert expansive portions of the Desert National Wildlife Range to serve military training purposes. It is not in the best interest of the United States public to further reduce the amount of public lands, particularly the lands set aside as a wildlife refuge.

Due to the Air Force's past and continued failure to meet its legislated obligations of cooperative management of the existing areas it should be co-managing and the misrepresentations by its staff and within the LEIS, **I support strongly support Alternative 1,** which would "Extend the Existing Land Withdrawl and Management of the NTTR." I would include the caveat that the Air Force must operate in a more collaborative manner with regard to the Refuge and its staff. **I also strongly oppose all alternatives in Alternative 4 and insist that the Air Force be held to the withdrawl period of 25 years established in the Military Lands Withdrawl Act of 1999 (1999 Act).**

The LEIS is well-written and fairly comprehensive in its content. However, as with most federal EIS documents it is freakishly biased in its desire to support its assertions of need. It is also severely lacking in a fair assessment of all possible alternative actions. In this manner, its Preferred Alternatives appear more reasonable.

A "No Action Alternative" more properly means no change to the existing course of action, which is listed as Alternative 1. It does not mean that no activity may occur on the area and that the Air Force would be required to essentially, "pack up its football and go home," leaving a devastating economic impact on surrounding communities in its wake. This misrepresentation was stated in Air Force's presentation of the LEIS at the Aliente Casino and Hotel. This type of deception is not new and negatively affects the trustworthiness of the Air Force and the full reliability of the information in this LEIS. PA-19

The LEIS also employs the equally disingenuous approach of inserting "poison pills" in all alternatives except the Preferred Alternative in an attempt to steer opposition toward the Air Force's desired action.

The Air Force has stated that the 25 year reauthorization cycle is costly and unnecessary. Perhaps it was in the vein of being fiscally responsible that there was an attempt to eliminate the reauthorization

0170

requirement in budget legislation in 2016 (before the LEIS was out for public review). Then the same maneuver was attempted again in 2017.

The reauthorization process is the only regular means to hold the Air Force accountable for its use of public lands in a public forum. In the LEIS the Air Force fails to make a substantive case for suspending the 25 year reauthorization process. If the Air Force anticipates spending too much on the process, then shame on them. It should just be a fairly easy and repetitive process. Activities should be performed and reported with regard to inclusion in a reauthorization, not a mad scramble of paperwork. If accountability is inconvenient for the Air Force, this should be a "red flag" to Nevada's Congressional delegation. PA-20

The 1999 Act gave the Air Force ownership of two large valleys once part of the Refuge: Indian Springs Valley and Three Lakes Valley. Almost all of the mountainous areas were left to the DNWR. The USFWS and NDOW were assured that regular access would be possible through the valleys and that the valleys were all the Air Force wanted. No further lands would be sought by the Air Force. However, here we are again.

Following implementation of the 1999 Act, the Air Force increased its spending on wildlife and environmental issues exponentially. While at first these activities appeared to genuinely signal concerns for the environment, these activities have the appearances of demonstrating that on the South Range that the Air Force would be a better steward of both Air Force and USFWS lands. The first inklings of this tact were discovered when an NTTR representative let slip that the two-year environmental budget for the NTTR was around $2 million, while the USFWS had an operating budget of approximately $30,000 per year.

What is most disturbing about the Air Force's actions since the 1999 Act is its ignoring of its required obligation to cooperate with the USFWS. The Air Force has conducted wildlife surveys (both ground and aerial) and studies on the Refuge that not only did not involve USFWS personnel, they did not involve notice of these actions to the USFWS. The disdain of the Air Force for its supposed partner is palpable. There is no give and take, only take by the Air Force. BI-49

Furthermore, unauthorized training appears to be occurring on the Refuge on a regular basis, in violation of the . During desert bighorn sheep helicopter survey for the Nevada Department of Wildlife (NDOW), it was easy for myself and others to see an increase in the remains of parachute flares (often associated with military night operations) in close association with wildlife water developments on the Refuge. During a cooperative annual wildlife water development inspection flight in 2010, a paper mache head with the name "Osama" was found lashed to Joshua tree at the Spotted #6 water. This is fairly open evidence indicating training with special forces personnel on refuge lands, again without notice or authorization. No one exceeds my admiration for the abilities and performance of our military. However, there are definitely other suitable lands for such activities, including the North Range of the NTTR and other military-controlled lands. PA-75

In the 1999 Act states, *"Sec 201 (e) CHANGES IN USE- The Secretary of the Air Force shall consult with the Secretary of the Interior prior to using the lands withdrawn and reserved by this title for any purpose other than those purposes identified in paragraph (a)(2) of this section, except that there shall be no such other use of withdrawn lands within the Desert National Wildlife Range."* First, I question the need for any new legislative action if the Air Force only randomly follows the law. Second, should the Air Force be rewarded for such a casual attitude toward the law?

It should be noted that the Air Force has a long history of operating as it pleases with regard to the Refuge. Prior to 1999 the Air Force both constructed its first training facilities (across from the Lee Canyon Road) and "invited" the Nevada National Guard to use its firing range, without any notification of at least the Refuge personnel. Live fire operations still occur at this facility, despite the fact Air Force documents establish that .50 caliber rounds are fully capable of reaching not only the southern portion of the Alamo Road (Refuge land open to the public), but also the edges of the Refuge facilities at Corn

0170

Creek. Prior to retiring from the Nevada Department of Wildlife in 2011, I commented on an expansion of that facility. Additional firing positions were proposed, slightly closer to the refuge headquarters.

Few people batted an eye, when the Air Force paid more than $11 million to purchase the Indian Springs Casino, a gas station, a motel and an RV park in the name of security. What was not mentioned in the purchase proposal or Air Force press releases was the fact that the Air Force had constructed buildings and facilities around and adjacent to the casino without any regard for security.

The Air Force's constant pursuit of expansion of its control has not been limited to the ground. Prior to 1988, NDOW was able to fly surveys on both sides of the Sheep Range and East Desert Range as long as they called Nellis Range Air Traffic Control (Blackjack) and notified them where they would be flying and under the provision they stayed under 100 feet above the terrain. In 1989, the northwestern half of the Sheep Range and all of the East Desert Range was closed to all air traffic without notice to the USFWS or NDOW. This was discovered during a bighorn survey flight. Requests then had to be made to Nellis for permission to fly over Refuge lands which were not affected by Air Force operations.

Around 1991, the air space restriction on the southern portion of the Sheep Range was moved to restrict access further to the east, further restricting access to all of the western side of the Sheep Range. Since that time, this boundary has been adjusted at least twice and always incrementally to the east, additionally reducing aerial access to the refuge. Again, these "adjustments" were made without discussion or notice.

In January of 1992, NDOW personnel constructed the Medsger Pass wildlife water development in the East Pahranagat Range on BLM lands, just north of the refuge. On February 19, 1992, NDOW was removing construction tools and materials, when the contract pilot received radio transmission that they were operating in closed air space. This expansion also included portions of the refuge. This time, the Air Force made the closure without a filing in the Federal Register, a notice to the USFWS or notice to the aviation public.

Currently, wildlife facilities, cultural resources and biological resources are protected from the legally regulated activities of the Air Force. Should the Air Force gain control of the proposed transfer areas, there would be little or no oversight of the damage done to these resources. As they say in the LEIS Cultural Resources section of 3C, cultural resources would be avoided "to the extent practicable." Now who does not understand that the Air Force, acting as judge and jury, will find nearly all impacts to all resources "regrettably necessary?"

As far as the three range expansions proposals go, I offer the following assessments:

Proposed Alternative 3A and 3A1

All public activities occur in lower areas adjacent to Timber Mountain. Despite the pretty circles drawn on maps presented to the public, there a no impacts areas close enough to these areas that public safety is a concern. The issue is a security concern, relating to proposed mountain bike trails through most of the areas proposed for transfer from the Bureau of Land Management (BLM) to the Air Force. While I understand the Air Force's concerns about expansion of mountain biking and the often illegal "wildcatting" of bike trails, I do not find this concern to be of sufficient threat to validate this proposed loss of access to these public use lands. PA-21

Proposed Alternative 3B

The Air Force proposes withdrawing 57,000 acres from BLM and Refuge lands. The Air Force already operates one electronic facility on the east end of this area. In it's quick overview of biological resources contained in summary brochures of the LEIS, the Air Force fails to mention the existence of the Spotted #5 wildlife water development in the coveted area. It is completely unnecessary for this area originally set aside for desert bighorn sheep and other wildlife be transferred to allow the Air Force to install and maintain threat emitters for training. BI-8

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Currently, the Air Force operates mobile units for training operations on BLM lands at various locations far outside the NTTR. I have observed these units in the Delamar Valley area and what appeared to be similar units near Mount Sterling in the Spring Mountains. It appears that these locations are included in sites identified in Figure 1-8. Although permanent facilities may provide more elaborate electronic equipment, I doubt that the Air Force would need to terminate all training activities on the NTTR if it is not allowed to install permanent electronic threat emitters in this area. PA-22

I would be inclined to support the use of more "mobile" threat emitters on public lands, however, I would not support excessive use of public roads on and off of the Refuge by military vehicles due to possible damage to those roads.

The proposal identifies the area for miles of "antelope fencing." The problem is that I only know of a handful pronghorn antelope ever wandering into the entire "South Range" area. On the other hand, desert bighorn sheep regularly move across the areas proposed for fencing. No big deal, except "antelope fence" has different wire strand spacings that might be more likely to entangle or impede bighorns. Wildlife populations across the west are impacted by development, highways and fences. The fragmentation of wildlife habitat is constantly mentioned as a severe impact to many wildlife populations. BI-5

Proposed Alternative 3C

It is clear from Figure 1-8 that IADs currently exist on refuge lands and are spread over great areas of other military and public lands outside the NTTR. Simply because the Air Force chooses to litter its existing lands with munitions does not justify seizing another portion of the Refuge. Fix what you already have. PA-22

Assurances that live munitions will not be dropped on the proposed expansion area do not reassure me. Almost from the time of the enactment of the 1999 Act, the Air Force has been pressing that it needed to bomb mountainous portions of the refuge to more realistically train personnel for military missions in the Middle East. Once the Air Force obtained the proposed "3C" lands, it would not be long before legislative adjustments would be requested to allow bombing here and other areas currently assumed to be protected as a wildlife refuge. Clearly, such inevitable activities would have a negative effect on the lands and resources long ago set aside for purposes other than military training.

Fencing is an absolutely ridiculous proposal for this area. Since the Air Force would control ground access to the area, who do they think such an extensive fence is needed to stop? The proposed eastern boundary would include approximately 22 miles of mountainous terrain in the Sheep Range that has experienced almost no previous human disturbance. Of that length there would be over 10 miles along the northern spine of the mountain range. Only a fool would propose fencing this area. The cost would be insanely excessive. Anyone who would hike six miles across the desert, up two miles of a trail-less desert canyon and up several more miles through scattered ledges to the backbone of the Sheep Range would not be deterred by any fence. If the Air Force were to counter that there would be some form of electronic monitoring to supplement the fence, then why build a fence in the first place? BI-5

I disagree that the solution to training desires on the NTTR is to convert any portion of the Desert National Wildlife Range to serve military training purposes. I maintain that it is up to the U.S. Air Force to alter and develop facilities on lands it already controls to meet its training objectives.

Respectfully,

Craig Stevenson

0171

From: L Nations
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 08, 2018 9:26:02 PM

To whom it may concern,

I have lived in Nevada for 25 years. I have worked in the environmental field and havs a Masters of Arts in Ethics and Public Policy. I am writing to oppose the withdrawal of any land from the Desert National Wildlife Refuge for the purpose of expanding the Nevada Test and Training Site (NTTS).

Half of the existing Desert National Wildlife Refuge is already within the NTTS.The purpose for which the Refuge was established is still a valid purpose; to provide habitat for desert bighorn shep. The decline in desert bighorn sheep population within the Desert National Wildlife Refuge strongly sugggests that existing uses within Refuge are incompatible with the stated goals. Rather than expanding military usage within rhe Refuge I propose that a moratorium period on military usage within the Refuge and studies be conducted at a reasonable period of time following the moratorium — possibly annually up to 10 years, following lambing season — to determine the effects of ceasation of military activities within the Refuge on desert bighorn sheep population. PA-28

In addition, following the ceasation of military actibities within the Refuge, studies should be conducted to determine changes in levels of tritrium and vanadium in groundwater affecting the town of Beatty, Nevada. PA-28

Should a moratorium period for military usage of the Refuge be enacted, and studies of the effect of ceasation of military activites on bighorn sheep populations within the Refuge and reduction of tritrium and vanadium in groundwater at Beaty, Nevada, be undertaken, the results of these studies should be made public and the public be asked again to comment on the propsed withdrawal of federal public land from the Refuge for use by the NTTS. A taking without compensation that provides parity for wildlife, or stronger justification for nullifying established land use and wildlife management policyies at this time, is unfair to the portion of the American public who work to strengthen environmental resource protections within the US. Frankly, it appears to me that this proposed withdrawal of land from the Refuge in Nevada is an attack frsmed of purely political motives and possibly punitive reasons. BI-50

cc: Nevada Congressional Delegation

Yours sincerely, L Nations [redacted]

0172

February 25, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

Re: Public Comment on the Draft LEIS for the NTTR Land Withdrawal

Please accept the following comments regarding the United States Air Force's (USAF) draft Legislative Environmental Impact Statement (LEIS) for the proposed extension of the land withdrawal and potential expansion of the Nellis Test and Training Range (NTTR).

The USAF should issue a supplemental LEIS to address ambiguities and include alternatives that involve coordination with other USAF facilities or elements outside of the NTTR. A portion of the purpose and need statement is ambiguous and prevents the public from evaluating and commenting on reasonable alternatives. The draft LEIS also omits alternatives that could reduce or eliminate the need to expand NTTR's land withdrawal or expand ground-disturbing activities within existing NTTR lands. According to Title 32, Subtitle A, Chapter VII, Subchapter T, Part 989.8, the USAF must analyze reasonable alternatives that meet the underlying purpose and need.[i]

PA-5

PA-5

The Department of Defense (DOD) should discard Alternatives 3A and 3C and instead evaluate and pursue the alternatives outlined below that would reduce or eliminate the need for additional ground-disturbing activities on existing NTTR lands. Such alternatives not only reflect more responsible stewardship of our public lands, but they also generate significant cost savings to the taxpayer and allow NTTR to focus on its most critical objectives

Purpose and Need

The USAF should issue a supplemental LEIS further clarifying the purpose and need statement because ambiguities and inconsistencies in the text restrict the public's ability to judge and comment on reasonable alternatives.

PA-29

The draft LEIS states that one of the mission requirements driving the action alternatives is to increase the NTTR's Major Combat Operations (MCO) test and training capabilities to meet the demands of strategic guidance, and to alleviate competition for critical MCO electronic assets. The draft LEIS states that this and other requirements were identified in the *2025 Air Test and Training Range Enhancement Plan.* The LEIS indicates that this document from 2014 determined that the ranges available at the time were insufficient to adequately train US forces. That document does not appear to be available to the public and is not included in the draft LEIS. This is of concern because it is not clear that the 2014 study evaluated the potential alternative training scenarios and capabilities that could enable the USAF to train aircrews for MCOs and also allow continued public access to public lands. Specifically, it is not clear if the 2014 plan

GE-4

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studied the extent to which embedded training and live, virtual, constructive (LVC) capabilities could train aircrews on fifth-generation aircraft as efficiently as, or perhaps more than ground-based threat emitters deemed necessary by the draft LEIS. The USAF should include the *2025 Air Test and Training Range Enhancement Plan* as an appendix to a draft supplemental LEIS.

Additionally, the draft LEIS purpose and need statement contains inconsistences regarding the periods of time during which the USAF would need to close public access to the proposed NTTR expansion areas in Alternatives 3A-3C. Section 1.4.1 of the draft LEIS states that during MCO exercises the air space and impact areas are used "at high intensity for several weeks," probably a reference to the Red Flag exercises held each year at the NTTR. Yet, earlier in the same section, the USAF asserts that the expanded MCO test and training capability "would be required during all NTTR operations (24 hours per day, seven days per week) in accordance with the NTTR scheduling process." A description of the NTTR scheduling process is not provided as a reference in the draft LEIS. The USAF is proposing to indefinitely withdrawal and close public access to lands for the purpose of meeting mission requirements, yet the timelines and periodicity of these mission requirements remains unclear. Public access to lands subject to withdrawal are sometimes determined based on the timelines of mission requirements, such as is the case with Twentynine Palms Marine Corps Air and Ground Combat Center (MCAGCC) and the White Sands Missile Range. The MCAGCC shares access to a portion of the Johnson Valley Off-Highway Vehicle area, closing some of the recreation lands only during specific exercises. White Sands closes access to highways and the White Sands National Monument only during test and evaluation operations that could increase the risk to those public lands. A supplemental LEIS further clarifying the timelines and periodicity of the proposed USAF mission requirements will be necessary. Specifically, the USAF should clarify the times during which security and safety would require the closure of lands identified in Alternative 3C.

PA-41

PA-10

The draft LEIS also does not sufficiently explain or describe "competition for critical MCO electronic assets," nor how any of the proposed alternatives can meet this purpose and need. The public cannot be expected to comment on reasonable alternatives to alleviate competition for "critical MCO electronic assets" if they do not know what those assets are or what function they perform. The public is left to infer that either the USAF will deploy these unspecified electronic assets to the NTTR expansion areas in Alternative 3 and expand the availability of these assets across the NTTR, or that the USAF will shift MCO training operations to the expansion areas and away from the electronic assets so that test and evaluation activities, and MCO training can occur simultaneously in different sections of the NTTR. Or perhaps neither of these inferences is correct. Either way, this ambiguity significantly impairs the ability of the public to evaluate the alternatives set forth in the draft LEIS until the USAF issues additional supplemental information.

PA-16

Evaluate Use of Range 64A for 360-degree Variable Approach Exercises

The Draft LEIS indicates that the USAF needs an expanded land withdrawal under Alternative 3C to accommodate live fire training from a 360-degree variable approach by fifth-generation aircraft, specifically mentioning the F-35 Joint Strike Fighter. The LEIS suggests that current use of Range 62A for live fire training restricts the vectors of approach and altitudes from which

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aircraft can drop live munitions, particularly because adjacent lands under the Alamo A, B and C airspace are open to the public.

According to page 2-14 of the draft LEIS, the USAF considered moving the target impact areas to the western portion of the South Range, but that "operational feasibility was impacted by the NNSS infrastructure constraints." The Nevada National Security Site (DOE/NNSA) adjacent to the South Range, however, appears to be outside of the safety footprint of precision guided munitions, based on an analysis of Figure 2-13 in the draft LEIS. PA-11

The draft LEIS only illustrates the safety footprint for GBU-24 and GBU-31 munitions based on conceptual targets in Range 62A, adjacent to the open public lands along the DNWR's Alamo Road. However, transposing the same safety footprint radius from those points to hypothetical targets in Range 64A suggests that the safety footprint would not overlap DOE/NNSA lands to the west (see below). PA-43

DECEMBER 2017 2-29

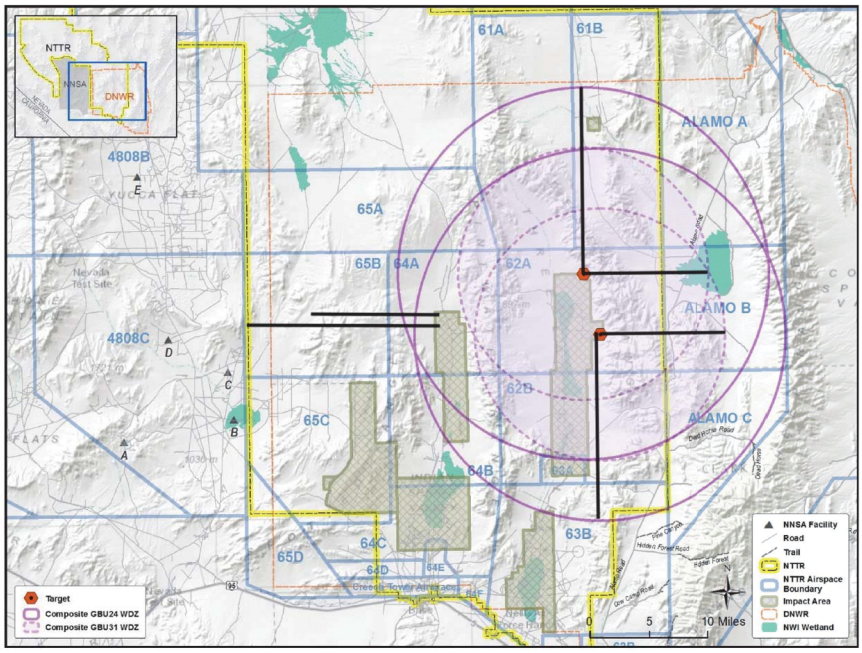

Figure 2-13. Alternative 3C – Conceptual Weapons Safety Footprint for 62A on DNWR

The solid black lines in the modified Figure 2-13 above measure the safety footprint radius for GBU-24 and GBU-31 munitions in Range 64A and Range 62A. This analysis suggests that the USAF could conduct 360-degree variable approach targeting in Range 64A without jeopardizing DOE/NNSA facilities. However, the draft LEIS does not provide a full evaluation of this alternative.

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If the USAF is concerned that the safety footprint of less precise GBU-24 munitions could still pose a threat to DOE/NNSA facilities if dropped on targets in Range 62A, it could slightly reduce the degree of approach available to aircraft deploying those particular munitions. The USAF must fully evaluate this potential alternative because it could potentially eliminate the need to expand land withdrawals under Alternative 3C.

PA-43

Evaluate an Embedded Training and LVC Alternative

The USAF should issue a supplemental LEIS examining an alternative that involves the use of Embedded Training (ET) and Live, Virtual, Constructive (LVC) capabilities in fifth-generation fighters to reduce or eliminate the need for additional roads and threat emitters on NTTR. Use of this technology could also eliminate the need for Alternative 3C.

Embedded Virtual Simulation (EVS) technology on USAF aircraft enables ET by pre-programming an aircraft's systems with a training scenario that will simulate ground-based threats to the aircrews during flight. With this capability, the USAF would not need to expand the NTTR land withdrawal to deploy additional ground-based threat emitters. The EVS technology can be shared by a multi-ship formation of F-35s, for example, enabling a common tactical threat picture. A study co-authored by the DOD's own Joint Strike Fighter program indicates that ET could produce a cost savings of nearly three billion dollars over the lifecycle of the F-35 system, and is consistent with DOD directives requiring "training realism shall be maximized through use of the live training domain supplemented by integrated virtual and constructive capabilities." [ii]

According to a press release, this software is available on the F-35.[iii] A similar capability has been tested on F-16 aircraft, known as the E-CATS system. [iv]

The USAF is also actively developing and integrating more advanced LVC systems that can eliminate the need for additional roads and threat emitters on the ground by providing live aircrews with computer-generated threats. According to Defense News, the USAF is developing the Secure Live, Virtual, Constructive Advanced Training Environment (SLATE) that is currently in testing and development.[v] The USAF has already invested in contracts for this capability and some LVC capabilities have already been deployed, according to a USAF news release.[vi]

The LVC capability would provide the USAF with more flexibility to define and modify the threat environment over a much wider range because the LVC system can simulate ground-based threats well beyond the physical confines of the NTTR land withdrawal. The LVC system can also deploy these scenarios over an encrypted network, enhancing the security of NTTR operations. From the perspective of NTTR's stated mission and desire to simulate threats that crews would encounter in a real world MCO, the LVC alternative seems far superior to the deployment of a few ground-based threat emitters that would still be confined to a land withdrawal far smaller than the geography occupied by real world adversaries.

LVC capabilities negate the need to close down public access to the Alamo Road area of the DNWR (Alternative 3C) and probably minimize the amount of "ready access" lands needed

PA-6

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across the existing portion of the NTTR overlapping with DNWR. The USAF probably would still need to station remote repeaters to enable LVC training, but these would likely require less of a footprint than having to deploy multiple ground-based threat emitters and building the road infrastructure necessary to re-configure the threat emitters between training scenarios.

For US or coalition aircraft that do not have an ET or LVC capability, the USAF can continue to train those aircraft on the North Range, or perhaps explore a limited "ready access" implementation within existing South Range withdrawal lands.

PA-6

Explore UAS Test, Training, and Evaluation Alternatives

The USAF should issue a supplemental LEIS evaluating alternatives that shift test and evaluation of unmanned aerial systems to other USAF facilities. The draft LEIS purpose and need statement characterizes the NTTR's most critical mission as preparing aircrews for combat with peer-to-peer adversaries and simulating advanced threats across a broad geographic span. The draft states that UAS training, test and evaluation hinders these other objectives by competing for NTTR resources since the slower UAS pose a hazard to faster, manned aircraft. The draft LEIS suggests that the UAS test and evaluation should be accommodated with an expanded land withdrawal at NTTR, implicitly because Creech AFB is co-located at NTTR and Creech's mission "revolves around" training, and test and evaluation. However, publicly available information indicates that other USAF facilities also fulfill the UAS training, test and evaluation roles.

Rather than expanding land withdrawals in Nevada, the USAF could incorporate test and evaluation functions at other USAF facilities particularly well-suited to accommodate them. According to publicly available information, Holloman AFB in New Mexico is the USAF's primary training center for MQ-9 Reaper UAS; this role was transferred from Creech to Holloman in 2010, according to the USAF.[viiviii] Holloman AFB crews enjoy a synergetic relationship with Air Force Special Operations Command units at Cannon AFB, another base in New Mexico that also hosts UAS. Cannon AFB also hosts the Melrose Air Force Range, a 70,000-acre live fire range. The USAF was granted a Certificate of Authorization from the Federal Aviation Administration for its UAS to transit unrestricted airspace between Holloman and Cannon.[ix] Additionally, the White Sands Missile Range in New Mexico can accommodate live fire test and evaluation operations. These bases and ranges in New Mexico are ideally suited to accommodate some of the test and evaluation functions that are currently hindering NTTR's ability to train aircrews and evaluate systems for peer-to-peer adversaries in Major Combat Operations.

Outside of New Mexico, Edwards AFB in California is home to the Air Force Test Center, and can also accommodate test and evaluation operations for UAS, with live fire operations in the neighboring China Lake Naval Air Weapons Station.

PA-5

Evaluate IW Insertion and Travel Alternatives

The USAF should issue a supplemental LEIS exploring alternatives that a.) allow ground forces to receive IW training and overland travel at existing urban operations complexes on other

PA-42

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military facilities with existing ground disturbance, or b.) limiting the IW training at NTTR to *non-mechanized, dismounted movement* of soldiers through interstitial areas to the Urban Operations Complex (UOC) in Range 62B to minimize ground disturbance. The expansion of IW training on the NTTR South Range, particularly the use mechanized travel of soldiers from the insertion point to the target, will lead to significant degradation of wildlife habitat over time. PA-42

Cross-country vehicular travel that does not use a single route will compact soils and lead to erosion, increase particulate matter pollution, reduce plant biodiversity, and reduce availability of forage for special status species like the desert tortoise. This damage is evident at other Department of Defense facilities that accommodate significant ground maneuvers, such as the Army's NTC and Marine Corps' MCAGCC. In fact, prior to use of those lands for mechanized travel, the Department of Defense has had to invest in costly desert tortoise translocation that still resulted in high tortoise mortality rates. The USAF could reduce the DOD's overall impact on American public lands by consolidating ground disturbing activities to the extent possible at existing facilities, rather than expanding land withdrawals and establishing duplicative training ranges. ER-2

The NTTR's primary operational objective of training aircrews and developing airborne systems can be preserved by developing an alternative that would shift more IW training to facilities with existing ground disturbance. The Army's NTC hosts a large UOC surrounded by rugged desert terrain with significant variation in elevation. The MCAGCC also hosts a sizeable UOC surrounded by desert terrain similar to that of the NTTR. Both of these facilities have ready access to surrounding lands and ample insertion points that meet the criteria described in the draft LEIS. PA-42

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The UOC at the MCAGCC in Twentynine Palms is significantly larger than the UOC at NTTR and could offer additional training capability during times when the facility is not in use by the USMC.

The UOC at the Army NTC in Fort Irwin is surrounded by rugged desert scrub and mountain ranges that could provide challenging IW training scenarios.

Similarly, the draft LEIS indicates that NTTR has historically focused on preparing aircrews and developing airborne systems, but acknowledges that "most of the current fight" involves IW. The draft LEIS incorrectly states that the NTTR hosts "unique natural topography" similar to the regions where US warfighters are currently engaged. Similar terrain exists at other Department of Defense test and training facilities, including some with urban operations complexes, such as NTC and MCAGCC.

PA-5
PA-44

Conclusion

The Department of Defense maintains wide access to nearly 21,000 square miles of test and training ranges across the southwestern United States. NTTR already encompasses 4,608 square miles, and the USAF maintains ready access to the vast majority of that area. The Department of Defense owes the public a much more exhaustive review of alternatives that preserve public access to public lands and reduce ground disturbance.

Sincerely,
Shaun Gonzales

0172

[i] < https://www.law.cornell.edu/cfr/text/32/part-989>
[ii] "F-35 Embedded Training," < www.dtic.mil/get-tr-doc/pdf?AD=ADA567738>
[iii] "F-35 Embedded Training System Shipped to Lockheed Martin," < http://www.nlr.org/news/f-35-embedded-training-system-shipped-to-lockheed-martin/
>
[iv] < http://www.airbusdefenceandspacenetherlands.nl/project/embedded-training/>
[v] "Air Force Seeks Virtual Elements in Flight Exercises to Heighten Realism, Complexity," *Defense News*, < https://www.defensenews.com/digital-show-dailies/itsec/2016/12/05/air-force-seeks-virtual-elements-in-flight-exercises-to-heighten-realism-complexity/ >
[vi] ""Believe the unbelievable": Exercise NORTHERN EDGE 17 enhances interoperability with Live, Virtual, Constructive training," US Pacific Air Forces website, < http://www.pacaf.af.mil/News/Article-Display/Article/1176863/believe-the-unbelievable-exercise-northern-edge-17-enhances-interoperability-wi/>
[vii] "Holloman AFB lands $85MIL operations facility for Reaper aircraft," *Albuquerque Journal*, < https://www.abqjournal.com/1129495/holloman-afb-lands-85mil-operations-facility-for-reaper-aircraft.html>
[viii] "U.S. Air Force Begins Training on New MQ-9 Reaper Block 5," *AIN Online*, < https://www.ainonline.com/aviation-news/defense/2017-08-12/us-air-force-begins-training-new-mq-9-reaper-block-5>
[ix] "U.S. Air Force Begins Training on New MQ-9 Reaper Block 5," *AIN Online*, < https://www.ainonline.com/aviation-news/defense/2017-08-12/us-air-force-begins-training-new-mq-9-reaper-block-5>

0173

DATE: March 5, 2018
FROM: Wynne Benti
TO: Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191
RE: Public comment in FAVOR of Alternative 1, NTTR LEIS

Thank our service men and women who currently serve or have served in our Armed Forces and allied services, including my father, my uncles, my aunts, my cousins, my grandmother, my grandfathers and great-grandfathers, from the Pacific Theater to Viet Nam to the Middle East.

My letter is in response to the 1100-page Nevada Test and Training Range Legislative Environmental Impact Statement (NTTR LEIS). As a publisher of several guidebooks on Nevada and desert backcountry recreationist who has enjoyed the solitude and biological diversity of the Desert National Wildlife Refuge, I am writing in support of Alternative 1 which would maintain the Status Quo.

I strongly oppose Alternatives 2/3 which would transfer primary jurisdiction from the US Fish & Wildlife Service and Alternative 3 or any of its sub-alternates, which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access, but in particular, access by USFWS and NDOW. WI-2 LU-1 LU-2

Between Tonopah and Las Vegas, there are 2.9 million acres of public lands that have already been withdrawn by the DOE and DOD. It is vast acreage. Of the approximate 1.6 million acres of land set aside as the Desert National Wildlife Refuge in 1936 for the habitat preservation of our iconic American native species—bighorn sheep and pronghorn antelope—which need wide range, only about 768,767 remain. Alternative 3's approval will cut the heart from the refuge—the Sheep Range—leaving only 467,260 acres. 90% of DNWR within the NTTR comprises areas once proposed for wilderness.

The Sheep Range (Alternative 3C-Alamo Withdrawal—277,000 acres) has qualified for Wilderness Status since 1971, with its "…Untrammeled; natural; undeveloped; solitude, primitive and unconfined recreation; with many other features of value (stopping point on Pacific Flyway)." WI-2

The Sheep Range is of high scenic quality and relatively undisturbed because of its challenging, trailless terrain and arid climate. It is major recreation location for Southern Nevadans and Californians. The 1971 DNWR Wilderness proposal made by the USFWS listed as one of the very special values of the DNWR and Sheep Range–was the truly unique desert experience that the refuge offers.

However, if Alternative 2 & and any part of Alternative 3 (A, B, C), but especially C-Alamo Withdrawal (277,000 acres along Alamo Road and most if not all of the Sheep Range) are approved, the LEIS states that the area and surrounding areas will be subjected to the following military operations which are incompatible with wilderness and wildlife management, and recreation:

- Minimum 30% Increase in Military Combat Operations (and Allied training) to include:
- High altitude electronic missiles
- Noise levels created by sonic booms, blasting noise, higher frequency and intensity of ground and air operations
- Electromagnetic radiation
- Fuel spills, unexploded ordinance (UXO's)
- Live fire targets at high intensity rates
- Low level radioactive uranium armor piercing munitions

PA-51

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- New roads, new runways, insertion of ground troops
- Threat emitters: low level radioactive emissions
- Equipment: Rotary and Fixed winged aircraft
- Para-drops of troops and palletized objects
- Ground vehicle support, combat vehicles to include tanks

PA-51

Closure of the Sheep Range will mean increased urban pressures on Spring Mountains NRA and Red Rock NCA

With the permanent closure of DNWR lands, and especially the Sheep Range, there will be increased urban pressures on Spring Mountains National Recreation Area and Red Rock National Conservation Area, located across US 95.

Loss of Desert National Wildlife Refuge lands, in conjunction with the increasing outdoor recreation demands of rapidly growing/urbanizing Las Vegas and Pahrump, will place increased use pressures on neighboring Spring Mountains National Recreation Area (SMNRA), just 15 miles away.

Located across from each other on Highway 95, Desert National Wildlife Refuge and Spring Mountains Recreation Area are the two of the most visited recreation areas—outside of Las Vegas—less than a half hour drive from Las Vegas, and hour from Pahrump. Surrounded on three sides by the Mojave Desert and the Great Basin on the north, both areas offer visitors a vast range of backcountry experiences as well as rare mountainous terrain and coniferous forests, which provide respite from extreme summer temperatures in Las Vegas and surrounding area.

Because of its proximity as an 'urban park' to rapidly expanding Las Vegas, it is possible that the areas remaining open, such as Hidden Forest and Mormon Wells, will be overused due to lack of climactically cooler conifer forests surrounding Las Vegas.

LU-1

3C Alamo Withdrawal (227,000 acres of DNWR) In reference to increased use of certain roads and areas that will remain open to the public (Corn Creek Field Station, Cow Camp Road and Wagon Wheel Road; Joe May Road and trail, Gass Peak Road and trail; Mormon Well Road and Desert Pass Campground, Hidden Forest Road and trail; Sawmill Canyon Trail and Hayford Peak), the LEIS states:

Increased population and visitation stress

The Las Vegas Convention and Visitors Authority estimated 2017 annual tourist visitation in Las Vegas at 42.2 million people. In 2004, the population of the Las Vegas metropolitan area, was estimated at approximately 1.62 million by the Regional Transportation Commission of Southern Nevada (RTC), an is expected to reach 2.97 million by 2035. 80% of the total visitation to SMNRA was made by Las Vegas Valley residents. Between 1991 and 2001, visitation increased 44% to SMNRA.

Loss of DNWR would place additional recreation pressures on Spring Mountains NRA, already burdened

Almost 1,200,000 people visit Spring Mountains Recreation Area each year. With the potential loss of 277,000 acres of DNWR to NTTR, including most of the Sheep Range, lost recreation use and visitation would be redirected and absorbed to the Spring Mountains Recreation Area.

LU-1

Congestion at Spring Mountains NRA

Plans to reduce congestion and impacts at Spring Mountains NRA just across the highway (US 95) from DNWR, include a shuttle system that would start from Lee and Kyle Canyons on US 95

In September 2005, the Nevada Department of Transportation (NDOT) prepared the *Spring Mountains NRA Transportation Study*, to assess the transportation issues facing the Spring Mountains NRA. The report determined that the existing transportation infrastructure was inadequate to meet the escalating demands for recreational opportunities. Impacts included congestion, overturned vehicles, full parking lots, illegally parked vehicles–trampled flora.

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Among NDOT's recommendations were to implement the use of a fee based parking permit system and/or shuttle system that would start at Kyle and Lee Canyon on US 95, across the highway from the entrances to Desert National Wildlife Refuge—Alamo Road and Corn Creek.

Fragmentation

Bighorn Sheep of Spring Mountains NRA (Unit 262) stressed to breaking point due to habitat degradation and fragmentation. What will happen to the large mammal populations in the East Desert Range (Unit 283) and Sheep Range (Unit 284) within the Desert National Wildlife Refuge?

Nevada Department of Fish and Wildlife reports that Bighorn Sheep in the Spring Mountains (262), directly across from DNWR, face challenges from habitat degradation, fragmentation and loss in the form of suburban sprawl and OHV use, and land management that emphasizes human recreational pursuits that compromise habitat and wildlife conservation. Without access via Alamo Road, there will be no consistent monitoring of wildlife herds including–desert bighorn, mountain lions, pronghorn antelope–because scheduled military operations, advanced scheduling with long wait times and on-site UXOs will make access difficult for scientists. LU-2 BI-4

Fragmentation by perimeter fence—no to fencing; fencing native species never works

BLM H-1741-1 perimeter fencing will fragment the Sheep Range (2 & 3C) and its habitat for bighorn sheep; as well as alternatives 3A and 3B for pronghorn antelope. (2-24)

- **LEIS fails** to mention the effects of perimeter fencing on pronghorn antelope and bighorn sheep which must crawl under a fence and have a history of becoming tangled or trapped and subject to attacks by predators.
- **LEIS fails** to mention that fences block escape routes, making animals vulnerable to predators.
- **LEIS fails** to mention that all the barrier height on the contour of different slopes to accommodate passage of sheep and antelope. It is not just a matter of installing fence, but installing it at survivable and passable angles across the entire perimeter of the Sheep Range.
- **LEIS fails** to mention any oversight or monitoring of fences once the fence installation is finished.
- Fencing will further degrade and fragment the habitat of both the pronghorn antelope and bighorn sheep.
- LEIS calls for 25 miles of fencing in 3A; 30 miles of fencing in Alternative 3B; 65 miles of fencing in 3C: approximately 120 miles of perimeter fencing
- LEIS misleads by describing fencing in Alts 3B, 3C as "a minor, weakly-contrasting, but long-term human development," when 3B is pronghorn antelope habitat. Adding fences fragmentizes the open lands that are their habitat. Sheldon NWR in Northern Nevada is coping with similar fencing that has trapped and killed antelope, who cannot jump but must crawl underneath fencing, often getting tangled within. (3-65, 8-9)
- LEIS says fencing would contribute a low-contrast human development on previously undisturbed soil, but fails to mention impacts on pronghorn antelope, bighorn sheep and other mammals. (3-65)
- **LEIS fails** to mention that fences will not keep all humans out.

BI-5

LEIS states land use impacts will increase by 30%. Expansion into DNWR will allow CONCURRENT USE of both NTTR North and South Ranges, which does not happen now because of scheduling conflicts and congestion. (2.21-2.5, lines 10-26)

Some impacts identified (Alternatives 2 & 3) (3.65):

- 30% increase in Military Combat Operations, MCO & TE (and Allied training)
- 30% increase in aircraft ops (3-85)
- High altitude electronic missiles
- Electromagnetic radiation
- Fuel spills
- Live fire targets at high intensity rates

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- Low level radioactive uranium armor piercing munitions
- New roads, new runways, insertion of ground troops (3-65)
- Threat emitters: low level radioactive emissions (3-65)
- Equipment: Rotary and Fixed winged aircraft
- Para-drops of troops and palletized objects
- Ground vehicle support, combat vehicles to include tanks
- Ground training
- Fencing (3-65)
- Night light sources in areas where none previously existed (Alt 3A: Grapevine Mountains of Death Valley National Park above Sarcobatus Flat are not mentioned).

LEIS states with "expiration of prohibitions, land uses such as mining, mineral leasing, or livestock grazing 'could' potentially be reintroduced, *but most areas will be restricted due to nature of historical activities, and safety and security of current operations."* (3-66, 3.4.2.6)

- LEIS fails to define 'historical activities'. — LU-15
- LEIS fails to identify source of potential ground and water contamination by fuel spills, caustic chemicals, depleted uranium and unexploded ordinance
- Fails to provide timeframe for remediation for, as an example, land contaminated with depleted uranium, and unexploded ordinance, and how long it would take to return to the public — HZ-1, HZ-2, HZ-3
- Contamination. What is the nature of the contamination and how much is there? Military uses include armor plating and armor-piercing projectiles. Most depleted uranium arises as a by-product of the production of enriched uranium for use as fuel in nuclear reactors and in the manufacture of nuclear weapons.

Indefinite Withdrawal of Public Lands

LEIS fails to identify effect on human, domestic animals and wildlife based on exposure to increased electronic warfare; uranium depleted uranium, contamination of soil; impacts to the Sheep Range geology and biology from ground vehicles, aircraft strikes; deployment of ground troops; installation of roads, threat emitters; increased air usage and impacts, impacts from vehicle and restriction and/or elimination of oversight by the USFWS to the Range and its biological communities. — GE-8

LEIS fails to identify existing contamination on the NTTR site and/or plans for mitigation. — HZ-1

The Nevada Test and Training Range dates to World War II when environmental awareness and concern were quite different from the present, and we consequently we don't know the extent of the contamination inside the range. Of the 9 Air Force bases in California that are Superfund sites, contaminants were buried, dumped or released on the ground, in the air and water.

Ordinance (Munitions)

LEIS does not describe munitions to be used in Alternatives 2 and 3. Three-letter acronyms are used in approximate 8-pt. type size under Tables, 2.2 and 2.4, but do not include a description of the acronyms in the LEIS list of *Acronyms and Abbreviations.* — GE-9

- LEIS fails to identify specific impacts to land/biological communities from a projected minimum 30% increase in types of munitions usage to surrounding areas; — BI-1
- LEIS states that airspace and munitions usage will increase by 30%, but fails to identify the exact impacts that infinite deployment of large caliber munitions will have over the next 70 years. — GE-8
- LEIS fails to mention that unexploded ordinance will continue to be a danger to humans and wildlife and is a reason to permanently prohibit future human, domestic and wildlife access to withdrawn lands — HZ-2

0173

- Unexploded munitions and ordinance (UXOs) will limit future access

Table 2.2 and 2.4

Large caliber munitions usage is projected to increase from 10,915 to 14,190 units and to include: AGMs, CBUs, LUUs, MKs and 2.75" as well as 30% small caliber munitions increase from current 1,600,746 to 2,080,969 units. Here are some unclassified descriptions of similar munitions, provided online:

AGM (Air-To-Ground Missiles)

- AGM-62 Walleye television-guided glide bomb; 250 lb (113 kg) high-explosive warhead or nuclear warhead
- AGM-65 Maverick; air to ground tactical missile

CBU (Cluster Bomb Units)

- CBU 52-B Shreds and dismembers
- CBU-87 Freefall cluster bomb that penetrates seven inches of armor; dispenses 202 bomblets over area of 800 x 400-feet
- CBU-97 Sensor-fuzed Weapon 1000-pound non-guided (freefall) Cluster Bomb Unit
- CBU-100 Cluster Bomb (conventional freefall weapons) used against armored vehicles
- CBU-107 Passive Attack Weapon air dropped guided bomb containing metal penetrator rods of various sizes, that can spread over 15 acres.

GBU (Uranium)

- The GBU-28: 5,000-pound (2,268 kg) laser-guided weapon for penetrating underground command centers.

LUU (Dumb Bombs - Illuminating Unit)

LUU-2 Flare Air-deployed LUU-2 high-intensity illumination flare. Light output rating of 1.8x 10(6) candlepower; 1,000 ft. illuminates a circle on the ground of 500 meters (1640-ft) @ 5 lux.) one lux =0.0929 foot-candle

M206: The infrared decoy flare TM-M206 has been used for air shielding in not coercive rocket engines work conditions of the self-guide rockets on infrared irradiance.

LEIS language fails to specifically commit to mitigating impacts by using words like 'could':]- GE-3

"The Air Force says there will be no new dudded areas as a result of the NTTR land withdrawal but that this could change, and would have to go through another NEPA process."

"The process for requesting, granting, and controlling access would be addressed within current MOUs and interagency agreements."

3.4 Land Use, Recreation and Visual Resources

Significant acreage loss including valleys, range and recreation losses hiking, biking and riding trails; bird and wildlife viewing. Range 77 – EC South withdrawal areas (Alternatives 3A and 3A-1) Beatty, NV adjacent

(3-43, Lines 19-20) Located adjacent to the southwest portion of the NTTR North Range, north of the town of Beatty *(see Figure 2-11, Alternative 3A, 3B, and 3C Locations and Acreages and Figure 2-12, Alternative 3A-1 Location and Acreage)*. The existing EC South area was previously used for live-fire exercises, but now is an electronic range, and will expand its capabilities.

What exactly are the effects of electronic warfare simulation in R-77 on humans in surrounding communities; what are the impacts of electronic warfare on wildlife, large mammals and endangered, threatened, sensitive and candidate species and their currently intact habitats?]- HS-5

Studies show that radio-frequencies, microwave-emitting equipment and electro-magnetic radiation damage cells and DNA.

0173

The Nevada Test and Training Range dates to World War II when environmental awareness and concern were quite different from the present, and we consequently we don't know the extent of the contamination inside the range. If California bases are an example, contaminants were buried, dumped or released on the ground, in the air and water.

Of the 98 EPA Superfund sites in California, 26 are operated by the military, their contractors or the Department of Energy. Of those, 8 are operated by the Air Force and at those bases, soil and groundwater have been contaminated by: hazardous chemicals, volatile organic compounds (VOCs), metals, polychlorinated biphenyls (PCBs), battery acids, leaded fuels, industrial solvents, caustic cleansers, paints, metal plating wastes, low-level radioactive wastes, a variety of fuel oils and lubricants, dioxins, heavy metals and acids, and polycyclic aromatic hydrocarbons (PAHs). These toxins have been linked to cancer in humans.

A case-control study among U.S. Air Force personnel found the suggestion of an increased risk of brain cancer among personnel who maintained or repaired radiofrequency or microwave-emitting equipment. (Grayson JK. Radiation exposure, socioeconomic status, and brain tumor risk in the U.S. Air Force: a nested case-control study. American Journal of Epidemiology 1996; 143(5):480-486."

Ground disturbance for Alt 3C in addition to 65 miles of perimeter fencing

Alternative 3C implements IW capabilities that would involve developing potential insertion points as outlined in Section 2.2.2 and conceptualized in Figure 2-10

- Mockup runway: each runway would be 6,000 feet long and 90 feet wide.
- Ground disturbance for construction of runways: 13 acres
- Active runway would be a dirt runway and operational levels would occur at a tempo of 520 takeoff and landings annually.
- 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters
- 4 acres of road improvements.
- 24.5 acres of total ground disturbance for Alternative 3C
- **Equipment:**
- A-10 (Fairchild Republic A-10 Thunderbolt II);
- C-17 (Boeing C-17 Globemaster III),
- C-130 (Lockheed C-130 Hercules)
- CV-22 Bell Boeing V-22 Osprey

3-46, Lines 4-7.

"Of this withdrawn area, the MLWA of 1999 transferred primary jurisdiction of 112,000 acres of bombing impact areas from the USFWS to the Air Force, though the USFWS retains secondary jurisdiction over these lands."

- Since 1999, how has the USFWS been included in management of the 112,000 acres on NTTR?
- What is the actual percentage of USFWS involvement as a secondary jurisdiction holder since 1999?
- Going forward, as potential secondary jurisdiction holders, what is the estimated annual percentage of the USFWS participation in wildlife management and access, and percentage of the BLMs participation in herd management?

PA-52

Horses/burros HMAs

"The Nevada Wild Horse Range is a special management area located within the North Range of the NTTR (Figure 3-6). The Southern Nevada District of the BLM has administrative responsibilities for all land and management activities within the Nevada Wild Horse Range. The 2008 Nevada Wild Horse Range Herd Management Area Plan and the 1974 Wild Horse Management Area MOU provide management guidance for the wild horse population on the NTTR."

0173

- If Alts 3A and 3B are chosen, will primary jurisdiction for the Horse/Burro HMAs remain with BLM?
- How will increased Major Combat Operations on both the NTTR North and South Range affect herds, habitat and their management?

BI-26

Significant loss of recreational opportunities via Oasis Mountain and Oasis Valley

Alternative 3A (and Amended Alternative 3A-1) NTTR Range 77–EC South Withdrawal

(3-46, Lines 9-14) The Oasis Valley and Oasis Mountain areas northeast of Beatty, Nevada and directly adjacent to the NTTR are popular areas for hiking, camping, bird-watching, hunting, mountain biking, target shooting and OHV activities and have recently experienced an increase in outdoor recreation users and events (Figure 3-7). Public lands not closed to OHV usage are commonly limited to existing roads, trails and dry washes, with the exception of dry lakes, which are open to all OHV activities (U.S. Air Force, 2016c).

A few of the primary users and events include:

- *Trails-Oasis Valley (Trails-OV) (www.trails-ov.org), which helps to develop, promote and maintain a series of trail systems for mountain biking, trail running, equestrian use and rock climbing including the Spicer Ranch Trail System and Transvaal Flats Trail System.*
- *Beatty Veterans of Foreign Wars (VFW) (www.beattyvfw.com), which holds Jeep/4-wheel drive vehicle events like the "Run Through the Desert" Fun Day and the Annual Bullfrog Historical Mining District Poker Run.*
- *Best in the Desert Racing Association (www.bitd.com), which hosts the annual "Vegas to Reno" off-road race. The proposed withdrawal areas for Alternatives 3A and 3A-1 overlap with the Bullfrog HMA (Figure 3-6), managed by the BLM. This HMA provides suitable habitat for wild burros, but not for wild horses. The overlap area is 2,877 acres (U.S. Air Force, 2016c).*

Recreation lands loss: What are financial impacts from loss of tourist income due to elimination of established bicycle, hiking and off-pavement vehicle trails for recreation, especially to small communities like Beatty, which is positioned at a main access point for Death Valley National Park, and Alamo, situated at the Pahranagat National Wildlife Refuge?

SO-3

- How will Pahranagat National Wildlife Refuge, its 5,380 acres of riparian habitat, 250 species of birds, 20 species of reptiles and amphibians, and 30 species of mammals be affected by the overflights?

NO-4

- Is there a projected bird kill by aircraft, disturbance of nesting sites? The LEIS does not identify how sage grouse, desert tortoises will be protected or how they are protected now.

BI-27

3.4.1.5 Visual Resources

Grapevine Mountains, west of Sarcobatus Flat contain major peaks: Mt. Palmer, Grapevine Mountain and Wauguyhe Peak, part of Death Valley National Park. At night, within the forests and canyons of the Grapevine Mountains, the backcountry is relatively dark and unaffected by light. Few roads penetrate the range. (pp 3-54 Alt 3A) How will Electronic Warfare on Range 77 effect the Grapevine Mountains, and eastern Inyo County?

HS-5

0173

3-54, Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

Lines 21-25

The LEIS states that NOAA satellite data exhibits no sources of light pollution within the parcels (Figure 3-9); however, high levels of sky glow are present due to proximity to Creech AFB, High Desert State Prison, and the city of Las Vegas. The presence of sky glow in these areas proposed for withdrawal is substantially greater than the light pollution in parcels considered under other alternatives.

- Nighttime unmanned aerial vehicles (UAVs) are often suspended over the highway, often accompanied by changing light, from very bright to minimal. How will nighttime sky illumination and distraction by UAVs and other airborne slow moving craft along US 95, parallel to 64C/D affect communities, and proposed Interstate 11? PA-53
-

Alternative 3C Alamo Withdrawal (Sheep Range, 227,000 acres)

There has been no mining in the range; most of the human impacts have been prehistoric (agave roasting pits, ceremonial altars; structures related to ranching). Roads do not penetrate the range north of the Hidden Forest spur. Biological communities have flourished there undisturbed for thousands of years. Interior canyons within the range are relatively unaffected by light pollution. There are many springs within the range, that are not mentioned in the LEIS. (3-58, Line 26) WA-6

- 227,000 acres in the 3C withdrawal, for expansion of the South Range, will encompass most of the Sheep Range, home to at least 41% of the endemic species in the Mojave Desert Ecoregion, and is most isolated and biologically diverse species and vegetative communities in the Mojave Desert. Its geology and arid climate have made the range, almost inaccessible to man and ground vehicles. Pristine biological communities which have adapted to both the arid Mojave Desert, and the Basin and Range Physiographic Province.
- This expansion will negatively impact those unique biological communities, the geology of the region, its air quality, including access to rare desert water sources. Year-round monitoring and access by USFWS personnel will be eliminated and this is cause for great concern. LU-2

3.4.2.3 1 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

"Land use under Alternative 2 would remain relatively unchanged in the North Range, but would change significantly in the South Range as the Air Force would have ready access. Ready access in the South Range would mean that the areas proposed for wilderness may no longer be managed as wilderness per Congressionally directed changes in land management and the Air Force may have primary jurisdiction as a result of reallocation."

(3-60; see also Section 2.3.2)

- Year-round monitoring and access by USFWS personnel will be eliminated, cause for great concern for the public—including its expansion of the NTTR boundary towards a major metropolitan area. USFWS must have primary jurisdiction over the Sheep Range to monitor wildlife populations, habitat, water quality of springs for health of biological communities within the range. The mission of war is not compatible with the DNWR populations and the refuge put in place to protect them. LU-2
- The 227,000 acres encompassing the 3C withdrawal must be removed from MLW. The expansion south eliminates the needed buffer zone between Las Vegas and existing NTTR.

3.4.2.3 Alternative 2, Lines 25-26

"Changing land management in the South Range under Alternative 2 to provide ready access would mean that the South Range may no longer be managed to provide an "untrammeled landscape," and that human development could occur in such a way to attract attention and alter the existing natural character of the landscape. The ready access provided under this alternative has the potential to introduce the movement of threat emitters into previously

0173

unavailable areas and the placement of new threat emitter locations to enhance MCO operations and enhanced IW test/training capabilities such as new landing zones and IW objectives."

3.4.2.4

Alternative 3 – Expand Withdrawal of Public Lands for the NTTR (3-60, 3-61) — No on Alternative 3

"Specific land use impacts associated with Alternative 3C could be considered to be significant because of the major changes that would occur within the proposed expansion area. The primary change to the existing land use would be that the area would go from an area used by the visiting public to a military training area and jurisdiction would pass from the USFWS to the Air Force."

- The 227,000 acres of 3C withdrawal includes most of the Sheep Range.
- The withdrawal will terminate all USFWS access to its most vulnerable biological populations in the northern portion of the range above Dead Horse Road; this is where the most preserved species of the range are found, not during daytime, but at night, as they avoid predators, humans, during daylight hours. The springs are hubs of activity, primarily mammals and birds, that gather in large numbers, unaffected by human encroachment or bombs.
- The desert is often referred to a wasteland, when the reality is, it is hardly that. At night, springs bustle with activity as desert dwellers take their turns getting water
- No one knows the level of contamination on NTTR's North and South Range, but closed Air Force bases, now superfund sites, are an indication of what may be there. The taxpayers have paid for this—the public's land is free land, a subsidy to the companies that manufacture arms, like Lockheed Martin, General Dynamics, Northrup Grumman—companies that employ thousands of people and make billions of dollars annually. Their high-altitude products can only be tested on what was once public lands.

Process for Granting Access (3-61, Lines 29-38)

"Limited access to the proposed Alternative 3 withdrawal areas would continue. Access would include but not be limited to service personnel (e.g., BLM, USFWS, and NDOW) for the purpose of wildlife inventory, law enforcement, cultural resource inventory and management, water development, and facility maintenance; individuals or representatives of associations for any purpose related to the protection, management, and control of wild free-roaming horses and burros; hunters, researchers, and Native American visits to cultural resources (i.e., religious and sacred sites). The process for requesting, granting, and controlling access would be addressed within current MOUs and interagency agreements. However, this does not preclude that there may be a need to modify the current agreement or develop new agreements as needed."

- The processes quoted here are undefined, but signal an abundance of red tape that will make it as difficult as possible for the USFWS personnel and scientific community to access, monitor and study populations, geology and water quality within the Sheep Range.
- Alternative 3 will strip primary jurisdiction from the USFWS and any protections currently in place for the unique biological communities within the range, will disappear. How will the AF protect the major water sources, like Cabin Springs, from contamination? HZ-4

Recreational Use (3-62, Lines 11-17)

"The proposed withdrawal for Alternative 3A would eliminate existing recreational uses within the proposed expansion area (see Section 3.4.1.4, Recreation and Special Use Areas) due to the need to restrict access because of Range 77 safety issues. This would be a minor adverse impact on dispersed recreational uses such as hiking since it would only restrict a relatively small portion of the surrounding BLM land, which would remain open." (3-63, Lines 28-36 and Figure 3.8)

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The affected roads and trails within the proposed expansion area for Alternative 3C include:

- Alamo Road north of Hidden Forest Road
- Pine Canyon Road and Pine Canyon Trail
- White Rock Road (White Rock Canyon)
- Dead Horse Road and Dead Horse Trailhead
- Saddle Mountain and Sheep Pass
- Cabin Springs Road
- Desert Dry Lake, Dunes South and Dunes North
- Section of Old Corn Creek Road from intersection with Alamo Road

These are major road closures that will eliminate all access to the most vulnerable parts of the Sheep Range, those biological communities which have been, up to now, protected by climatic and geologic inaccessibility. Historic Alamo Road is the only public thruway road between Las Vegas and Tonopah, connecting Indian Springs with Alamo, and agency biologists with the front range of the Sheep Range. There is no other reasonable access to the range.

The (Old) Alamo Road is only east-west public road between Las Vegas and Tonopah. The additional roads mentioned above, are spur roads into the Sheep Range. These are the only roads near the Sheep Range with the exception of Mormon Well Road to the South. No roads are located within the Sheep Range.

- The Sheep mountain range itself, is essentially roadless and untouched, but these few roads are absolutely necessary for scientific access. It is not feasible over roadless terrain from US 93 to access the range carrying equipment.
- The closure of these roads, in combination with USAF as primary jurisdiction holder, will eliminate all public access to the entire north face of the Sheep Range, including monitoring of native wildlife populations, springs and other biological communities.
- The LEIS does not specifically state how much access will USFWS or NDOW will have to study the wildlife and bird populations.
- What percentage of access with USFWS have to its newly withdrawn lands?

LU-2

A few comments on Wilderness

The LEIS states there are over 1.4 million acres of land that contain wilderness qualities within and surrounding the NTTR ROI, consisting of both Wilderness Areas and WSAs. The LEIS states that even with combining this acreage with the remaining amounts of areas proposed for wilderness within the DNWR, there would still be over 2.2 million acres of land that possess wilderness qualities within southern Nevada available to the public. This would include the areas proposed for wilderness within the existing NTTR withdrawal area that would no longer be managed as wilderness as a result of Alternatives 2 and 3. (3-84, 1-12)

- The LEIS fails to mention that not all wilderness qualities are on the same comparative scale, declaring that the public should be happy trading wilderness acreage in a land swap. Wilderness areas and WSA's are not simply interchangeable because they are labeled 'Wilderness'.
- "Based on the amount of land area containing wilderness qualities remaining in the region, combined with the existing access restrictions to areas that were proposed for wilderness within the current NTTR land area, no longer managing as wilderness those areas proposed for wilderness in the South Range would not significantly reduce the opportunity for people to experience wilderness in southern Nevada." (3-84, 1-12)
- The LEIS suggests that any available public lands with 'wilderness qualities' would suitably replace the loss of the 227,000 acres encompassing the Sheep Range (3C Alamo Withdrawal); and that the loss of the Sheep Range would not significantly reduce the opportunity for people to experience wilderness in Southern Nevada. The wilderness qualities of the Sheep Range are superlative, essentially roadless.

WI-7

0173

- Not all Wilderness attributes are the same. A canyon or low elevation range is not the same as pines and firs, and numerous springs—each life zone has its own unique attributes, and those found in the Sheep Range, are a rarity in the Mojave Desert surrounding Las Vegas.
- Alternate 2's "ready access" conditions, which would remove wilderness management practices for the South Range (3C-Alamo Withdrawal) and place management in the hands of the Air Force areas.
- The USFWS must be given priority jurisdiction over the management of all wilderness lands, specifically those within the DNWR. (3-84, 1-12)

YES on Alternative 1. Maintain the Status Quo and protect the Sheep Range.

The USGS report, *Hydroclimate of the Spring Mountains and Sheep Range, Clark County, Nevada*, describes the Sheep Range's high elevation communities as "sky islands" noting that the sky islands harbor more than forty-one percent of the endemic species in the Mojave Desert Ecoregion. 550 million years in the making, evolved from the Paleozoic Age, the extraordinary biological communities of the Sheep Range have adapted to both the arid Mojave Desert and the Basin and Range Physiographic Province.

The Air Force has many excellent existing alternatives that do not include expansion into the Desert National Wildlife Refuge and the Sheep Range. I urge the Air Force to reconsider this project and to support maintaining the Status Quo, Alternative 1.

Once the Sheep Range, gem of the Desert National Wildlife Refuge is lost, it is lost forever.

Ms. Wynne Benti
[redacted]

0174

From: John Swartchick [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] Do we really need more Nukes?
Date: Wednesday, March 07, 2018 11:56:53 AM

Dear US Air Force,

I recently read an article about the possible expansion of the Nevada Test and Training Range. Are they seriously thinking of taking more than 300,000 acres from the Desert National Wildlife Refuge? PA-36

How absurd! As a former member of the US Navy, I oppose this expansion. I have seen first hand what impact this area has on helping our veterans deal with the effects of PTSD and quality of life. It is appalling that our Military would even consider any reduction of our wilderness where so many vets find peace and tranquillity from the effects of PTSD.

The DNWR is the largest refuge in the US and provides habitat and protection for bighorn sheep and other wildlife. It has been in place since 1936, encompassing more than 1.6 million acres and 6 major mountain ranges. Why would we as a country turn our backs on the ecosystems of the Great Basin and Mojave Desert. This is beautiful country and I have visited many times. Historically, this area is heavily used for outdoor recreation and the expansion of NTTR will permanently destroy this wilderness landscapes, kill off the wildlife populations that thrive in the Desert Refuge, limit public access to the wonders that lie within the Refuge (Hole-In-The-Rock, Desert Pintwater Ranges, and Sheep Range. BI-1 WI-1 LU-1

I'm tired of seeing Nevada as the dumping ground for military purposes. You already have the WhiteSands Missile Range, Area 51, Area 52, Naval Strike and Air Warfare Center, Nellis AFB Bombing Range, Tonopah Test Range, Fallon Range Training Complex, and the Lone Rock working area, Lovelock Aerial Gunnery Range, Hawthorne Army Ammunition Plant, Hawthorne Bomb Plot, isn't this enough? PA-5

I understand the need for training areas for our military and national security, but do we really need to destroy more of our country for these purposes while denying the general public and our vets the right to visit and immerse in the wonders of nature? I think NOT!

Please re-track your desire to expand NTTR. For once, let the military really show that it is in the business of protecting the US not destroying it.

Sincerely,

John Swartchick
[redacted]

[redacted]

0175

From: Jai Joshi [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] Don"t Bomb the Desert National Wildlife Refuge
Date: Monday, January 22, 2018 8:52:43 AM

Dear US Air Force,

Deserts are an important part of our ecosystem, which means we have a great dependence on them. I think it is important to save the deserts for this reason, and this is why I am participating in this petition.

Sincerely,

Jai Joshi
[redacted]

0176

From: Betty Sabo [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] Don"t Bomb the Desert National Wildlife Refuge
Date: Thursday, February 08, 2018 2:46:43 PM

Dear US Air Force,

I am a [redacted] year old woman who has lived in Las Vegas since 19[redacted]. I am appalled that you want to grab more public land from the Desert National Wildlife Refuge. You already have thousands of acres to do your testing and training. This land grab is inexcusable.

Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. Since your job is to protect this country, you should be doing so by ensuring the preservation of the Refuge not attacking it!

Your proposal would irreparably destroy these wilderness, threaten wildlife populations that thrive in them, and shut out the public from outdoor recreational areas. I don't call that "protecting" our country.

WI-1
BI-1
LU-1

Do the right thing! Leave the Desert National Wildlife Refuge alone!

Sincerely,

Betty Sabo
[redacted]

0177

From: Linda Jackson
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] Don"t bomb bighorn
Date: Sunday, March 04, 2018 5:29:17 PM

I am opposed to the proposed NTTR Military Land Withdrawal in the Alamo expansion area.

0178

From: Maria Aparicio [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 6:11:54 PM

Dear US Air Force,

I am very concerned that ancient petroglyphs, also known as Native Amerian rock art, may be destroyed. I am native. These petroglyphs are sacred to my family. CU-2

Sincerely,

Maria Aparicio
[redacted]

0179

From: Ryan Lowe [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 2:26:41 PM

Dear US Air Force,

As a contract employee for the AF I am very concerned about the balance between national defense and the environment on this proposal. I feel that a better compromise between mission needs and land use could be found.

Sincerely,

Ryan Lowe
[redacted]

0180

From: Vicki Lindner [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 12:53:04 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge. There should be no expansion of the Nevada Test and Training Range. These desert areas may appear vacant and useless to the uninitiated eye but their wildlife and plants are part of an ever shrinking natural heritatge

PA-36

Sincerely,

Vicki Lindner
[redacted]

0181

From: Jenise Porter [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 12:35:56 PM

Dear US Air Force,

I am a resident of a desert area in Arizona and until I lived here, I was unaware of the richness of the flora and fauna in the desert. The desert areas in Nevada are much the same-they appear to be good only for use as bombing ranges. They are, in fact, home to Bighorn Sheep and Desert Tortoises and cultural sites.

The currently proposed military expansion would threaten and/or destroy the habitat for these animals, not to mention the cultural sites. BI-1 CU-2

The area is also used for extensive outdoor recreation and for these reasons I am opposed to the withdrawal of this land from public use. LU-1

Sincerely,

Jenise Porter
[redacted]

[redacted]

0182

From: Daisy Kates ([redacted]) Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 10:29:22 AM

Dear US Air Force,

There are so many infringements on the survival of wildlife. Do not reduce the area or utilize the Desert National Wildlife Refuge for military or other purposes. We need to do all possible to preserve our natural heritage.

The public lands we have reserved for nature and wildlife must be preserved. There's not much left for these precious species.

Sincerely,

Daisy Kates

[redacted]

0183

From: Susan Stantejsky [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 7:22:32 PM

Dear US Air Force,

What don't you get about the reasons for protecting land, the environment, and our wildlife populations? Once it's degraded - as in bombed, dug up, noisy, roads built, etc. - it's degraded forever; the wildlife will be gone, the rich desert environment that currently provides recreation, homes for wildlife, natural beauty - in short, AMERICA'S BOUNTY - will be ruined. That is why it is protected in the first place - to preserve America's bounty - to be enjoyed by citizens and wildlife. PA-1

Do you ever consider that America has been and is currently under attack by cyber hacking? As in our political process, social media, and elections? The very core of our democracy is under cyber attack. And you answer is to seize, exploit, and forever damage a wildlife preserve for BOMBING PRACTICE???? Your bombing site development dollars would be put to MUCH BETTER USE by investing in better IT systems and personnel! PA-1

Sincerely,

Susan Stantejsky
[redacted]

0184

From: Nick Burns [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 2:24:43 PM

Dear US Air Force,

There should be no expansion of the Nevada Test and Training Range.

The Desert Refuge was created to protect the habitat of the desert bighorn. We need to ensure that goal.
Thank you-

Sincerely,

Nick Burns
[redacted]

[redacted]

0185

From: Rebecca Howe [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 1:34:12 PM

Dear US Air Force,

I want to voice my opposition to the proposal to open up the huge swath of Desert National Wildlife Refuge for military testing. This is officially protected land, set aside to preserve the wildlife that calls it home, most notably bighorn sheep.

It is dishonorable and short-sighted to carve away at this area's borders so that the Nevada Test and Training Range can be expanded.

When did the greatest nation on Earth become the most flippantly destructive of the resources and creatures in its charge? We have become not only bad stewards of what God has put into our care, but we are walking down a widening path of greed, disregard, and outright immorality.

Please place the protection of this space -- as an important ecological habitat and a source of outdoor enjoyment for the American people -- ahead of wanton destruction, disrespect, and greed.

Sincerely,

Rebecca Howe
[redacted]

0186

From: Daniel Gartner [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 1:10:58 PM

Dear US Air Force,

I oppose using lands within the Desert National Wildlife Refuge to expand the Nevada Test and Training Range. The United States has enough bombing test ranges and does not need any more. PA-1 PA-5

This landscape is an ecologically rich and vast complex of undeveloped lands for wildlife, preservation of cultural sites, and outdoor recreation. This is public land, available for the enjoyment of every American citizen. There should be no expansion of the Nevada Test and Training Range.

Sincerely,

Daniel Gartner
[redacted]

0187

From: Angela Bates [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 10:16:43 PM

Dear US Air Force,

This is just about the most disgusting thing I've heard of. Bombing the shit out of a wildlife refuge. PA-1
Are you people crazy? Or just evil?
Why don't you go bomb Mississippi, or Iowa? Bomb one of your own air force bases. PA-5
Leave America's struggling wildlife, and our little patches of public land, ALONE.
Stay out! Stop wasting money on wrecking my country!!! Future generations, if any survive this current worldwide insanity, will curse you selfish fools.

Sincerely,

Angela Bates
[redacted]

0188

From: Alexandria Keaton [redacted] Sent You a Personal Message
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] Protect Desert National Wildlife Refuge
Date: Saturday, January 20, 2018 11:53:10 PM

Dear US Air Force,

Every year on my trip from Las Vegas to UNR, I stop by the Desert National Wildlife Refuge. It is a beautiful desert habitat, home to our state animal, the Bighorn Sheep. It is my opinion that desert habitats are often discredited because people don't understand how complex and beautiful they are. This doesn't mean these habitats are any less worth protecting. In fact, they should be preserved all the more in order to educate the public on how interesting and full of life the desert can be.

The proposed expansion of the Nevada Test and Training Range would cut off the public's access to these lands, ruining any chance for education. It would also kill countless animals living within the range, some of which may be endangered or otherwise unique to the state of Nevada. LU-2 BI-1

Nevada should take pride in it's unique wildlife, not destroy it.

In 1936 the Desert National Wildlife Refuge was created with the explicit intention of protecting the Bighorn Sheep. Nevadans should not disregard this original mission, and should preserve our unique habitats for future generations to see.

For these reasons I oppose expanding the Nevada Test and Training Range.

Sincerely,

Alexandria Keaton
[redacted]

Dennis Ghiglieri and Rose Strickland **0189**

[redacted]

March 1, 2018

Michael Ackerman, Program Manager NEPA Division (AFCEC/CZN)
99th Air Base Wing Public Affairs
4430 Grissom Ave. #107
Nellis AFB, NV 89191 Via email: 99ABW.PAOutreach@us.af.mil

Re: comments on draft NTTR Legislative EIS

Dear Mr. Ackerman,

As long-time Nevada residents and frequent visitors to the Desert National Wildlife Refuge (Refuge), we are concerned about the proposed expansions of the NTTR into more of the Refuge. We have reviewed the draft LEIS and are submitting comments, questions, and suggestions about it. We do appreciate many of the changes made by the Air Force due to public concerns raised in the scoping comments, including withdrawing the expansion boundary which would have resulted in the closure of the only road to Hidden Forest and other popular and traditional areas used by the public on the Refuge.

Our major concerns include: NEPA questions; the USAF's stewardship of public lands and resources; the replacement of the Refuge mission with the military mission on Refuge lands; the loss of recreational access to Refuge public lands; the loss of access for other public uses, including resource management and scientific studies; the loss of proposed wilderness; direct, indirect and cumulative adverse impacts on desert wildlife and plants; and the total non-response of the USAF to native American tribes' concerns as documented in Appendix X.

1. NEPA:

a. alternatives: The alternatives in the LEIS appear to be intended to allow Congress to pick and choose among the various NTTR expansion proposals, not to provide reasonable alternative ways to meet the specific needs of the NTTR. They also do not meet another NEPA requirement on alternatives, because they cannot be compared:

From the Council On Environmental Quality: 40 Most Asked Questions Concerning CEQ's NEPA regulations (46 Fed. Reg. 18026 (March 23, 1981) as amended https://energy.gov/sites/prod/files/G-CEQ-40Questions.pdf.

"The "alternatives" section is the heart of the EIS. This section rigorously explores and objectively evaluates all reasonable alternatives including the proposed action. Section 1502.14. It should include relevant comparisons on environmental and other grounds. The "environmental consequences" section of the EIS discusses the specific environmental impacts or effects of each of the alternatives including the proposed action. Section 1502.16. In order to avoid duplication between these two sections, most of the "alternatives" section should be devoted to describing and comparing the alternatives. Discussion of the environmental impacts of these alternatives should be limited to a concise descriptive summary of such impacts in a comparative form, including charts or tables, thus sharply defining the issues and providing a clear basis for choice among options. Section 1502.14. The "environmental consequences" section should be devoted largely to a scientific analysis of the direct and indirect environmental effects of the proposed action and of each of the alternatives. It forms the analytic basis for the concise comparison in the "alternatives" section."

PA-38

0189

Suggestions: Actual alternatives should be added to the (effectively) "proposed actions" in the LEIS, including, for example, a simple 20 year extension of the existing withdrawal, with no expansions. PA-38

b. incorrect and missing information: We were forced to do our own calculations on the size of the NTTR - acres and square miles because of the rounding down of numbers in the LEIS and incorrect math. For example, on p 1.2, the LEIS states that NTTR covers 2.9 million acres and 4,954 square miles. Our calculations show that the NTTR size is closer to 4,609 square miles due to the size stated on the NTTR website of 2,949,603 acres. Are these rounding errors or math errors?

2,949,603 x .0015625 = 4,608.75 square miles. Even with the LEIS rounding 2.95 M down to 2.9, the conversion to square miles should have been 2.9M x .0015625 = 4,531.25 square miles)

In addition, it was difficult to find acreages of USFWS and BLM lands in proposed expansion areas. See Table under #3, below, for Refuge acreages.

Suggestions: Correct information on acreages should be calculated and disclosed in the LEIS and additional information on land ownership acreages in expansion areas should be added to the LEIS. GE-7

c. poor maps: Most maps in the draft LEIS are missing landmarks, including roads, communities, and other known locations which would have been useful in understanding the context of NTTR expansion proposals. Also, moving the placement of the index would help by uncovering known landmarks in some of the maps. We do not understand how the NTTR mapmakers missed making the boundaries of the Tule Springs Fossil Beds National Monument, which abut the NTTR. GE-2

Suggestions: More user-friendly and complete maps should be added to the LEIS.

d. disclosure document: EISs are required to disclose the environmental impacts of the proposed actions; however, we found many examples of "waffle" words, such as "should" or "could" or "ought-to-be" which do not disclose what the NTTR will actually do. On page 2-37, we found

*"...To further this programmatic analysis, through cataloging the types of resources present in the proposed withdrawal areas, the Air Force can identify potentially sensitive areas that **should** be avoided for specific activities; as an example, springs and seep areas **should** be avoided for ground-disturbing activities such as construction or vehicle use..."*

But must the NTTR avoid these sensitive sites? Is this an actual commitment that NTTR must follow in order to protect sensitive areas? Or is it simply a promise, which is being considered but which may or may not result in an NTTR action?

Another example on page 2-48 regarding minimizing the spread of invasive species:

*"Encroachment of invasive plants in disturbed or restored areas **should** be prevented, and any invasive plants that become established **should** be removed.*

*Excavation and construction equipment **should** be cleaned thoroughly before traveling from one area to another on the NTTR.*

*Off-road vehicle use **should** be minimized whenever possible to decrease the spread of invasive species such as red brome, Russian thistle, halogeton, and cheatgrass.*

*Wherever possible, maintenance of road shoulders **ought to be** minimized to prevent the spread of Russian thistle, halogeton, and cheatgrass. Those areas **should** be managed to develop native plant populations."*

Again, we are unsure if this is an actual NTTR commitment which will be implementeded or not.

Suggestions: If these are actual NTTR commitments, then please replace these words with "shall" or GE-3

0189

"must" or "will." GE-3

e. additional NEPA on site-specific NTTR proposed actions: We were pleased to read this NTTR commitment to future NEPA actions on the current and expanded NTTR base. Please add us to your mailing list for future NEPA proposals. GE-5

2. USAF stewardship of public lands and resources: We are also very interested in how the NTTR currently carries out its stewardship responsibilities on the 2,949,603 million acres within existing boundaries and whether and how it is prepared to take on increased stewardship needs on the additional 267,000 acres in the proposed Refuge expansion areas and 33,000 to 35,000 acres of BLM lands, given the 30% increase in military operations estimated in the LEIS. We reviewed the draft LEIS and the "related document," the NTTR *Integrated Natural Resource Management Plan* (INRMP), for answers to these questions.

a. baseline information on natural resources/status of INRMP: Neither document shows that resource inventories have been completed on the existing 2,949,603 million acres within NTTR boundaries, nor what, if any, baseline studies have been done in proposed expansion areas. In addition, the current INRMP was written in 2008 and 2009 and published in 2011; therefore, at best, its resource data is 10 or more years old. These questions were raised in scoping comments, but not addressed in the draft LEIS. See below:

"One of its major goals was to get existing natural resource information into a searchable data base, as well as to collect more data to remedy the huge gaps in information on ecosystem functioning, wildlife habitat conditions and needs, etc. Its data is currently out-of-date on GRSG populations and habitat and the related conservation efforts at federal, state, and local levels as well as in many other natural resource areas. In addition, it does not cover natural resource management needs and requirements on the additional 300,000 acres of public lands which are proposed to be withdrawn under the NTTR proposals. It identified 3 USAF staff responsible for the INRMP implementation, with needs for several more staff. There are also cooperative agreements and several memoranda of understanding between the USAF and other managers of public lands. What existing INRMP goals and objectives have been evaluated and met? What are the costs budgeted and spent on implementation of the current INRMP by the USAF? What will be the costs (and timeline) of revising and implementing the INRMP to cover an additional 300,000 acres of withdrawn public lands, including revising cooperative agreements and MOUs? How will the public have access to updates to information on natural resources and management?"

In fact, the INRMP was not discussed in the draft EIS and, in a search for the acronym, "INRMP," in the draft LEIS, we found only 8 mentions of INRMP in Chapters 1 and 2, 5 mentions in Chapter 3 and only 3 mentions in Chapter 4. Instead of an update of the status of this critically important stewardship document, are we correct in assuming that no changes have been made since 2011 and the INRMP remains outdated, under-funded and under-staffed and that resource management planning for the proposed expansion areas are not included in it at all?

Suggestions: Please provide information on the status of the INRMP and on what baseline data has been completed for both the existing NTTR areas and proposed expansion areas. If data is missing, when will it be collected and integrated into both the INRMP and the LEIS? BI-25

b. perimeter fencing proposals: There is very little detail on the kind and extent of the trespass "by the public" problem mentioned in the draft LEIS as the rationale for the need to build 115 miles of additional boundary fencing in proposed expansion areas. Is the trespass problem due to humans, livestock, wildlife or vehicles? The LEIS fence discussion references the BLM fence standards and we agree that a bottom smooth wire facilitates passage by some wildlife. We wonder how a standard

barbed wire fence would keep out human trespassers. Other questions: Are there no trespassing signs posted on the current NTTR boundaries? Would better signing assist the public in knowing where the NTTR boundaries are, even without fencing? What kind of trespassers are a problem in the mountainous areas proposed for fencing? It is hard for us to believe that the NTTR cannot detect and repel boundary trespassers without expensive fencing which requires expensive maintenance and has adverse impacts on wildlife passage and the scenic beauty of the Mojave Desert. **0189**

Suggestions: More information on trespass problems, proposed fencing, costs, and other options to deter trespassing should be disclosed in the LEIS. PA-39

c. fires and invasive weeds: There were many scoping comments made about how wildfires and invasive weeds would be handled on the proposed NTTR expansions, but little information is included in the draft LEIS, how fires and weeds will be addressed. Which agencies are responsible for fighting fires on the NTTR and on the proposed expansion areas - the NTTR? the BLM? or the USFWS? Or do all three agencies work together to fight fires? The same question applies to fighting invasive species which are rapidly increasing all over the Mojave and Great Basin Deserts and which have been the cause of catastrophically large fires, and increasingly short fire-return intervals. What is the current NTTR weed control program and how is NTTR prepared to extend it to the proposed expansion areas, if approved by Congress. HS-2 BI-18

3. military and wildlife missions: The mission of the US Air Force is to fly, fight, and win - in air, space and cyberspace (not on land) https://www.airforce.com/mission. The primary purpose of the Desert NWR is to protect big horn sheep as part of a national network of lands and water set aside to conserve America's fish, wildlife, and plants. The Refuge also has responsibilities to make its lands available for public uses. The two missions are critical to the safety of our country and to the responsible management and protection of Desert Big Horn Sheep and its habitat on Refuge lands. Although different, these two missions are not necessarily incompatible for both agencies to achieve together on the same unique arid lands. The Refuge has already lost primary management authority on 826,000 acres to the NTTR and is threatened with losing its primary authority on an additional 267,000 acres. The USAF and the US Navy already control 3,220,00 acres, almost 5% of all of the land in Nevada. PA-40

Table showing significant changes to wildlife and habitat management under the mission of the Desert National Wildlife Refuge verses warfare test and training mission on the Nevada Test and Training Range under the US Air Force		Entity	
		Desert National Wildlife Refuge	Nevada Test and Training Range
Current	Original Size of DNWR (column 1) and the Current Size of NTTR including overlap with DNWR (column 2)	1.615	2.950
	Overlap with NTTR control of DNWR	-0.826	
	Actual amount of lands with DNWR mission	0.789	
	Actual amount of lands with NTTR mission		0.826
	Percent Division of Desert National Wildlife Refuge Management and Mission compared to Nevada Test and Training Management and Mission	48.9%	51.1%
Proposed	Acres removed from DNWR public access Alt 3b (millions of acres)	-0.040	0.040
	Acres removed from DNWR public access Alt 3c (millions of acres)	-0.227	0.227
	Acres for changes to DNWR public access 3b,3c (millions of acres)	-0.267	0.267
	Acres following implementation of Alt 3b,c for DNWR vs. NTTR (millions of acres)	0.52	1.09
	Expansion (+) or contraction (-) percent	**-33.84%**	**32.32%**

0189

Under Alternatives 3b and 3c, there are significant losses to lands dedicated to wildlife management and public uses. The military mission will replace the wildlife mission and, according to the LEIS, there will be numerous installations of half-acre pads, off-road travel, and modifications which affect the character of the land visually and biologically (Table 2-5, LEIS). It is clear from the description (LEIS 1.3 to 1.4.3) that the lands will not be managed to protect habitat, but will be dominated by a training and test mission with fences, installations, and military exercises taking precedence over all wildlife habitat considerations. The LEIS attempts to minimize the overall change on Refuge lands, but our analysis (see table above) shows that the Refuge primary wildlife mission shrinks by nearly 34% in favor of military uses over the current situation. And, it is important to note, more than 51% of the originally designated Refuge lands are already under military control. If the NTTR proposal is implemented, habitat and wildlife will be a distant consideration on more than two thirds of the Refuge as military uses dominate. This is an unacceptable change for this important wildlife area.

BI-4

PA-40

Suggestions: The USAF/NTTR and the USFWS/Desert NWR should work out better ways to coordinate and accomplish each of the missions.

BI-4

4. losses of recreational access to Refuge lands: Under Alternatives 3a, 3b, and 3c, there are significant losses to public access and recreation. Currently, the Refuge and BLM lands identified in the 3 alternatives are accessible to many types of public recreation and scientific inquiry as a part of their missions. In the Refuge outside of the current NTTR boundary, there are highly valued by visitors for its outstanding opportunities for hiking, wildlife observation, conducting scientific surveys, photography, ORV travel on existing roads, exploration of springs and canyons, biking, birding, hunting, wildflower viewing, and many others. All of these uses also occur on BLM lands as well as off-road travel, grazing, mining, and other activities.

All public access is closed in the NTTR proposal (Figures 2.14, 2.15 LEIS) to the Alamo Road north of Hidden Forest Road, East Desert Range, Mule Deer Ridge, Sheep Basin, Desert Valley, Pocket Canyon, Snow Canyon, Snow Basin, Saddle Mountain, Banded Ridge, White Sage Flat, White Rock Road, White Rock Canyon, Basin Canyon, Quijinump Canyon, Spring Canyon, Pine Canyon Road, Pine Canyon, and the Sheep Range's west side north of Deadman Canyon. The loss of access to these places is significant and not appropriately or adequately analyzed in the LEIS. We believe that the loss of public access and routine wildlife personnel access will lead to a serious deficit in the management, study, and appreciation of this unique part of the Mojave Desert.

LU-2

The Alamo Road is the key access to this botanically diverse part of the Three Lakes basin of the Mojave Desert in the Refuge. The draft LEIS fails to note most of the places described above. However, they are well known to visitors who have enjoyed the desert for generations. Likewise, the region is important for Native Americans who make use of numerous plants for their spiritual well being. Terminating access to 267,000 acres (including 40,000 acres of Refuge lands surrounding Naivi Wash, northwest of Indian Springs), creates unacceptable losses for current and future generations.

Suggestions: Other military bases have well-developed public access programs. We have been able to take tours of the world-famous petroglyphs on the Naval Air Weapons Station China Lake. See:

PA-10
LU-2

https://www.cnic.navy.mil/regions/cnrsw/installations/naws_china_lake/om/public_affairs_office.html

And, we have birded the canyons of the U. S. Army Ft. Huachuca. See:

http://huachuca-www.army.mil/pages/des/requestaccess.html **0189**

5 the loss of proposed wilderness: Alternative 2 (LEIS 3.5.2.3) proposes the elimination of 590,000 acres of proposed wilderness within the existing South Range withdrawal area of the Refuge. The draft LEIS says it analyses impacts of the change primarily on wilderness areas outside of the NTTR's proposed boundary additions. The direct impacts to the loss of wilderness, however, are little covered except to claim that it would benefit management by providing better access for monitoring and installing guzzlers. However, the NTTR would substantially change its operations as a result of eliminating wilderness to increase by 30% live munitions within the Refuge lands in the South Range, allow new threat emitters and insertion points and ground troop movements throughout. Nevertheless, analysis of how these direct actions would impact wildlife, habitat, and landscape on these proposed wilderness areas and how the NTTR would address these impacts did not occur in the draft LEIS. Instead, the draft LEIS only considered increased noise impacts on wilderness areas far removed from the military operations, while refusing to adequately address these impacts to wildlife and wildlife habitat in the existing proposed wilderness in the expansion areas. BI-19

Alternatives 3b and 3c (LEIS 3.5.2.4) would eliminate 33,000 and 277,000 acres of recommended wilderness, respectively. The wildlife habitat within the Refuge would be adversely affected by the elimination of wilderness because of the new military activities in the proposed NTTR expansion areas. Disturbances to the Refuge mentioned in the draft LEIS (but unlikely to be an exhaustive list) include noise from 30% increase in aircraft operations, ground disturbance and new wildlife movement restriction from 65 miles of fencing, new troop movements, road improvements, construction and use of two runways, emitter sites and all other supporting infrastructure such as refueling stations, munitions loading and equipment storage.

Damage or destruction of wildlife habitat, new restrictions on wildlife movement, and fragmentation of the landscape currently devoted to wildlife will result from the elimination of the Refuge proposed wilderness under the NTTR draft LEIS. The potential loss of up to 900,000 acres of proposed Refuge wilderness will create industrial type development of the presently wild and undisturbed Refuge wildlands. WI-3

Further, the draft LEIS fails to disclose the character of the lands permanently removed as proposed wilderness. These undeveloped wildlands represent a very large desert and mountain landscape - perhaps one of the largest landscapes in the west - that retain wild and undeveloped character. The draft LEIS fails to recognize and analyze the importance of each wilderness unit to wildlife – desert bighorn to be sure, but all wildlife that is currently protected in this large, undeveloped landscape. WI-4

Finally, the draft LEIS declares that wilderness outside of the NTTR serves as a substitute for the loss of lands managed as wilderness within the NTTR portion of the DNWR. This is a specious argument. Wilderness character lands - designated or not - provide connectivity for wildlife that was and remains the main reason the Refuge was created to begin with. The availability of wilderness lands elsewhere is irrelevant to the fact that development and disturbance on some or all of 900,000 acres of land within the Refuge will be allowed by the NTTR expansion. Therefore, there is no substitute for the loss of this wilderness resource and the analysis in the LEIS is totally inadequate in disclosing the adverse impacts of this enormous loss of wilderness. WI-5

6. adverse desert plant and wildlife impacts - direct, indirect, and cumulative: The draft LEIS appears to simply declare that expanded NTTR operations and expansions into and primary control

over natural resources, including Desert Big Horn Sheep will have no negative impacts on plants and wildlife on the Refuge without an supporting information for this conclusion. **0189**

While we appreciate the recent wildlife and plant studies commissioned for the LEIS which were done in 2017 on the Refuge outside the NTTR, some areas within the NTTR, and in some of the proposed expansion areas, we question how much of this information, especially the reports completed within 1 or 2 months before the release date of the draft LEIS, was able to be incorporated into the LEIS analysis? We do believe we may have seen an exciting video of the mountain lion project on the NTTR at a Devil's Hole Workshop. BI-20

This information is very valuable when its can be incorporated into the INRMP by providing the bases for needed updates to plant and wildlife management plans. Without updating the INRMP and securing adequate staffing and budgets to implement the INRMP, we don't believe that the NTTR will have the capacity for determining whether its 30% increase in military operations on and primary control of the proposed expansion areas will benefit or harm desert plants and wildlife, nor will the NTTR have the necessary resources to effectively manage its natural resources within its current boundaries as well as in proposed expansion areas. BI-21

The draft LEIS does state the adverse impacts should or could be avoided in facility construction and military operations, but not how this will be accomplished in the middle of shooting at targets, bombing, or driving cross-county over sensitive plants and wildlife habitats, etc. The draft LEIS also fails to disclose what, if any commitments NTTR has made for mitigation of unavoidable adverse impacts on desert plants and wildlife. And, although the LEIS states that NTTR has a process for approving access for scientists and resource and land managers, it does not disclose whether these access requests are routinely granted or routinely denied or how much research is currently allowed in the existing NTTR or will be allowed in the proposed expansion areas. PA-1 GE-3

We are especially concerned about possible population declines and losses of crucial habitat for Desert Big Horn Sheep, Desert Tortoises and other sensitive species in the proposed Refuge expansion areas due to the worsening impacts of global warming, including longer droughts, higher temperatures, and extreme weather events, again not mentioned in the draft LEIS. BI-22

Therefore, protecting and conserving populations and their habitats from adverse impacts of proposed increased military operations and takeovers of Refuge lands and resource management responsibilities must be more effectively addressed in the draft LEIS.

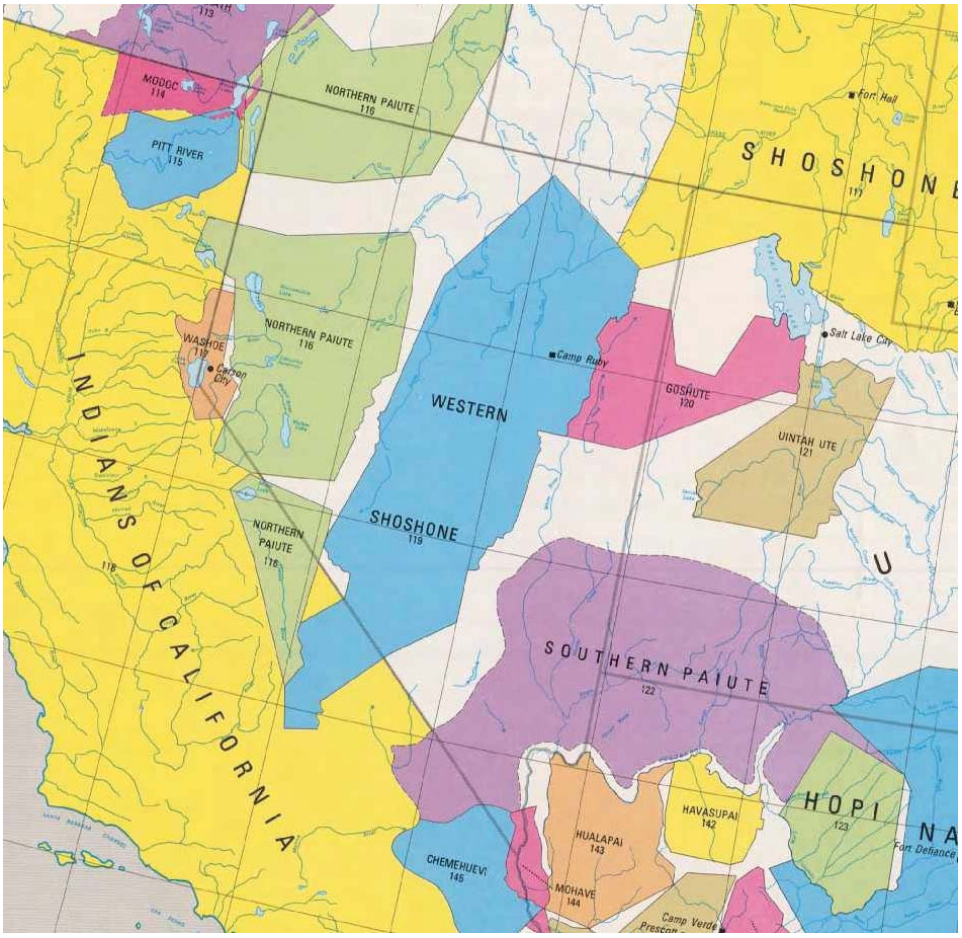
Suggestions: Considerable work needs to be done to improve the capacity and ability to update and implement the INRMP for effective protection and management of natural resources on the NTTR, especially in the proposed expansion areas. The LEIS should disclose how these needs will be met. BI-21

7. non-response to Native American tribal concerns (Appendix K): The inclusion of the comments in Appendix K by the Consolidated Group of Tribes and Organizations (CGTO) on the Native American Perspective on the draft LEIS is laudatory. We learned so much from the thoughtful and eloquent document on our local tribes' knowledge and understanding of the NTTR lands and natural resources for which all of us have stewardship responsibilities. Appendix K reminded us all of the spiritual and cultural values of our natural resources. The CGTO spoke, again and again, of their opposition to NTTR proposals which harm plants and wildlife, air, water, and soils, and people, and of their need and right for more adequate access to their traditional homelands which they have occupied

for millennia. **0189**

Unfortunately, the draft LEIS did not address the substantial comments provided by the CGTO, not even in the environmental justice sections. The draft LEIS also did not discuss how it would address Native American requests for more access to the NTTR, including access to area #119, one of the Indian Land Areas Judicially established in 1978, which covers huge parts of the NTTR. See:

https://pubs.usgs.gov/unnumbered/70114965/plate-1.pdf



Suggestions: The U.S. Air Force's consultation with the CGTO should continue in order to work out access protocols and other areas of cooperation and management of lands and resources on the NTTR and in the proposed expansion areas. CU-4

8. other concerns:

0189

a. negative economic impacts on NTTR expansion proposals to local communities : The draft LEIS identified huge adverse economic impacts to local communities, especially Beatty, NV of over a million dollars. There was no mitigation proposed in the draft LEIS for this significant adverse impact.

Suggestions: Since the NTTR revised its original expansion proposal in Alternative 3A-1 in the draft LEIS in order to avoid closing public lands to two ORV races, we suggest that a further reduction in proposed expansion into these valuable recreational lands be negotiated in order to avoid substantially harming the economy of local communities.

b. the Alamo Road closure: The Alamo Road has been used by Nevadans crossing the central part of the state for over a hundred years. In reading Appendix K of the draft LEIS, we learned that the Native American tribes in at least three states have been using this route from Pahranagat to the Spring Mountains for millennia. In the last few years, Interstate-15 has been closed temporarily at least twice, once by an armed militia takeover and once by floods from an extreme weather event cutting through lanes of the freeway. The Mormon Well Road and the Alamo Road are the only routes through central Nevada between Hwy. 95 to Hwy. 93 from Las Vegas all the way north to Tonopah. If travel on I-15 from Las Vegas to Utah was made impossible by some future natural or man-made catastrophe, passage through Mormon Well and Alamo Roads would the only land routes to move emergency supplies and personnel and the public east-west in central Nevada. We believe that the NTTR closing off public access to and use of the Alamo Road is extremely short-sighted and unwise. In addition, the road goes through the heart of central Nevada, is currently in use for vehicular traffic, biking, horse riding and running. In good desert wildflower years, crowds of tourists brave the rough road to see the spectacular wildflower displays. All of these values and the impacts of the loss of public access to them on the Refuge were missed in the draft LEIS.

Suggestions: NTTR must modify its expansion proposal to come up with a controlled access plan to keep the Alamo Road open except when public uses might interfere with planned military operations.

Conclusions: The draft NTTR LEIS has not made a compelling case that the benefits of an estimated 30% increase of military operations on an additional 302,000 acres of public lands, including 267,000 additional acres of the Desert National Wildlife Refuge, outweigh the unmitigated losses of current and future public access and uses, losses of now up to 900,000 acres of proposed wilderness areas, unmitigated adverse impacts on the outstanding natural resources, and loss of the Refuge's wildlife and public missions in the proposed NTTR expansion areas. Considerable improvements and mitigation must be made to the NTTR proposals in order to reduce these negative impacts which were not adequately analyzed nor addressed in the draft LEIS. The LEIS must also be revised to comply with NEPA requirements.

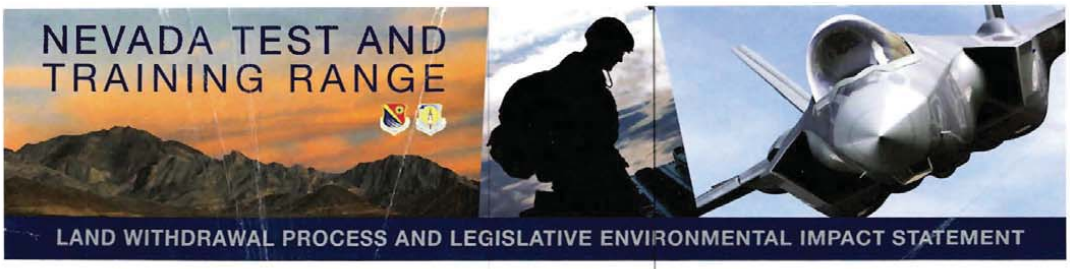
GE-3

Thank you for considering our comments.

Dennis Ghiglieri /s/ *Rose Strickland /s/*

Dennis Ghiglieri Rose Strickland

0190



Written Comment Form

LOCATION: _____ DATE: Feb 21 2018

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: Laura Marie Taylor

Organization:

Address: [redacted]

City/State

☐ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☒ No, do not include my name and address on the mailing list.

All comments will be fully considered in the Final LEIS without providing a full address.

THANK YOU FOR YOUR INPUT.
COMMENTS MUST BE POSTMARKED BY MARCH 8, 2018 TO BE CONSIDERED IN THE FINAL LEIS.

PLEASE PRINT LEGIBLY.

Artifacts will be destroyed, animals will be harmed, earth will be poisoned if this goes through. The military doesn't need more room — nature needs more room.

CU-2
BI-1

0191

Written Comment Form

LOCATION: Alante Hotel DATE: January 23, 2018

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: [redacted]

Organization

Address:

City/State/Zip:

☒ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☐ No, do not include my name and address on the mailing list.

All comments will be fully considered in the Final LEIS without providing a full address.

THANK YOU FOR YOUR INPUT.
COMMENTS MUST BE POSTMARKED BY MARCH 8, 2018 TO BE CONSIDERED IN THE FINAL LEIS.

PLEASE PRINT LEGIBLY.

1) The proposed expansion will endanger wildlife, cut off public access to public land, and hurt rural recreational economies. The briefing presented no valid reason for the dismemberment of the Desert National Wildlife Refuge. — BI-1, LU-1, SO-3

2) The Air Force would needlessly disturb the ground of the southern part of the refuge with its "ready access" like it has with the northern part of the refuge that it already controls — PA-5

0192

February 27, 2018

To: Nellis Air Force Base
99th Air Base Wing Public Affairs

To Whom It May Concern,

Please DO NOT WITHDRAW the parcels sought by military.
The Mojave is one of the most biodiverse places in the world and must be preserved as wildlife refuge and sacred land of Native Peoples.
Please preserve the 1.6 million acre Desert National Wildlife Refuge!!

Concerned Citizen,

Debra L McGuire
[redacted]

0193

99th Air Base Wing Public Affairs
4430 Grissom Ave., Suite 17
Nellis AFB, NV 89191

RE: EIS No. 20170236, Draft, USAF, Nevada Test and Training Range NTTR Land Withdrawal

To Whom it May Concern;

We are writing to oppose all options involving the proposed land withdrawal and expansion of the Nellis Test and Training Range in Southeastern Nevada.

Although we do understand the importance of the defense of our country, it should not be on the backs of public land users.

Tourism and recreation are the core industries of the area and the proposed areas to be withdrawn will significantly impact the future economic development of rural Nye County and the Beatty area. SO-1

Growth and development in any geographic area is largely dependent on economic activity. The area proposed for withdrawal in option 3A already has OHV trails as well as mountain bike trails and has been earmarked by the Beatty community for future development of additional trails to aid in our economic growth. SO-4

Our Community hosts several events during the year on areas marked for withdrawal. The 2018 Boy Scout Mountain Man Event alone saw over 1500 visitors to our area and it was in part on the area 3A option for withdrawal. In Addition, we have an Off-Road Poker Run to benefit the VFW Post in Beatty and many more. The area in option 3A also includes parts of the Jeep Trail through the Bullfrog Historic/Geological Mining District. People come to our area to learn about western history, wildlife, mining, geology and to just plain have fun in our free, open spaces.

Beatty's future economic opportunity is in part dependent on policies and plans for activities on public lands. The Beatty area has a small corridor of public lands area along Hwy 95 to use for expansion and economic growth, and by increasing the NTTR area into that corridor the Air Force is seriously impeding our ability for future growth and increase tourism into the area. SO-4

By cutting off access to these important historic, geologic and geographic areas you would be cheating future generations of Americans and visitors to this great country, the benefits of the freedoms awarded them by our public lands.

We strongly oppose any land withdrawal now and in the future for NTTR and would like to see the areas left status quo.

Sincerely,

Paul and Patti Butler
[redacted] Nevada
February 21,2018

0194

99th Air Base Wing Public Affairs

4430 Grissom Ave., suite 107

Nellis AFB, NV 89191

Feb 15, 2018

To Whom it May Concern;

We are writing to oppose all options involving the proposed land withdrawal and expansion of the Nellis Test and Training Range at Nellis Air Force Base in Southeastern Nevada.

Although we do understand the importance of the Defense of our country, it should not be on the backs of public land users.

The proposed areas to be withdrawn will significantly impact the future economic development of rural Nye County. Tourism and recreation is the core industry of the area. SO-1

Growth and development in any geographic area is largely dependent on economic activity. The area proposed for withdrawal in option 3a has already been earmarked for future development to aid in the economic growth of the Beatty community. SO-4

Our community hosts several events during the year, and 2018 included a Boy Scout Mountain Man Retreat in the area proposed for withdrawal. This event alone saw over 1500 visitors to our area. In addition we have a VFW Jeep Poker Run to benefit the VFW Post in Beatty, Area 3a also includes parts of the Jeep Trail through the Bullfrog Historical/Geographical Mining District.

By cutting off access to this important historical and geographic area, you would be cheating future generations of Americans and Visitors to our country, the benefits of the freedoms awarded them by our public lands.

We strongly oppose any land withdrawal now and in the future of area 3a and would like to see it left status quo.

Paul & Patti Butler

Diane Pierce

Diane Pierce

0195

Nellis Air Force Base 2-16-18

NO. To the Military Land Withdrawal Part of Desert National Wildlife Refuge.

I Support Friends of Nevada Wilderness and The Las Vegas Paiute Tribe.

Bill Bissell

[redacted]

0196

2-26-18

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave. Ste. 107
Nellis AFB NV 89191

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This land is an ecologically rich and vast complex of wild public lands for wildlife, (especially bighorn sheep and antelope), cultural sites, and outdoor recreation. and it is the watershed for the Amargosa River There should be no expansion of the Nevada Test and Training Range

PA-36

Sincerely
Nancy Marsh
[redacted]

0197

2/21/18

NELLIS AFB

RE LEIS PROPOSED EXPANSION

I STRONGLY SUPPORT ALT #5 the NO ACTION Alternative.

Stop TRYING to PUSH PEOPLE off THEIR PUBLIC LANDS!

THE ALIANTE HEARING MADE IT VERY CLEAR: NO ONE REPEAT NO ONE SUPPORTS THIS proposed EXPANSION.

GEORGE EARLY

[redacted]

0198

Notes

To Whom It May Concern

We are very saddened to learn that there is a plan to reduce the 1.6 million acre Desert national Wildlife Refuge. This area which is very dear to our heart has a beautiful array of animals and plants and the magnificent bighorn sheep.

I am hoping that you will reconsider this

0198

decision and protect the most beautiful areas in Nevada. Thank you for reading our comment.

Linda Paez
Abel Paez

[redacted]

0199

Written Comment Form

LOCATION: DNWR / NELLIS BOMBING RANGE DATE: 20 FEB 2018

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: MARC COLLONGE

Organization: DESERT ARTIST RETREAT MUSEUM

Address: [redacted]

City/State/Zip: [redacted]

☒ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☐ No, do not include my name and address on the mailing list.

All comments will be fully considered in the Final LEIS without providing a full address.

THANK YOU FOR YOUR INPUT.
COMMENTS MUST BE POSTMARKED BY MARCH 8, 2018 TO BE CONSIDERED IN THE FINAL LEIS.

PLEASE PRINT LEGIBLY.

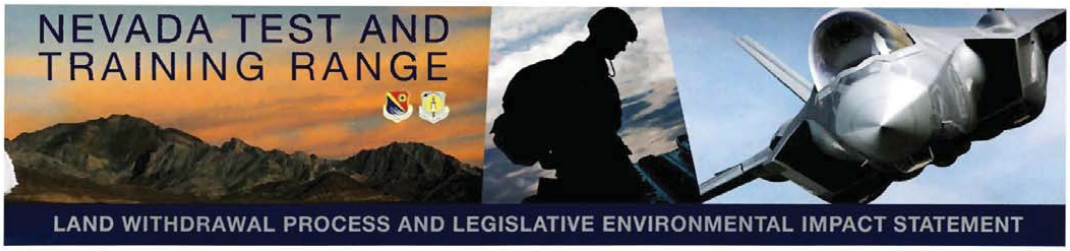
PLEASE PULL BACK.

WE NEED MILITARY LAND-BASE FOOTPRINTS TO SHRINK. ALL MILITARY ACTIVITIES MUST DIMINISH AND MINIMIZE CURRENT IMPACTS ON NON-MILITARY ACTIVITIES, BIOLOGY, ETC.

THE DESERT WILDLIFE RANGE (AND OTHER NON-MILITARY LIFE) IS ARE ALREADY HURT, SUFFERING AND IN NEED OF RELIEF.

PLEASE STOP ALL ENCROACHMENT.

0200



by Mar 8, 2018

Written Comment Form

LOCATION: Home DATE: 3/3/18

PRIVACY ACT ADVISORY: Private addresses provided will be compiled to develop the mailing list for those individuals requesting copies of the LEIS document. However, only the names of the individuals making comments and specific comments will be included in the LEIS document. Personal home addresses and phone numbers will not be published in the LEIS document.

Name: William O'Connell

Organization: Las Vegas Quakers

Address: [redacted]

City/State/Zip:

☐ Yes, include my name and address on the mailing list so I can receive information on the NTTR Final LEIS.

☒ No, do not include my name and address on the mailing list.

All comments will be fully considered in the Final LEIS without providing a full address.

THANK YOU FOR YOUR INPUT.
COMMENTS MUST BE POSTMARKED BY MARCH 8, 2018 TO BE CONSIDERED IN THE FINAL LEIS.

PLEASE PRINT LEGIBLY.

The sheep were here first.
Foregoing long-term "natural security" for the sake of "national security" is a lose in the end for all; years, decades, centuries in the future will there be any sustainable nature and wildlife? Will this land be any more than a bombed, uninhabitable, tradiated wasteland? Stop the bombing, start the healing now!

PA-1

0201

3/2/18

to whom it concerns –

I am unhappy to hear about the proposed legislation to add another 300,000 + acres to the Nevada Test & Training Range. Mostly land that is currently Wildlife Refuge. The training range is already huge – I just don't see why more is needed. That area of the Desert Nat'l Wildlife Refugee is important habitat for wildlife, plants & people. That area is near a large population, Las Vegas, and is valuable open space for people too. PA-5

This is an all-around bad idea. I support Alternative I wholeheartedly.

thank you,

Susan Greenleaf

[redacted]

0202

March 7, 2018 Response to NTTR Draft LEIS

It is difficult to assign specific environmental concerns in opposition to this Land Withdrawal Proposal because, as presented by the Air Force, larger ethical questions are not addressed. Nevertheless, I can only support the "No Action Alternative" and am opposed to Proposed Alternatives 1-4 for the following reasons:

1. Re: Alternative 4c: The Air Force (AF) intends to withdraw the land indefinitely; it has no plan to EVER return the land to public use. Future generations of Americans deserve access to unspoiled wilderness. The AF does NOT have Manifest Destiny to annex more & more public land in the interest of "ready access" needs. Shouldn't we expect improvements in technologies requiring such annexation unneccesary? PA-45
2. Re: Alternatives 1-3: This withdrawal violates the spirit of the original Desert National Wildlife Refuge (DNWR) intent of preserving the environment to protect the Bighorn sheep and other wildlife. Further restrictions of their habitat can not be seen as "protection".
   a. Physical damage to the land for landing strips, radar emitters, etc. CANNOT be undone.
   b. Increased sound decibel-level effects on wildlife can only be speculative. Sound-Levels travel well beyond supposed land boundaries into non-restricted areas. There is no current proposal for noise-reduction technology to be implemented for wildlife (and human, meaning my!) protection.
   c. Microwave radiation effects on flora & fauna have not been addressed. BI-23
   d. Wildlife professionals should be responsible for caring for wildlife. Currently the AF only allows 20 paid hours per year (!) for the Fish & Wildlife Service (as per F&W staff) to complete necessary monitoring on the existing range: Why should MORE land be short-changed? There is no way to know the extent of damage ALREADY inflicted on current wildlife with such a meager amount of monitoring. This data has not been presented to me. In my opinion, the AF has not been a good steward. BI-4
3. Re: Alternatives 1-4: Ethically, should Foreign Governments be allowed "ready access" (during training exercises--e.g., Red Flag) and deny US citizens (me!) recreation/leisure use of existing land for hiking, camping, or sightseeing? PA-46
4. Re: Alternative 3c: The "protection buffer" for humans excuse is untenable. If cyber-warfare and space platforms are the future, why continue justifying use of ineffective F-35 technology (which still operates below design specifications) to gobbie up more land usage? The AF should fix the current technologies to operate more effectively in their existing space. Using this argument, I could wonder whether ANY buffer zone is "safe enough!"
5. Re: Alternative 3c: The Alamo Road is the only access way to much of the remaining Wilderness area, and will be denied access to me for future use.. Public roads must remain open to the public.It is a "slippery slope" when the military further restricts access to aforementioned wilderness. At this rate, there will not be any more wilderness land accessible for the public benefit.

Thank you.

Robert Taras

[redacted]

0203

[redacted]

March 7, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Avenue, Ste 107
Nellis AFB, NV 89191

Re: NTTR Military Land Withdrawal Draft LEIS

After attending the January 17, 2018 Scoping Meeting held in Caliente, NV, I would like to submit the following comments:

Proposed Alternative 1: I definitely have no issues with extending the existing land withdrawal and management of the NTTR North and South Range. This area has proven to be an essential part of the military training program and should remain as such.

Proposed Alternative 4: For Proposed Alternative 1, the Period of Withdrawal should be Alternative 4C – Indefinite Withdrawal Period. By making the withdrawal period indefinite, our military will always have a location where training and testing can continue in realistic settings.

The importance from the military perspective for the need to expand the withdrawal area is understandable. Because of the continuing enhancements to technology involved in national defense and security, the ability to have an area where testing and training missions could be executed in a more realistic manner makes sense. But, the expansion raises concerns regarding various cultural and recreational issues. Sc[redacted]

LU-1
LU-2
LU-10

0203

Hunting is another concern. While it is stated that hunting is likely to continue to be allowed but only when there are no military training activities occurring certainly leaves the door open for the military to close the door indefinitely. As there are established hunting seasons, why couldn't the military move the training activities to other areas of the NTTR during the hunting season in order to allow the hunters open access throughout the season? LU-8

Any area closures are concerning because of the possibility of communication difficulties and the cultural and recreational areas that would be affected.

Concerns also arise in how long it would take to process agreements for access to these areas. If it takes too long to process an agreement, the public may become less understanding. What would be the proposed timelines for processing agreements? LU-2

Proposed Alternative 4: If Proposed Alternative 3C was selected, the Period of Withdrawal should either be Alternative 4B – 50-Year Withdrawal Period or because of the impact to public access Alternative 4A – 20-Year Withdrawal Period would be the better choice.

Thank you for taking the time to review my comments.

I would like to remain on the mailing list. Please mail any information to:

Susan C Hansen
[redacted]

Sincerely,

Susan C Hansen

Susan C Hansen

2

0204

1

March 8, 2018

To: 99th Air Base Wing Public Affairs
4430 Grissom Ave. Suite 107
Nellis AFB, Nevada 89191

Re: NTTR Land Withdrawal LEIS Draft dated December 2017

The LEIS is unsatisfactory in the following ways:

1. The large number of alternatives and possible combinations of alternatives make a meaningful or concise analysis impossible. There is no chart or table that allows the reader to understand clearly how the alternatives and combinations compare. Our elected representatives in Congress, and their staff, will not be able to process all the choices and consequences in any meaningful way, and therefore will be unable to make a reasoned selection. — PA-38

2. Little or no attention is given to meeting USAF needs without removing vast areas of public land from public access thus curtailing management of important plant and animal species, scientific studies, public recreation, the preservation of historic and Native American resources. — PA-5

The use of training simulators as an alternative is not addressed in the LEIS despite the rapid advancement of simulator technology. With the changing hardware of defensive and offensive systems it would be possible to update training much faster using technology as opposed to expanding the already vast territory under military control. Creech AFB is an example of how changes in types and uses of aircraft and training methods have altered the activity, training, and mission of a base, even significantly reducing aircraft over-flights of communities. — PA-6

3. The USAF is not the only military agency seeking to withdraw additional lands from public use. All military branches must develop a system of sharing lands already withdrawn rather than expanding into sensitive habitat and/or land that could be put to better uses, such as solar power production and public recreation. — PA-5

4. Throughout the LEIS the maps are inadequate and/or incorrect. Even though commenters provided specific information about the sites, areas, roads, etc. that were important to them, these are absent from most of the maps. Well-known landmarks that would help the reader identify the area addressed by a map are missing from many, many maps. For example, Indian Springs is often eclipsed by labeling of Creech AFB, or missing altogether even though it would be helpful and appropriate. In at least one instance (3-209) Indian Springs is shown on the wrong side of US 95, and to the west of Creech AFB. Other maps show the community east of Creech AFB (3-22 and 3-32 for instance). Cactus Springs is also omitted from almost every map. — GE-2

5. Throughout the entire LEIS there is discussion of what **could** be done, what **might** happen, **should** or **ought** to be done. For example, on page 2-37 line 21: "should be avoided..." and page 2-47 line 15: "actions could be planned...." And page 3-319 line 1 ..."might be able to adjust..." Also, page 3-60 line 6 "...may no longer be managed..." Use of such indefinit — GE-3

0204

will actually be done, if anything. Use of "shall," "will" and "must" are more appropriate. — GE-3

6. What provisions will be provided for oversight of the military's activities on sensitive lands? What person or agency outside the USAF will have oversight over the USAF's management of DNWR lands and species? Will any person or agency have the authority to enforce proper stewardship of the lands and species? — PA-50

When the USAF purchased the property on the north side of the highway in Indian Springs, the community was assured that the large trees would be preserved. That area is now completely devoid of any vegetation and a source of dust when the wind blows. The base and community shared ambulance and fire services for many years, but now only assistance with fire fighting remains. The loss of the property on the north side of US 95 has devastated the community due to the loss of community sources of employment and services. There has been no mitigation. — GE-6

7. Fencing is another issue inadequately dealt with in the LEIS. In the discussion of Alternative 3 (pages 2-23 thru 2-24) it states that fencing would be required "only on the proposed boundaries that do not abut the current NRRT boundary." It further states that fencing would be designed according to the type wildlife present. Later in the same paragraph the fencing is specifically described. According to the BLM fencing manual, the fencing described is for Pronghorn, not Big Horn Sheep (see page IV-7 of BLM Fencing Manual). What species will be impacted by fencing? What provisions will be made for wildlife to cross into and out of fenced areas? Some areas shown on Fig. 2-11 are already fenced with provision for wildlife crossing of US 95. Would this fencing be replaced? In remote areas, with limited public use, why is fencing needed? Would warning signage for the public be more appropriate to allow wildlife to use the area without the adverse effects of fencing in the event alternative 3C is adopted? Furthermore, much of the proposed fencing in alternative 3C abuts the Desert National Wildlife Refuge and therefore, according to the statement above, does not need fencing. — BI-5

8. Arguing that wilderness areas outside the proposed NTTR expansion would serve to replace those within the expansion is incorrect. Plants and animals that live on those lands will not pick up and move to other areas—they cannot. Preservation of the continuity of the wilderness areas must be preserved as such. — WI-6

The military has other options that they have failed to completely explore. — PA-5

9. Although commenters asked that climate change be considered, it seems to be omitted from the considerations recounted in the LEIS. It is important to consider how climate change will impact the flora, fauna, and microorganisms of the proposed expansion areas, especially in combination with military activities. How will climate change magnify the impacts caused by military activities? How will climate change impact other factors such as hydrology, socioeconomics, and air quality? Will the military adopt adaptive practices to protect the environment and inhabitants of the lands they use? How will the military address the problem of Coccidioidomycosis (valley fever) as it moves into the area as the climate changes? It is already suspected or endemic in southern Nevada. — BI-22

0204

3

10. In the environmental justice section the only real consideration is noise. On the maps in this section the only population of concern is the Indian Springs Elementary School. The remainder of the school population (middle and high school) is omitted. SO-10

11. The LEIS failed to examine the values of the Alamo Road. This road is important to Native Americans as well as those who enjoy exploring the area on foot, by vehicle, bike, and on horseback. It is also the only connection between highways 95 and 93 that could provide an alternative to I15 if it's shut down due to an emergency, as has happened twice in the last few years. LU-1 CU-1 TR-1

For these reasons the draft NTRR LEIS is inadequate. It does not demonstrate that military needs outweigh the loss of millions of acres of public lands, or that the military is capable of providing the kind of stewardship of the lands that is necessary for protection now and in the future. BI-4

0205

From: Ray Fisher
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, March 04, 2018 8:07:09 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my approval of the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would have little if any detrimental effect on these Wilderness-quality landscapes, nor would it threaten the wildlife populations that thrive in them.

I am not in favor of Alternative 1 of the Legislative Environmental Impact Statement which would limit our armed forces to training on the range as it is today. I am in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see the NTTR boundaries expanded as there are few areas where the military can carry out this type of training. The area southwest of Hill AFB in Utah and the area north of Navy Fallon in Nevada are invaluable training areas and have proven environmentally friendly with wild life flourishing. Actual weapons delivery areas are small and well protected. There are too few areas in the continental US where military training vital to our national interests can carried out.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Ray Fisher [redacted]

0206-0210

Commenter ID	Commenter	Comment	
0206	Roland Choate	Please do not close access to the Desert National Wildlife Refuge. It is one of the last truly accessible, open places in the continental United States. I would like to come out and drive the Alamo Road, the bulk of which is included in the closure. Over half of the acreage of the Refuge already resides in the NTTR. I fully understand that the Air Force needs to train pilots. I support this. There has to be a better way to use the land that has already been withdrawn from public use, over 800,000 acres if I am not mistaken. I realize that I am one small voice in a sea of them, and that Congress will probably not take into account what I have to say. It is unfortunate that Roosevelt's dream of free and open country should fail so easily, so I felt I had to say something. Thank you guys for all that you do. Stay safe!	
0207	Scott S. Brooks	I prefer that the Desert Wildlife Refuge remain intact, and open to the public.	
0208	K R Gregg	There are ways to accommodate the Air Force's training needs without shutting down public access to more of the wildlife refuge. The Air Force's proposal does not adequately explore these avenues. The NTTR already encompasses 4,608 square miles. And the military already controls more than 21,000 square miles of land in the southwestern US. There is indeed some wiggle room in the Air Force's proposal, even if the text does not illuminate the alternatives. I don't think this is an either/or scenario. What will be the short and long term effects on these public lands - including all waters and all wildlife? We can give the best training and equipment to a lieutenant flying thirty thousand feet overhead in an F-35 without having to tell our children about places in the US that we used to have the freedom to explore before their time.	PA-5 BI-1 WA-1
0209	Amanda Kiely	My family and I are frequent visitors to the desert areas north and west of Las Vegas and are firmly against the Air Force annexing even more land for miltary purposes. We spend a lot of money in tourist dollars in communities near the range. Over the years we have become more and more disgusted by the military presence in the area, which is discouraging our frequent visits to the desert and leading us to spend our money elsewhere, rather than the economically depressed towns that certainly need it. Another objection we have is the loss of thousands of acres of delicate desert habitat that would be crossed with roads and activity. Flora and faina exist here that cannot be found anywhere else in the world. This proposal would further the precarious position of tortoises, sheep, etc. Again, we are very strongly against the military taking over even more of the land belonging to the people of the United States.	BI-1 BI-2 BI-3
0210	Christopher J Smith	As a Las Vegas native, the DNWR is where we spent most of our youth exploring and experiencing nature at its most wild, and I came to understand the fragile environment and the necessity to preserve this area for reasons both recreation purposes and environmental. Closing this public land off to the public for military use is not in the public interest, and there will be a strong backlash if this is attempted. The U.S. military has enough land in Nevada to use, we are not at	PA-5

Commenter ID	Commenter	Comment	
		war, they do not need to expand into this region and remove access to the public a place we enjoy visiting often.	
0211	Richard Stephens	As a long-time resident of the town of [redacted], I strenuously oppose the withdrawal identified as Alternative 3-A. This area is important to both the quality of life and economic development (recreation and tourism) of Beatty and its inhabitants. It would eliminate or curtail access to popular areas used for offroading, mountain biking, and other activities. Our community is already crowded against the existing boundary. Please do not strangle us further!	SO-4
0212	Ronn Coldiron	No land within the Sheep Range should be withdrawn for military use. This area is one of the few areas in southern Nevada with multiple recreational opportunities with forested mountains. The area is used regularly by the Boy Scouts in the Las Vegas area and various hiking clubs, especially within the Hidden Forest Canyon area as well as areas on the east side of the range such as Mormon Wells and Sawmill Canyon. Both biological and historical resources exist on both sides of the range including one of the few original log cabins in all of southern Nevada. in addition, there are 3 cabins on the east side of the range that are referenced in a University of Califonia botanical field study which have yet to be located and stabilized. Closure would preclude the preservation of these resources.	LU-1 BI-1 BI-4 CU-2
0213	Robert P Gaude	I am against any expansion of military use of land in Nevada. I am against any removal of or shrinking of protected area, wilderness, proposed wilderness, public lands or areas of historic value. Our desert not a bombing range or a nuclear dump site. Our states best features are its wilderness and open land for both human and non human to enjoy. NO EXPANSION, NO LOSS OF PUBLIC LAND, WILDERNESS OR PROTECTED AREAS IN NEVADA. Rob-	
0214	Lynn Inouye	Dear Nellis Air Force Base, I would like to express my concerns about the military expansions and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. It is the largest refuge in the contiguous United States, the largest roadless area in Nevada, and 70% has been proposed for Wilderness designation by the U.S. Fish and Wildlife Service. I am only in favor only of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I do not support the transfer of primary jurisdiction from the US Fish & Wildlife Service nor any expansion of the NTTR. I also support that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness with continued public access. The proposed military expansion would irreparably destroy 850,000 acres with roads, runways, fencing and other structures, light and noise pollution, and destruction from bombing and training exercises. It would fragment desert bighorn sheep habitat thus leading to limits in genetic diversity of the bighorn, and isolation and decline of their population. The land withdrawal would shut out the public from areas that have historically been used for outdoor recreation and scientific research, resulting in a loss of	WI-2 WI-1 PA-1 BI-3 LU-1 LU-2 SO-1

0214-0219

Commenter ID	Commenter	Comment	
		millions of dollars in annual revenue in nearby communities. The Desert National Wildlife Refuge is an ecologically rich and wild public land with diverse habitat and wildlife, many important cultural sites, and with outdoor recreation opportunities in many forms for thousands of people. It should remain so. With so many of our public lands under assault from the Trump administration, it has become vitally important to stand up for continued protection of habitat, wildlife and access to our public lands. Please support continued protection of the Desert National Wildlife Refuge. Thank you for this opportunity to comment.	LU-1 LU-2 SO-1
0215	Lindsay Crouch	I do not support the proposed expansion of the Air Force's Nevada Test and Training Range that would take over land that is part of Desert National Wildlife Refuge. The Refuge is an important habitat for many species of animals and plants that deserve to be protected, including sheep that could be affected by increased noise from jets flying overhead. Public conservation land is an important way to preserve natural habitats that keep our planet healthy and support biodiversity, and I do not support any measure that threatens the land that we, as citizens and government officials, have decided should be protected.	BI-3
0216	Barbara Lentz	Please protect the current boundaries of the Desert National Wildlife Refuge. It is an incredible refuge, with amazing views, animals and recreational options. I do not believe the Air Force needs more space. Please keep our state a wonderful place to visit and live. Thank you -	PA-5
0217	Robin Hennequin	The Desert Refuge was created specifically to protect the habitat of the desert bighorn. Why is there such a need for more land to use as a test site? It is far more crucial to save the Big Horn , wetlands and habitat than it is to grab up another 300,000 acres. It really is a shame to lose such valuable habitat and it's natural resources.	
0218	Vernelle Vale	The military has a need for space but should never be at the cost of removing protected public land that we Americans charish when we share the natural beauty and wildlife discovery with our children and grandchildren. They deserve places to visit learning the wildlife and terrains of the western deserts. This land must be protected in the same manner as we protect our landmarks such as the Statue of Liberty, Golden Gate Bridge, Lake Mead, Yellow Stone, and many other grand locations. I suggest Nellis look at other more remote locations. Thanks in advance for protecting not only our country but our wildlife, national landscapes and future generations' education from sea to shining sea!	PA-5
0219	Paul Lajeunesse	I strongly oppose any attempt to reduce any wilderness area of Wildlife Conservation area for the use of military exercises. Though I support a strong military and love and respect members of our active military and our veterans the military budget in the US is so excessive compared to all other advanced nation we need to take a step back. We need to protect and preserve the remaining remnants of our wild places for the health and well being of people and the	

0219-0225

Commenter ID	Commenter	Comment	
		wildlife that these days is hanging on by a thread. Please do not pursue proposed plan to open additional wild areas for use by the military	
0220	Robert Furtek	Keep the Desert National Wildlife Mgmt Area as is. Do not bomb the bighorn or any other resource.	PA-1
0221	Gilbert Bohannon Jr	I would like to comment and ask that the Alamo Road area be kept open for use. I have visited from Idaho several times and enjoy the off road activities that are around Alamo Road. I enjoy exploring the area, as well as camping and seeing wildlife. It would be a shame to have this beautiful area closed and unavailable. Thank you for your consideration	
0222	Lynn M Greene	The Desert Bighorn Sheep of Southern Nevada live in harsh and desolate environment , one of most difficult areas on earth to survive. Now they are be exposed to bombing, strafing, and other ordinance. It does not make sense to me!	PA-1 BI-3
0223	Steve Weisberg	I have serious concerns about adding additional land for Air Force testing. Already 2.9 millions acres is being used by the military and I would not like to see more taken away from this sensitive land, home to species such as bighorn sheep and desert tortoise, as well as petroglyphs, dry lake beds and sand dunes. Please preserve the land that remains in its natural state. Thank you	
0224	Nick Nelson	I have often driven the Alamo Road to Sheep Pass(Dead Horse Rd) and beyond. I have often camped and hiked Twin Caves Canyon, Sheep Basin, Basin Canyon, Big John Peak(2nd highest in Sheep Range), Quijinump Canyon, Hayford Peak, Negro Head, Sawmill Spring, Hidden Forest Cabin, Wagon Canyon, Picture Canyon, Sheep Peak, Joe May, and others. This is public land and belongs to the people NOT the Airforce. This is a prime example of Government overreach and the desire to perpetuate the killing of people in foreign lands just because we don't agree with their politics. Why should you take away our access to our land just so you can develop, train, sell, and kill more people with your weapons of destruction.	
0225	Mary Felker	I am an educator, outdoorsman, artist, and concerned citizen of the United States of America. Educator: Employees of the Air Force stated I could still bring my students to the facility upon special approval. With such a beautifully protected land I should be afforded the opportunity to easily take my students to the areas that will be blocked off. It is already hard enough as an educator to just get funding to get students there. Outdoorsman: Since I am not a hunter I will never get to see this beautiful land again. I would strongly urge their to be land given back as a trade or days each year where this land can be given back for the public's enjoyment. Artist: I document through painting many beautiful places around North America. The Desert National Wildlife Refuge is a pristine environment that affords an untouched beauty that is not found in any other parts of this world. It would be a loss to anyone that loves beauty to not be able to visit this region of the world. Concerned Citizen: 1. I don't think the government is paying enough taxes to the counties they are taking	LU-2 PA-32

0225-0228

Commenter ID	Commenter	Comment	
		the land away from for what they will lose in tourism, ranching, and enjoyment. 2. I do not appreciate red tape being created for the Native Americans to enter their holy land. 3. I am irate to know a government that preserves land for the flora & fauna and the people's enjoyment and then later decides it is OK to take it away for their own greedy purposes. 4. Real estate equals money whether you a private or government corporation. I do not appreciate seeing the military get stronger than the U.S. Fish and Wildlife Service. I feel ashamed when I see my tax dollars going towards a government who wants to spend more money on war then the preservation of resources, the enjoyment of our people, and the beauty of our lands. My judgement is that the Air Force is being greedy. 5. According to the Public Lands and General Natural Resource Report of Nevada 84.9% of Nevada is owned by the several federal government entities. If the Air Force gets this land more of that 84.9% will become completely restricted access for the people that pay taxes every day of their life for it to be there. I do not want to feel ashamed. Give back land if you are going to take some away. Home Means Nevada not Nevada Means Military.	CU-1
0226	Stanley D McEtchin	As an active hiker, backpaker and outdoor enthusiast, I would like to voice my view of the proposed expansion of the NTTR. * I favor Alternate #1. As the Air Force has already expanded in to the Desert National Wildlife Refuge, there needs to be a limit on further expansion. The refuge was set aside years ago for wildlife. It is one of the few areas left that has been mostly unmolested from development and incursions by humans. It is a gem. To increase military activities will degrade the habitat and wildlife that have existed there for many years. * I favor Alternative #4A - 20 year review period. If additional test range acreage is mandatory, I suggest consolidation with other test sites (Fallon, China Lake, etc.). Bringing the branches together might be a major plus! Or, if the refuge must be sacraficed, then offer a "land swap" with another area to establish equivalent lands of a comparable desert expanse. Thank You - For hearing my concerns. Stanley Douglas McEtchin	BI-1 PA-5 PA-32
0227	Robert Harris	I support only option #1. It is senseless to spend billions of dollars to clear up land and then simply turn around and create the same nightmares to new land. Obviously you'll be faced with this same problem when that lease expires. The only thing you'll have done is kill a bunch critters, destroy a bunch of land and spend a bunch of money.	
0228	Richard Vogel - Nevada Desert Experience	The massive Red Flag multinational exercises have been up and running since the 70's. The ranges in use were adequate for the last decade of the Cold War with the Soviet Union, Bosnia, the Iraq no-fly zone of the 90's, Gulf War I, Gulf War II, and operations in Afghanistan, Libya, Syria, Pakistan, and Yemen. It is unbelievable that whatever the Air Force plans to do on the additional 300,000 acres requested cannot be done on the vast 2.9 million acre tract it already controls. For the sake of the environment, wildlife, recreation, access, and simply maintaining the beauty of our state, we should	PA-5

0228-0233

Commenter ID	Commenter	Comment	
		add nothing to an already outrageously bloated area of Air Force control. Richard Vogel, Lt Col, USAF (Retired)	
0229	Marcus Jensen	I oppose the Air Force's proposed expansion of the Nevada Testing and Training Area. Nevada has for decades provided a disproportionate share of lands for federal purposes and the military tends to treat Nevadans poorly in return for our long-standing cooperation. I personally have repeatedly witnessed the Air Force's uncooperative arrogance in situations where Nevada utilities and citizens have petitioned for accommodation of water lines, power lines, and public access to Nevada lands appropriated by the Federal government. This past behavior is the main reason I oppose further expansion of Nevada lands controlled by the military and other Federal agencies. The military already controls a huge swatch of Nevada land. Make do with what you have.	PA-5
0230	Janet Weil	I have visited, and intend to visit again, the Desert National Wildlife Refuge in Nevada. Please do not take much-needed land from this wildlife refuge, a beautiful and rare place, for bombing and other military uses. The clever minds of the US Air Force can find a way around this. Please. Thanks in advance, Daughter of a USAF lieutenant (now deceased)	PA-1
0231	Lisa Savage - Maine Natural Guard	There are ways to do Air Force training without shutting down public access to more of the wildlife refuge, but this proposal does not adequately explore these possibiilties. The NTTR is already 4,608 square miles and the Pentagon already controls more than 21,000 square miles in this region of the USA.	PA-5
0232	Jeffrey Bryan Herrick - Costco Visa	Please reconsider the proposed Air Force Withdrawal of lands currently administered by the US Fish and Wildlife Service within the current boundaries of the Desert national Wildlife Refuge. My 22 year old permanently disabled, profoundly Autistic daughter Gabriela, lives in full time group housing care. One of the VERY few recreational activities she enjoys and participates in is off highway travel via 4WD Jeep. The proposed Air Force land withdrawal would eliminate already established Recreational, Educational and Cultural opportunities to Desert National Wildlife Refuge patrons with mental, emotional and physical disabilities. Further NEPA Analysis and reporting regarding the proposed Air Force Land withdrawal is necessary to assess impacts to those with mental and physical disabilities.	LU-1
0233	Karen Klitz	The Air Force's own proposal states that it does not need more ground target or impact areas. There are ways to accommodate the Air Force's training needs with out shutting down public access to more of the Wildlife Refuge, and the Air Force should explore these other ways. Nellis AFB already covers a huge swath of southern Nevada. Wild lands in North America are more precious than ever, and the American public deserves to have access to them. I have visited the Desert NWR in the past and plan to go there again. We should retain the ability to enjoy the entire Desert National Wildlife Refuge. Fences are inimical to wildlife, which can be harmed and	PA-5 BI-5

0233-0237

Commenter ID	Commenter	Comment	
		even killed by fences. I have seen large wildlife species injured in trying to go through fences. I oppose the building of new fences and would prefer to have fences in wild lands removed. The expansion of Nellis Air Force Base is against the interests of the American public.	BI-5
0234	Marcia Bollea	I am opposed to the NTTR takeover of the Desert Wildlife Refuge (DWR). The terms of the lease should remain as they have been for the last 20 years. NTTR should not have primary jurisdiction over the DWR lands. I am amazed that the USAF is still stuck in the old WWII model of warfare. Unless, the Air Force plans to carpet bomb someplace, I see no reason to destroy pristine habitat, recreational areas and cultural sites just so a pilot in training can experience the "lift" one feels on dropping a bomb. It's absurd. The exsisting test site ranges are adequate and the proposed lease changes are a power play and overreach. Thank you.	PA-1 PA-5
0235	Mike Jones	Hey hope all is well PLEASE KEEP THE DESERT NATIONAL WILDLIFE REFUGE IN TACT Please do not withdraw any land and repurpose for military use. We want to keep natural lands natural. Do not destroy them for military training. This is pristine habitat for our state animal the bighorn sheep. Bombing this land etc will waste more money (tax dollars being spend on non wartime bombs) Bombing this land will destroy pristine habitat and send a terrible message Many people have addressed the environmental and other impacts and that's just what we know about. This is a slippery slope and we should preserve nature and keep our tax dollars safe. Thanks so much for listening.	PA-1
0236	Randy Mathews	I'm a former Air Force Pilot and understand that the scope and scale of warfare has grown significantly requiring additional space to train both in the air and on the ground. As an off-road adventurer I realize the need of open space for the expanding population in the Southern Nevada area. There are two current examples where both can coexist: 1: The Marine land withdrawal at 29 Palms into the Johnson Valley OHV area. 2: The Berry Goldwater Range/Cabeza Prieta National Wildlife Refuge in South West Arizona. In both examples absolute public exclusion is not required. For that reason Alternatives 2, 3A-1, 3B and either 4B or A would be the most sensible actions.	PA-10
0237	Jeanne R. Tinsman	I support Proposed Alternative 1: Extend Existing Land Withdrawal and Management of the NTTR North and South Range, and Proposed Alternative 4A: 20-year Withdrawal Period. My concerns are any increased disturbance to wildlife and wild land. There is no need to impact a National Wildlife Refuge - consider using the "big hole in the middle' - the Nevada Test Site. There is plenty of air space there to use, and since it is an area that is already closed to the public, it makes more sense. Install threat emitters where land is already impacted. I truly believe that technological developments will make this land withdrawal unnecessary, anyway - I believe that the U.S. Air Force can find another way if they try hard enough. Don't	BI-1 PA-11 PA-5

Commenter ID	Commenter	Comment	
		disturb an area so important to many people, animals, birds, insects, plants, cultures, everyone. Thank you.	
0238	Mary Shabbott	88% of the Desert National Wildlife Refuge was recommended for wilderness by the U.S. Fish and Wildlife Service. Known as the best remaining undisturbed example of a diverse Mojave Desert/mountain ecosystem, the Desert National Wildlife Refuge should be continued to be managed to conserve its high quality wild landscapes, and protect the abundant amount of wildlife that thrive in this wild corner of southern Nevada. The military expansion could allow for an entire new network of graded roads and structures to be built, an action that would destroy the wilderness qualities that this area currently possesses.	WI-1
0239	Kris Karnos	The Nellis Test and Training Range already has 2.9 million acres with the Air Force having fly-over access to the entire Desert Wildlife Refuge. Proposing to take primary control of an additional 300,000 acres of the Refuge, impacting critical wildlife habitat and outdoor recreational sites seems very inappropriate. The Desert National Wildlife Refuge protects critical habitat for one of the largest populations of bighorn sheep in Nevada. The military expansion could displace these animals from seasonally used habitat and migration routes. Also, removing access for wildlife biologists means that there will be less possibility of monitoring the health of the bighorn population. The roads and infrastructure associated with expansion will also have detrimental affect on the wildlife and wilderness qualities of the area. National defense is important, but so is the conservation of wildlife and wild places... please utilize similar lands that do not have as much value in terms of wildlife and landscapes.	LU-2 BI-3 BI-4 BI-1 WI-1
0240	Gabriela Pesqueira	Please be open to finding common ground with the community that is concerned about expanding military testing and practice over our public lands. Please take determined steps in finding ways to protect the wildlife in that particular area by relocating the wildlife outside of the testing area. Please utilize alternative harmless materials to test instead of harmful materials that will harm the wildlife and environment. It is logical that the military would need to expand it's ability to ready itself for war but wildlife doesn't have to suffer the consequences if we take time to find solutions to protect our precious wildlife, they just want to be at peace to thrive for the good of the planet and it's sensitive eco system. Wildlife protection includes keeping bees healthy and safe. I know it sounds trivial however it's the simple things in life that make us want to protect it in the first place. Thank you in Advance, Gabriela Pesqueira	
0241	Bob Middag	My comments on Proposed Alternatives: Alternative 3A-1, I support Alternative 3B, I support Alternative 3C - I support section withdrawal to west of Alamo Rd and south of Hidden Forest Rd. I DO NOT support the withdraw of any land to the east of Alamo Rd and north of Hidden Forest Rd. Alamo Rd must be keep open by DNWR for unlimited public access use as it currently is.. Alamo Rd provides	

0241-0250

Commenter ID	Commenter	Comment	
		pubic north-south travel on west side of Sheep Mtns and also provides access to the west side of the Sheep Mtns. Once the land is withdrawn, it will never again be available to the public as it currently is. Special public access as proposed is not realistic. Alternative 4, I support the Alternative 4A, the 20 yr withdrawal period. Who know what may or may not be needed in 20 yrs. Thank you.	
0242	Dan McCurdy	AF prosed expansion in the Desert National Wildlife Refuge. I ask the AF to reconsider its plans for expansion to another 300,000 Federal acres, most of it refuge land. The nearby Nevada Test and Training Range already encompasses 2.95 million acres with no public access allowed.	LU-2
0243	Linda Webb	guys, you don't need more land, you have enough...go to the areas you already have and make it work...you don't need to destroy animal habitats for what you are going to do...As they kept telling us in the AF....DO MORE WITH LESS...remember that?	PA-5 BI-1
0244	Ryan Long	I strongly object to any land being stripped away from the Wildlife Refuge. Our planet's wildlife is so important; as it is, we employ only a minimum effort to protect wildlife – let's not take steps backward.	
0245	Jason Gerald Mckinney	For the protection of so many valuable species, please leave these lands free of any development.	
0246	Gary Eckwortzel	I am strongly opposed to the expansion of the Nevada test and training range especially into the Desert National Wildlife Refuge. These areas were set aside and protected for a reason. they represent an Irreplaceable asset to our country and to Natures biodiversity. Other Alternatives need to be sought or the Air Force needs to live within the current constraints of its existing test ranges. Short-term uses and the long-term damage to Nature are not acceptable options as the planet is here for the enjoyment and the benefit of all people and animals	PA-5
0247	Steve Rood	No expansion into wildlife refuge. Thanks	
0248	M. & R. Sander	Please, for the sake of our lands/children and wildlife. It's so important to protect these lands and our natural areas. Please do not use these lands for "military purposes". Thank you.	
0249	Steve Lustgarden	I oppose plans to restrict public access to these lands, owned by we the people. The pentagon already controls tremendous lands in this area and there is insufficient justification to provide them even more land at the expense of public access, including access by native peoples to their traditional lands. Thank you.	CU-1
0250	Jeannette Chapman	I support Alternative 1. This alternative meets 4 of the 5 factors stated as requiring the Proposed Action. Alternative 1 will provide a location to support military testing and training requirements. Expansion of activities or range space will adversely affect wilderness-quality areas, wildlife and public access. The infringement of Air Force activities onto the Desert National Wildlife Range (DNWR) allowed by Alternative 1 is substantial - completely prohibiting public access to a huge part of the refuge, and impairing the ability of the U.S. Fish and Wildlife Service (FWS) to serve their	WI-1 BI-1 LU-1 LU-2 BI-4

0250

Commenter ID	Commenter	Comment
		refuge mission of protecting the bighorn sheep. When I drive along the Alamo Road, there are inviting ranges and canyons to the west that I am not allowed to explore because the Air Force forbids it, though they are part of the DNWR. The FWS are only allowed on the "co-managed" lands a few days each year. These impacts are enough. Specific points to consider: -Destruction of wilderness quality is an irrevocable act. Once lost, it cannot be regained. Wilderness quality lands should not be degraded as a matter of convenience for military scheduling. They should not be degraded to meet the desires of a rapidly changing training environment that will change again in coming years. A careful study in 1971 found almost 1.5 million acres of the DNWR suitable for designation as wilderness as part of the National Wilderness Preservation System. This entails seven wilderness units, and the NTTR South Range includes large wilderness tracts in several of these units, including over 300,000 acres in the Spotted Range and over 340,000 acres in the Pintwater Range. Wilderness character is very special and rare, with a high bar of requirements. The designation document states that the DNWR wilderness areas "balance regional recreation supply and, at the same time, protect the ecological integrity of at least a portion of the diminishing southwestern American desert". Unimpaired large tracts of land are valuable national resources. Areas recommended for wilderness status must be protected for future generations. It is entirely inappropriate to convert wilderness suitable lands into a Ready Access range. -The public wants access to public lands. This is an increasing pressure with the growth in population in southern Nevada and should be respected by not reducing the area of DNWR and BLM lands available to the public. I have been hiking on the DNWR for over 25 years and observe that usage has greatly increased, with the rate of increase accelerating over the last five years. -"Co-management" between the Air Force and FWS seems woefully inadequate for the FWS to effectively carry out their mission. The very limited number of days FWS have access to South Rage proves that point. No contractors can take the place of federal FWS oversight and range management, and NDOW habitat enhancement. The current South Range management provides no confidence that flora and fauna will be adequately protected if the Air Force is given primary jurisdiction of the South Range. -Under Alternative 1, the "co-management" of the South Range should be strengthened in favor of the FWS. The Air Force should fund and allow adequate FWS oversight on South Range. This would include granting clearance access authorization for USFWS employees to perform inspections, maintenance, and surveys essential to wildlife management, and on-range verification by USFWS of USAF operations and compliance with use restrictions. USFWS should have continual access to all DNWR lands, with supportive coordination by the USAF. -Reverting the refuge to its original condition when the Air Force requirements change (e.g., base closure) will require considerable expense by the Air Force to

LU-2
BI-4

0250-0251

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		remediate and restore areas of depleted uranium contamination, contamination by other metals, and physical restoration of disturbed lands. The Air Force and public will be best served to not increase disturbed areas beyond the current footprint. When assessing impacts of the expansion alternatives (for both use and area), the expense for eventual restoration must be included in order to correctly assess the full impact of the expansion. -The period of the withdrawal decision should be as short as possible, which is 20 years in the alternatives. Technology is rapidly changing, as are global threat conditions. It is entirely possible that in the future there will be no need for massive training grounds as weapons develop and global conflicts focus on local scales. The overlap of the NTTR onto the preexisting DNWR demands that the decision for that overlap be reviewed periodically to confirm that national needs continue to require the negative impacts on the DNWR. -Ready Access to the South Range will permanently degrade that portion of the refuge. A look at aerial photography of the North Range shows what will happen on the South Range (vast amounts of land disturbance, roads and military activity). These will have significant impacts that are downplayed in the LEIS. -Ready Access to South Range will impact the public experience and flora & fauna on the accessible portion of the DNWR due to the increase in military operations on the adjacent land. The Alternative 1 configuration allows for something of a buffer between the existing public DNWR and more intense military activity and land disturbance. That buffer situation should be maintained. -Expansion of South Range, particularly the massive Alamos piece, will severely degrade the original wildlife management use, and obliterate public access to a significant outdoor and wilderness resource. The springs and guzzlers in that area indicate the importance of the Alamos piece to wildlife. I was at White Rock Spring yesterday (2/17/18) and found it in great shape and actively monitored by the FWS (using a wildlife camera). Wildlife, particularly large herbivores like sheep, are increasingly pressured by urbanization and development. The last thing that should be done is reduce the size of the refuge devoted to their protection as development in Southern Nevada continues to surge. DNWR is vital because of its large unfragmented habitat size, We can thank wise leaders in 1936 that recognized the need to set aside a large track of land for protecting sheep herds. The successful DNWR established by their farsighted wisdom should not be reduced and destroyed by short-sighted expediency.
0251	John Firneno	I am writing to express my concerns/opinions on the proposal 3C to remove public access to public lands in the DNWR. Yesterday I drove on Alamo Road to the end of Cabin Spring Road. Two weeks ago I visited the sand dunes. I visit here regularly along with many other people. The military has enough land already. One quick look of a map shows this very clearly. This expansion removes the ability to travel from Pahranagut south to the DNWR. I know these comments are useless and the decision has already been made.

NP-11

Commenter ID	Commenter	Comment	
		Future generations won't be able to travel this route anymore and in a couple years the military will need to expand some more and take Mormon Wells Road as well.	
0252	Beverly Polley-Augente	Hello, I would to say that I support the Air Force & all our Military Branches' mission to protect and serve, and I also want to thank you for all you really sacrifice! However, I come down completely on the side of protecting our natural, untamed (and unharmed!) flora & fauna from any type of development or military use. So much of our free public or protected lands are being taken from us, especially in the West now- that I do not believe we can or should allow any more to slip away. Public lands teach us lessons important for our survival in the future and inform us about our past in many study/research disciplines. But even more than that, these lands you want to secret away and destroy by unleashing dangerous weapons etc., can give us much more than you can hope to. Public, protected lands offer all of us the opportunity to relax and fully experience open natural spaces while we also learn about and hopefully cherish Southern Nevada's delicate, unique environment! I do not want to lose the rare and endangered animals and plants that live here to either a Military expansion or a scare mongering, anti environmental protection Presidential administration! Thank you for the opportunity to comment and I appreciate your time! Sincerely, Beverly Polley-Augente	PA-1
0253	Charles Chapman	I'd prefer that Alternative 1, which maintains the status quo be accepted. Public access to the Desert National Wildlife Refuge (DNWR) is very important to me. I have been hiking for 30 years on the DNWR and the public usage has significantly increased in the last 5 years. With the growth of the Las Vegas valley, the need for the public to have access to this unique and sensitive environmental area is critical. If the Air Force is allowed to take over this land, the destruction of the wilderness will be irrevocable, as evidenced by the roads, depleted uranium, and other metals contamination found in the areas just north of the DNWR. The period of the withdrawal decision should be as short as possible, which is proposed as 20 years. Technology is rapidly changing, as sophisticated weapons become more accurate, the argument that the Air Force needs more area is not convincing. The Co-management between the Air Force and the Fish & Wildlife Service (FWS) seems woefully inadequate for the FWS to carry out their mission. This gives me no confidence that the environment will be adequately protected if the Air Force is given primary jurisdiction of the South Range.	BI-4
0254	Alan Leon	The front along those mountains are sure an important environment for desert wildlife and a great accessible for us to visit (I do often). Please consider moving over to any of the more open areas available to you. Thank you	PA-5
0255	Angela Kohnman	WHY MUST WE TAKE LAND AWAY FROM OTHER ANIMALS THAT NEED THE LAND TO LIVE AND HELP YOUNGER GENERATIONS UNDERSTAND THAT THIS PLANET ISN'T JUST	

0255-0258

Commenter ID	Commenter	Comment	
		HERE FOR HUMAN BEINGS? WE CAN SHARE THIS PLANET WITH GODS CREATURES CAN'T WE? WHO STANDS UP FOR THE RIGHTS OF BEAUTY? WE NEED TO PUT A STOP TO ALL THE EVIL IN THE WORLD AND SAVE PEOPLE IN LANDS FAR FORM THE UNITED STATES, HOWEVER WE NEED TO PROTECT LIVING CREATURES IN AMERICA AS WELL.	
0256	Michael T Howard	Regarding the NTTR Military Land Withdrawal Legislative Environmental Impact Statement: To whom it may concern, As a concerned citizen of the United States I am writing to submit my comments regarding the proposed alternatives contained within the NTTR Military Land Withdrawal LEIS. The large expanses of federally controlled lands that are managed for the benefit of all Americans is one of the truly unique features of our country. That there are still wild lands to explore and sanctuaries such as the Desert National Wildlife Refuge to escape to from our increasingly modern urban lifestyle demands caution and thoughtfulness in actions such as these. Alternative 1- Status Quo. While this option allows for continued military exercises, training and use only at current levels, I have one major concern. The current management of the Nevada Test and Training Range is restrictive for access and impacts traditional ceremonies and other uses that are crucial to the cultural practices of several Native American tribes. The impact to these first people is arguably greater than to any other stakeholder. I strongly believe that additional ethnographic studies in conjunction with, and as outlined by the CGTO (Appendix K), should be undertaken to resolve these issues. Alternative 2- Provide ready access in the North and South Ranges. The increased use of the existing areas would encroach on and be incompatible with the existing Wilderness characters of the land and do not properly consider wildlife migration corridors that cross boundaries. Further clarification of the “ready access” uses and impacts on wilderness study areas is needed. I strongly oppose any use that would degrade the wilderness characteristics of the South range. Alternative 3A, B, C. The extended land withdrawal proposed in each of these alternatives is not acceptable as it impacts Native American and recreational access to prime areas located to the southeast of the South Range. I strongly oppose these options. Alternative 4. Any changes should be revisited in 20 years. No Action Alternative. I support most strongly the continued use of the North range for military activities and return of the South range to management by the BLM/USFWS for the benefit of Native Americans, the Desert Bighorn, preservation of Wilderness, and traditional recreational uses. While I understand the need for training, technological alternatives such as virtual reality simulators should be considered as a viable alternative to accomplish this goal. Sincerely, Michael T Howard [redacted]	CU-1 CU-4 PA-3
0257	Kurt Cleman	Instead of a total transfer to the NTTR a better choice might be a way to share the areas.	LU-2
0258	Anonymous	I am against giving up any of the Desert National Wildlife Refuge to the military. This is very important land that the Indian people. They	CU-1

Commenter ID	Commenter	Comment	
		were stripped of their homes on their land and put on reservations and now we are taking the ancestral land from them. It is also very important to wildlife in this area and we should not be stripping the habitat that they live on.	BI-1
0259	Justine Byers	I have enjoyed many years hiking in Hidden Valley with my family and friends. There is a natural water source there, a cabin, and an abundance of wild life to enjoy. Please don't take that from us. There is so much land out there you could use to expand but please leave hidden forest for the public. Please.	PA-5 LU-1
0260	Barbara Hanson	I am against the military obtaining parcels of land. Our lands are being stripped away bit by bit, so I do not wish more of this land to be taken over by the military or any other entity for any purpose. Thank you.	
0261	Ward Mathews	It is clear the military will do whatever it wants under the banner of national security. And because the city of North Las Vegas is so lacking for employment, there will be no biting the hand that feeds. We moved here long after the established Nellis AFB, I cannot expect relief from constant running up of jet engines, sonic booms, rattling of homes and unnecessary use of air brakes. But to add more land to the already exclusionary military property is unwarranted commondeering of taxpayer property. I believe this is about hiding waste of tax dollars and secrecy by war hawks and the military industrial complex.	PA-5
0262	Janis Collins	Simply put, I am against the Air Force expanding the NTTR in the Desert National Wildlife Refuge in Nevada. The NTTR has 2.9 million acres . Do not destroy any further protected areas of NV for our bird/mammal/plant species. We all know it will NOT be protected as they claim.	BI-1 BI-4
0263	George Mansfield	I am very much against having Alamo Road closed to the public through the Desert National Wildlife Refuge. This road, from either north or south, provides access to some of the finest recreational areas in Nevada, especially the area around Desert Dry Lake where I have camped many times. I can't see why USAF operations need this road closed. Please mark me down as OPPOSED to this expansion if it includes this road closure.	PA-5
0264	Steve Weisberg	I am very concerned about the military's expansion into the Desert National Wildlife Refuge. It was designated a wildlife refuge for just that reason- as a safe place for wildlife. I've lived here over 20 years and the desert is not the barren landscape some people believe. Red Rock is constantly being encroached upon and under pressure for more development from outside, we need to preserve the refuge as just that- a refuge, not only for wildlife, but for people to escape the constant hum of the city. This is wild and because so much is currently not easily accessible, it is still fairly untouched by the hands of humans. It is home to many desert animals, including the rare desert tortoise. We need to preserve it in as much as a natural state as possible.	

0265-0267

Commenter ID	Commenter	Comment	
0265	Selway L. Mulkey - Pahrump Valley 4 Wheelers (member)	This is to go on record as being against the Air Force's request to take more land from the Desert National Wildlife Area in southern NV. They have such a large area now that we 4 Wheelers, who certainly support our military, are in fear of having access to fewer and fewer places to explore and enjoy in our 4 x 4's. On a recent trip to the visitor center and a trip on the Corn Creek/Mormon Road, we observed many Air Force planes noisily flying over the area, including the road we were on. We see ourselves as stewards of the land, as we stay on the approved roads, help maintain them, clean up trash along them, etc. We don't need more noise and intrusion in that area of southern Nevada. With the population growth, we already have too much of that. We need to remember that the area was designation a Desert Bighorn refuge by President Roosevelt in 1936 and it needs to remain as such. The Air Force has plenty of air space to use for their activities.	AS-1
0266	Laura Campbell	It seems that Nevada has forever been willing to hand over it's landscape to the most powerful or highest bidder that trips along. Having been born in Las Vegas and heard my father's stories of ranching here as a teenager (he was native as well), it seems like we are forever flexing our boundaries. I would hope the military would reconsider this request as there are few things are gorgeous as our desert and the wildlife that live there.	
0267	Loretta St. John (aka Loretta Tancredi)	Sirs and Ladies: I am a longtime resident of Nevada, since [redacted] I fell in love with the beauty of the desert when I first arrived here, and I never left! I am writing to express my opinion on the proposed Land Withdrawal. In the first place, they have enough land already. With the enhanced development of technology and the use of drones, it has reduced the need for more pilots to fly these planes. . We can eliminate the need to be sending our boys and girls to the Middle East to fight over oil (we all know that, bottom line it's all about oil.) to return in body bags or with missing limbs. We can accomplish this by converting to Solar and Renewable Energy thereby reducing our dependence on fossil fuels and reducing the need for expensive military equipment, ordnance, and personnel. Eisenhower warned us about the dangers of the Military Industrial Complex. This is just another manifestation of that. The danger to the environment will be irreversible, the encroachment on the rights of people to enjoy our natural resources will be impacted, and the increase in fencing will fragment habitat, which can lead to inbreeding and a decline in the overall health of wildlife populations such as the bighorn sheep. Expansion will hinder the Nevada Department of wildlife monitoring maintaining and improving water developments in the expanded range. Expansion will endanger the 500 species of plants that thrive here, seven life zones that range from Mojave Desert saltbrush valley floors to the expansive Ponderosa Pine forests and ancient Bristlecone Pines that exist in the higher elevations. Expansion of military jurisdiction over the majority of the sheep range would unravel these delicate eco-systems. The expansion proposal also negatively impacts southern Nevada in recreational economy due to	PA-5 PA-6 BI-5 LU-9 BI-1 SO-3

0267-0271

Commenter ID	Commenter	Comment	
		the closures of access to historic Alamo Road, and the sand dunes which are only accessed by traveling along Alamo Road. Not to mention Archeological Resources.....the evidence of Native Americans (who have lived in this area for over 12,000 years) in the form of rock-shelters, camps, rock art, hunting blinds, artifacts, and agave roasting pits will be impacted. I respectfully and firmly request that this expansion must be stopped. I prefer Alternative 1 - Status Quo LORETTA ST. JOHN (AKA Loretta Tancredi) Singer/Musician/Comedienne/Spokesperson [redacted]	CU-2
0268	Claudia Newbury	Moving military operations closer to populated areas, which is what this proposes, is an extremely poor idea. The Las Vegas Valley population centers are growing westward toward Kyle Canyon and northward to abut Tule Springs National Monument. Taking additional land from the DNWR erodes the buffer between USAF operations and the citizens the USAF is supposed to be protecting. In addition, the taking of additional land from public access, most of Creech AFB is on USNWR land, reduces available recreational space used by the growing population of the Las Vegas Valley. This is a bad idea.	
0269	Carol Hite	i am against this land grab!!!! if as a citizen i'm suppose to re-cycle, why can't you re use the same land that you've already bombed. and if our planes have to fly farther to get their instruments working that means they can't fire right after taking off? gee, i feel safer already!!!!!!	PA-1 PA-5
0270	Taylor Honrath	Having visited the Desert National Wildlife Refuge numerous times since I was a boy, I would like to formally express my opposition to the USAF expansion into the park, and its bid for sole jurisdiction of these federal lands. This area is sacred to the Moapa Band of Paiutes, and though DoD assures the tribe will enjoy continued access, that access is subject to military permission. If people of other faiths don't need military permission to attend church, the Paiutes shouldn't need it to commune with their gods in their sacred places either. Additionally, I echo the concerns of the Sierra Club, that this sensitive habitat will likely suffer under USAF jurisdiction. Please do the right and decent thing, and pass on this plan.	CU-1 BI-1 BI-4
0271	Robert R Tyson	I have read through the NTTR Military Land WIthdrawal Legislative EIS. It appalls me that the removal of so substantial an area of public land and critical wildlife habitat is even being contemplated. I write to express my opposition to the withdrawal or requalification as a military reserve of any lands in the Desert National Wildlife Refuge. The Air Force has ample alternatives, as the EIS itself clearly describes. The loss to public use, scientific inquiry into desert bighorn sheep and much more, and the damage to my deep pride as an American at so useless and unnecessary a step, would be tragic. I urge the EIS be taken seriously on its many points of fact for which withdrawing these lands will be a loss with no commensurate gain, either for national security or for the tangible and intangible benefits of continued public access. Sincerely, Robert R Tyson	LU-2 BI-3

0272-0276

Commenter ID	Commenter	Comment	
0272	Georgia K Hoffmann	Please do not approve any additional land for military expansion in Nevada. There is more than enough land currently in military control without the addition of the nearly 300,00 acres. I am opposed to such a move/land grab!!	PA-5
0273	David Schlesinger	As a former U.S. Marine, I recognize the importance and value of a strong military. As a taxpaying citizen of the United States, I also recognize the importance and value of our precious natural resources. In the case of the Desert National Wildlife Refuge, I have spent significant time in the refuge, I have looked at the maps of the proposed infringement by the Air Force, and have studied what looks to be the impact on Big Horn Sheep, other wildlife populations and human beings of the proposed expansion of the Air Force Training Range. The only logical conclusion I can come up with is that the Air Force already should have plenty of space to do their training, bombing, etc. I also know for a fact from speaking to one of the volunteers at the center at DNWR, a former military man himself, that a few errant missiles already ended up in the current DNWR over the years. If the Air Force expands even further, the likelihood of that is even higher, and somebody getting hurt is possible. The scales are already weighted in the Air Forces' favor, and this would be an unfair situation where the citizens of Las Vegas and surrounding areas, and the native people's who value this land as sacred, are punished even further. Please, do not expand into the area of the DNWR! We now have a reasonable balance between the militarys needs and the needs of the refuge, and the Air Force already has way more space.	PA-1 PA-5
0274	Todd Bradlee	If anything, the military needs to be decreased, not increased. My tax dollars need to be spent on education and the health of our planet, not greed. A small well organized military for defense purposes is all we need, not a huge and wasteful system that is completely based on the government instilling a needless fear into its citizens, so private corporations can benefit and exploit the badly shaken environment. Has anybody ever heard of reason, good will, mutual aid, and sharing? These are the answers, not more weapons and shortsighted greed.	
0275	Denise L Signorelli	Please do not disturb the Desert National Wildlife Refuge north of Las Vegas. I understand the air force has critical missions, but contiguous, undisturbed wildlife areas have critical missions as well. The DNWR provides habitat for animals and plants, DNWR provides emotional refuge for hikers and campers, DNWR is sanctuary for Native American history.	
0276	Lynell Heaps	I have just visited the Desert NWR and spent a lot of time enjoying the Bighorn Sheep, the pristine desert area and the beauty, the birds and the peace of the place. I am stunned that leaders of Nellis AFB - who controls 3 millions acres of Nevada Desert to do with as they please, is wanting to take another 300,000 acres from a public accessible NWR that includes critical habitat for Bighorn Sheep, Desert Tortoise and countless other desert species who have nowhere else to live. I understand that 846,000 acres have already	PA-5 PA-40 PA-40

Commenter ID	Commenter	Comment	
		been eaten away for military use. We, the American public, are currently having our beloved public lands taken by our Federal Government for mining purposes - for a few years' worth of jobs and resources. Bears Ears and Grand Escalante are threatened to eliminated altogether. We are NOT at war. Where are these species going to go if our lands sent aside for them are taken back and ruined forever by irresponsible factions who only consider the dollar as important? Please - do NOT take back this critical habitat of the Desert NWR and close off yet another portion of our dwindling public lands to us - the American Public - who love to enjoy them.	PA-40 BI-1
0277	Debra Lynn McGuire	Please DO NOT WITHDRAW the parcels sought by military. The Mojave is one of the most biodiverse places in the world and must be preserved as wildlife refuge and sacred land of Native Peoples. Please preserve the 1.6 million acre Desert National Wildlife Refuge!!	
0278	G. Baldwin	I live in the desert just over NV state line in CA. I am opposed to the proposals which would remove vast acreage from public access and endanger the life which dwells there. Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR. In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded. Thank you. G. Baldwin cc: Nevada Congressional Delegation	WI-1 BI-1 LU-1 WI-2 LU-1

0279-0283

Commenter ID	Commenter	Comment	
0279	Pete Wahlquist	The area in question is an area that is great for visiting, camping and being with nature. The military has enough area for war games in Fallon - NV, the Las Vegas area, California and Alaska to name a few. Enough is enough.	PA-5
0280	Jon Collins	I believe the Desert National Wildlife Refuge should retain control of all their land. Small towns rely on this land, such as Beatty for tourism. Not to mention the the animals and plants that need to be protected. Please keep this land in the hands of Dessert National Wildlife Refuge.	SO-3
0281	Mary Shabbott	National defense is important but so is a balance of conservation. It is important that our military have places to train but it is also important to balance national defense with conservation and wildlife. The Nellis Test and Training Range (NTTR) in Southern Nevada is already comprised of 2.9 million acres and the Air Force has complete fly-over access to the entire Desert Wildlife Refuge. Proposing to take primary control of an additional 300,000 acres of the Refuge that comprises critical wildlife habitat and popular outdoor recreational sites seems totally inappropriate.	PA-5 AS-1 PA-36 BI-1 LU-1
0282	Heather Musante	My husband and I really value the DNWR. We think it's one of the best things about living in Las Vegas -- the ability to escape the city and crowds easily. We constantly tell others about the great time we had at the Hidden Forest cabin. We love to camp in the DNWR and drive our Jeep all the way across the park to Rt 93. Driving the "poof dirt" in the dry lake bed along Alamo Road is always a blast! We've been lucky enough to see some bighorn sheep, tarantulas, and adorable birds drinking from springs. We've also come across some amazing fossils. Losing part of DNWR would be like losing a part of ourselves. Please preserve it as it exists today and has for decades. Others deserve the opportunity to enjoy it and come to love it like we do. I seriously doubt that in today's age of drone warfare that the Air Force really needs the space as much as the residents of Las Vegas. The testing site has been plenty big enough since the 1940s. I have yet to hear any argument that sufficiently justifies the increase. So, please keep the status quo and let the rest of us continue to enjoy it.	PA-5
0283	Andrew J. Frishman	Dear Decision Makers, I am writing to express my opposition to the proposed NTTR Military Land Withdrawal. Specifically, I wish to support Proposed Alternative #1 (Extend Existing Land Withdrawal and Management of the NTTR, North and South Range). In particular, I am strongly opposed to any land withdrawal that would result in loss of public access to currently open lands on the Desert National Wildlife Refuge. As a hiker, photographer, and amateur naturalist active in southern Nevada, the lands proposed for withdrawal offer me unique and irreplaceable opportunities for recreation and study in the region, with a diversity of scenery and ecosystems which do not exist in similarly primitive condition elsewhere in southern Nevada. The sand dunes near Desert Lake are Nevada's only substantially protected dune system. I believe it is very important that the general public retain access to the entire west	

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		side of the Sheep Range, including Desert Dry Lake and Dunes. The small towns of Alamo and Beatty must not lose potential backcountry recreation opportunities. Nevada residents and tourists are visiting the state's backcountry in unprecedented numbers. Nearby recreational areas such as the Spring Mountains, Red Rocks, Death Valley and Lake Mead are already overcrowded and experiencing resource degradation. NTTR has already withdrawn substantial lands and closed public access to a large portion of the Desert NWR's original territory. In a time when Nevada is actively promoting and developing its outdoor recreation economy, loss of public access to these landscapes is simply unacceptable. It is also vital that scientists and wildlife managers retain unrestricted access to the wildlife, archeology, hydrology and geology of the region. Nellis already has 2.9 million acres withdrawn (an area larger than almost any Federal wilderness area in the contiguous U.S. and approaching the size of Nevada's total designated wilderness acreage), as well as flyover access to much more. Military lands throughout the region already greatly limit public access to desert recreation. I believe it is reasonable to expect the highly competent and professional leaders of our military to achieve their training goals on existing land withdrawals via modernized technology (e.g. built-in threat emitters), more efficient use of existing withdrawals and better cooperation between military branches. Development is booming in Nevada, with major impacts to desert land via urban growth, demand for water and solar energy infrastructure, all while the state is attempting to diversify its economy with an emphasis on outdoor recreation. In this context, public access to healthy land in undeveloped condition is more important than ever. Thank you for considering my comments. Sincerely, Andrew J. Frishman Dyer, NV	LU-1 SO-3 LU-2 PA-5 PA-6
0284	Tim Webb	I am a frequent user of the DNWR. I backpack, camp, and use the 4wd trails often. I, like most users, don't believe the claimed need for more military range. If anything, we need less space due to improved technology. The DNWR is a valuable public resource and it's a shame that it's being threatened.	PA-5 PA-6
0285	Susannah R. Gelbart	88% of the Desert National Wildlife Refuge was recommended for wilderness by the U.S. Fish and Wildlife Service. Known as the best remaining undisturbed example of a diverse Mojave Desert/mountain ecosystem, the Desert National Wildlife Refuge should be continued to be managed to conserve its high quality wild landscapes, and protect the abundant amount of wildlife that thrive in this wild corner of southern Nevada. The military expansion could allow for an entire new network of graded roads and structures to be built, an action that would destroy the wilderness qualities that this area currently possesses. The Air Force and U.S. Fish and Wildlife Service share jurisdiction of 850,000 acres in the western portion of the Refuge for the sole purposes of training. These areas are already closed to the public and largely closed to US Fish and Wildlife Service biologists. Restricting public access to an additional 300,000 acres would result in a permanent loss of outdoor recreation that hundreds of visitors to	BI-4 WI-1 PA-40 LU-1

0285-0288

Commenter ID	Commenter	Comment	
		this region currently enjoy including hikers, hunters, and Boy Scout troops. The Desert National Wildlife Refuge has been managed to protect the rich cultural history found in the region. Native Americans have lived in the area for over 12,000 years and evidence of their presence remains throughout the Refuge today including rock shelters, camps, rock art, hunting blinds, ancient artifacts, and agave roasting pits. In addition, extensive emigrant and mining history is also evident in the area including the old 1800s wagon trails known today as the Alamo Road and the Mormon Well Road. Over 200 cultural sites have already been lost from the portion of the Refuge overlaid with the NTTR. Further expanding the NTTR into the Desert National Wildlife Refuge could vaporize countless archaeological sites and resources – those known and those to be discovered. Please keep these areas protected.	CU-2
0286	Kate Reitzel	Hello, The thought of military expansion on the wildlife reserve and public land is devastating. I understand safety is paramount, but there has to be another way towards peace. Please know, I am in favor of Alternative-One. We are all interconnected, and to destroy the flora and fauna, along with the younger generations' right to this organic setting is terrible. These animals and ecosystem absolutely need to be protected. I, and a vast number of others, feel the same way. It is with great hope that a successful mitigation will occur, with a more gentle solution. Thank you for your time and reflection. Very Best Regards, Kate	
0287	Richard Reid	I do not support the expansion of the Nellis Test and Training Range (NTTR). The expansion would result in significant negative impacts on the wildlife and environment of the Desert National Wildlife Refuge. In addition it will close the popular back country access of the Alamo Road, a historically significant route used by the public for decades for recreation and enjoyment of our public lands. In addition there will be negative impacts to Native American cultural and historical sites. Also the economic detriment of the expansion will be severely felt in the Beatty, Nevada area where the loss of recent mining jobs had left the economy weak. Current efforts to build a mountain biking community have been successful in bringing back some economic property and the expansion will threaten this. I do support the status quo as represented by Alternative 1. Congress should renew the current withdrawal which will maintain the present acreage as Department of Defense land, closed to the public. This will allow for all of the activities necessary for our military readiness and strength. I do not support any alternative which will result in increases to the size of the current Nellis Test and Training Range (NTTR).	CU-2 SO-1 SO-4
0288	Walter F. Wegst	I attended the presentation on the AF plan to close large sections of the Desert Wildlife Refuge and heard NO compelling reasons for the AF to do so. You have a huge amount of land in what you call the North Range. There is no reason for you to have to close the DWR in order for you to continue and/or expand your combat training operations. The current bombing and gunnery ranges on the South	PA-5

Commenter ID	Commenter	Comment
		range are apparently too small for you to conduct the type of training that needs to be done with new modern warplanes. I understand that, my wife used to provide environmental support to those ranges as part of her job with Lockheed Martin. I have visited those ranges and understand the limitations the AF faces. HOWEVER, the AF has control over huge amounts of land on the North range and whatever bombing, gunnery, and/or special forces training areas that are needed can be developed there. The only reason that I can imagine for "taking over" the Desert Wildlife Refuge is to save money. That is not a good enough reason to destroy a wildlife refuge. The North range is much further from LV than the South range, hence workers there would have a longer commute. Having worked at the old NTS (now the NNSS) I know what this commute is like. Thousands and thousands of workers managed this commute for many years. AF people and contractors could equally well manage such a commute. The current facilities located on the South range include some blockhouses, radars, facilities for constructing targets, simulated towns for ground training and probably other classified installations. All of these could easily be reproduced on the North Range land. I am adamantly opposed to the proposed takeover of the DWR. Please do not take more land away from citizen and wild animal use - just to save money when expanding your required training facilities. 10% of the cost of one of your new fighters would easily pay to construct the needed facilities on the North range.
0289	Joseph A Natale	The Desert National Wildlife Refuge was established to protect the Big Horn Sheep and their habitat. In addition, there are 52 species of mammals and 31 reptiles and amphibians spread over seven life zones that depend on the Refuge for their existence. It is also an important habitat for over 200 species of nesting and migratory birds. To remove ANY land from the Refuge would threaten the well being of many of these species and remove a valuable public resource of the American people.
0290	Rebecca Lincoln	As a tax payer and U.S. citizen, I do not support the expansion of the Military into the wildlife refuge. The Military already has more land than the Refuge and animals, who have lived there for millennia, are probably still trying to live there and being bombed or shot. People spend millions of dollars traveling to National Parks to see God's Creatures and the Military wants to spend money killing them? To paraphrase Werner von Braun, "Bombs go up, they come down", what's the big mystery? Ballistics experts can do far more with computer models than can be achieved by taking land from the Indigenous Peoples, plants and animals.
0291	Jamaka Petzak	I am writing as a former resident of the Mojave Desert who has always had a keen interest in seeing this unique and irreplaceable environment and its flora and fauna protected. My information indicates that US Air Force is proposing to expand the Nevada Test and Training Range over approximately 300,000 more acres of land now managed by the US Fish and Wildlife Service and Bureau of Land Management, in order to increase irregular warfare training,

PA-5

PA-6

0291-0292

Commenter ID	Commenter	Comment	
		and for buffers for bombing targets in the military ranges (the military already controls almost 3 million acres here already, with no public access). This will close off recreational opportunities to the public, and prevent biologists from managing bighorn sheep in the Desert National Wildlife Refuge in the best and most transparent way. Hundreds of miles of fences will be built across the Sheep Range that may hinder wildlife movement and genetic connectivity. Increased bombing, over-lights. Explosions, over-flights and sonic booms will disturb, stress, and potentially sicken bighorn sheep and other wildlife. More air traffic and bombing will increase the risk of wildfire on the refuge and elsewhere. The increased use of explosions will potentially contaminate watersheds in the Desert National Wildlife Refuge and the Amargosa River. More explosions may damage sensitive archeology sites. Close to 200 miles of public access to roads and mountain bike trails would be cutoff. This will hurt local economies. Public land is also proposed to be withdrawn for military use near the town of Beatty NV, impacting recreation and pronghorn antelope habitat. The existing base is 2.9 million acres – about the size of the state of Delaware. Please explore an alternative that utilizes the existing land on the base instead of impacting a cutting off access to an additional 300,000 acres of public land. Please select Alternative 1 which maintains the Status Quo and allows the Air Force to continue existing operations while maintain existing access, and Alternative 4C--a 20-year withdrawal period before the next review. Thank you in advance for considering these important points and acting to preserve as much of the Mojave as possible.	LU-1 LU-2 BI-3 BI-4 BI-5 BI-1 BI-3 PA-1 HS-1 WA-1 WA-2 CU-2 SO-1 BI-1 SO-4 PA-5
0292	Janet Westbrook	Comments of the expansion of the Nevada Test and Training Range The Air Force already controls almost 3 million acres of desert lands, and now you want to exclude 300,000 more acres. I live at China Lake Naval Air Warfare Center and the Navy has flight test ranges of over 3 million acres. They seem to do OK with that. They have access to low level flight tests in nearby Panamint Valley but without restricting public access. The Desert National Wildlife Refuge that you want to close access to and bomb was designated because it is wonderful desert habitat for both plants and animals, particularly the rare Desert Bighorn Sheep and the headwaters of the Amargosa River which is an important water source through its course down to the Dumont Dunes and around into Death Valley National Park. These lands are NOT just barren waste desert good for nothing but sonic booms and bombing – they are a thriving habitat and are visited by people who love viewing wildlife in relative undisturbed areas. You propose miles of (expensive) fencing that would cut off movement of the sheep, and antelope, neither of whom can jump fences, deer and even tortoises and other critters that live out there. The areas you want to control near Beatty does impact Pronghorn and archaeology sites, as well as public recreation access. You already have permission to fly over these areas, won't that work? Leave bombs on the areas you already have – surely 2.9 million	PA-1 BI-5 PA-24 PA-1

Commenter ID	Commenter	Comment	
		acres should be enough for that. I highly recommend that you chose Alternative 1, no action, and stay within the boundaries you already have. Leave the Wildlife Reserve and the areas around Beatty alone and open to the public. If you must withdraw these lands, then chose Alternative 4C, a 20 year withdrawal period. But no withdrawals at all would be best. Public Lands are important for recreation, and more importantly, are occupied by plants and animals that live there and wouldn't appreciate being bombed.	
0293	Peggy Wood	I am a professional wildlife biologist who has conducted projects on desert tortoises in the Mojave desert from 1990 to 2017. The desert is a sensitive and comparatively pristine environment within the Desert National Wildlife Refuge. With human development occurring ubiquitously and rapidly, humanity would be better served by reserving wild places where citizens can visit for a sense of beauty, peace and undisturbed natural habitats. The US Air Force is proposing to expand the Nevada Test and Training Range over approximately 300,000 more acres of land now managed by the US Fish and Wildlife Service and Bureau of Land Management, in order to increase irregular warfare training, and for buffers for bombing targets in the military ranges (the military already controls almost 3 million acres here already, with no public access). This will close off recreational opportunities to the public, and prevent biologists from managing bighorn sheep in the Desert National Wildlife Refuge in the best and most transparent way. Hundreds of miles of fences will be built across the Sheep Range that may hinder wildlife movement and genetic connectivity. Increased bombing, over-lights. Explosions, over-flights and sonic booms will disturb bighorn sheep and other wildlife. More air traffic and bombing will increase the risk of wildfire on the refuge and elsewhere. The increased use of explosions will potentially contaminate watersheds in the Desert National Wildlife Refuge and the Amargosa River. More explosions may damage sensitive archeology sites. Close to 200 miles of public access to roads and mountain bike trails would be cutoff. This will hurt local economies. Public land is also proposed to be withdrawn for military use near the town of Beatty NV, impacting recreation and pronghorn antelope habitat. The existing base is 2.9 million acres – about the size of the state of Delaware. Please explore an alternative that utilizes the existing land on the base instead of impacting a cutting off access to an additional 300,000 acres of public land. Please select Alternative 1 which maintains the Status Quo and allows the Air Force to continue existing operations while maintain existing access, and Alternative 4C--a 20-year withdrawal period before the next review.	LU-1 LU-2 BI-3 BI-4 BI-5 BI-1 BI-3 PA-1 HS-1 WA-1 WA-2 CU-2 SO-1 BI-1 SO-4 PA-5
0294	Michelle MacKenzie	I write to ask that you limit the use of the wildlife refuge for military exercises including aerial bombing. The USFWS recommended 88% of the Desert National Wildlife Refuge for wilderness. This refuge is part of the Mojave Desert/mountain ecosystem and should be managed to conserve its high quality wild landscapes, and protect the abundant wildlife. Allowing the military to expand into this refuge	PA-1 WI-1

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		would allow roads and structures to be built which is inconsistent with wilderness. This refuge is home to wildlife - including one of the largest populations of desert bighorn sheep in Nevada. This species is intolerant of humans and allow military to use this area would harm the bighorn sheep population, threatening management practices and impacting migration and species health. Allowing military expansion would not only harm bighorn sheet. It would permanently displace many species of mammals and plants. 53 species of mammals, 30 species of reptiles, and 250 species of birds live in the refuge. Sensitive, threatened, and endangered species include the desert tortoise, the white bearpoppy, the banded Gila monster, and the delicate rock daisy would be placed in further danger. We have wildlife refuges to safeguard habitat for animals. Why are we considering opening it up to the military when sufficient space already exists for the military to train and when the Air Force already has has complete fly-over access to the entire Desert Wildlife Refuge? Proposing to take primary control of an additional 300,000 acres of the Refuge that comprises critical wildlife habitat and popular outdoor recreational sites seems totally inappropriate. Please re-consdier and keep the Desert Wildlife Refuge a place of refuge for wildlife.
0295	Ruth Nolan	To Our Designated Decision Makers: As a professor of Desert Literature at College of the Desert, Palm Desert, and also a desert scholar, I am asking you to not allow a reduction of the current size of the Desert Wildlife Refuge. This region is a precious and rare desert ecosystem, home to so many endangered and critical species of animals and plants. Increasingly, this desert region is being recognized as vital for human sustenance and the preservation of species crucial to our own existence, and to diminish its size for military purposes, especially since so very much adjacent Nevada public lands have been set aside for these uses, would be a sad catastrophe. These precious and rare desert ecosystems, once disturbed, cannot be repaired or maintained as they are now: clinging to their centuries-old ecologic continuity. Our Desert West is being more and more recognized as the national and international treasure that it is. It is our heritage, and our descendants' birthright. Please re-consider your request, and if at all possible, find a means to utilize the considerable acreage of dsertt lands already designated for military purposes. Very sincerely, Ruth M Nolan, Professor at College of the Desert Former Wildland Firefighter, Bureau of Land Management/California Desert District More information for you review, and my requested course of action, below: The US Air Force is proposing to expand the Nevada Test and Training Range over approximately 300,000 more acres of land now managed by the US Fish and Wildlife Service and Bureau of Land Management, in order to increase irregular warfare training, and for buffers for bombing targets in the military ranges (the military already controls almost 3 million acres here already, with no public access). This will close off recreational opportunities to the public, and prevent biologists from managing bighorn sheep in the Desert National

WI-1
BI-3
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AS-1
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		Wildlife Refuge in the best and most transparent way. Hundreds of miles of fences will be built across the Sheep Range that may hinder wildlife movement and genetic connectivity. Increased bombing, over-lights. Explosions, over-flights and sonic booms will disturb bighorn sheep and other wildlife. More air traffic and bombing will increase the risk of wildfire on the refuge and elsewhere. The increased use of explosions will potentially contaminate watersheds in the Desert National Wildlife Refuge and the Amargosa River. More explosions may damage sensitive archeology sites. Close to 200 miles of public access to roads and mountain bike trails would be cutoff. This will hurt local economies. Public land is also proposed to be withdrawn for military use near the town of Beatty NV, impacting recreation and pronghorn antelope habitat. The existing base is 2.9 million acres – about the size of the state of Delaware. Please explore an alternative that utilizes the existing land on the base instead of impacting a cutting off access to an additional 300,000 acres of public land. Please select Alternative 1 which maintains the Status Quo and allows the Air Force to continue existing operations while maintain existing access, and Alternative 4C--a 20-year withdrawal period before the next review.	BI-5 BI-1 BI-3 PA-1 HS-1 WA-1 WA-2 CU-2 SO-1 BI-1 SO-4 PA-5
0296	Mark Dawson	Commentary: The proposed bombing range expansion within critical the Desert National Wildlife Refuge (DNWR), which is home to one of the most isolated and biologically diverse communities in the Mojave Desert, is not appropriate. At present, 846,000 acres have already been withdrawn from DNWR for Air Force use. Withdrawing an additional nearly 300,000 acres from the DNWR, in particular Sheep Mountain, will obviously impact the refuge in ways that are immeasurable. These actions would diminish our ability to manage wildlife and their habitats and very likely would stop public access for decades, if not centuries. This is critical habitat area, of which very little remains, that supports diverse and unique desert plant and animal communities. The vast public landscapes that are already off limits to public entry, let alone the massive tonnage of chemicals dropped on these lands, will preclude public use for centuries to come. Do we really need to worsen our legacy for our children, and their children, etc., by taking more land and damaging it beyond our abilities to repair? Having grown up in this desert environment, I know it as a unique and fragile landscape that can so easily be destroyed, but is incredibly difficult, or impossible, to restore. I request that the Air Force drop this land taking and leave it a part of the Desert National Wildlife Refuge. Sincerely, Mark Dawson	PA-40 PA-36 LU-2 BI-4
0297	J. Matt	I am familiar with this area having spent time traveling by car and backpacking in it. It is a beautiful and special place. It seems to me that Alternative 1 or Alternative 4C are better land management options for local economies, the environment (including the bighorn, Amargosa toad, tortoises, and native flora), and water security. I urge you to support the existing use agreement without changes as a viable strategy in utilizing this land. I understand the need for national security preparedness but as our irregular warfare demands fade in	

0297-0301

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		light of our Dear Leader's single-handed and fortitudinous defeat of ISIS, our forces' conflicts appear to be returning to a historical Cold War context— would this expansion not then prove to be unnecessary? The desert is fragile and, as you know, actions that scar the desert landscape are not easily undone. Sincerely, J. Matt	
0298	Katelyn Courange	To Whom It May Concern, I am writing to oppose the expansion of the NTTR. I believe that this expansion is unnecessary due to the impact it will have on the Desert National Wildlife Refuge which is home to more than 41 percent of the endemic species in the Mojave Desert Ecoregion. It is very important to the community to not lose grazing rights, water rights, mineral rights, recreational trails for hiking, birding and wildlife watching, camping, hunting, and miles of trails for OHV use. I support Alternative 1 that maintains the current boundaries of the Desert National Wildlife Refuge, so that the Air Force may continue to conduct military combat operations as they are now. I think that this alternative best supports both groups and is the best compromise in this situation. Thank you for your time and consideration. Sincerely, Katelyn Courange	LU-7 WA-4 ER-3 LU-1
0299	William L Daniel	I oppose that the Air Force take over more desert land in California. In the context of this proposal I believe that am in support of "Alternative 1" The government, and the military in particular, has done enough damage to our nation's wilderness. This particular site has economic value to private enterprise, which should have favor over further military expansion. Not to mention the protection of wildlife, a diminishing resource.	PA-49
0300	Ken Layne - Desert Oracle	I'm writing in support of our Desert National Wildlife Refuge and surrounding BLM public lands, and I support "Alternative 1" of the US Air Force's plan to take millions of acres of irreplaceable high-desert wildlife habitat and rare desert wildlands. Alternative 1 keeps things the way the are, which is what we who live and work and hike and camp in the Mojave Desert prefer. As the Las Vegas metropolitan area continues to rapidly expand, it is even more crucial that the desert lands set aside for wildlife, habitats, and human enjoyment remain protected and open to the public. The Air Force has repeatedly asked for and been given additional public lands in the Mojave Desert and frankly it is time to say "no more." As a business owner that caters exclusively to people who enjoy and appreciate the wild desert and our unique and threatened plants and animals, I very much have a personal stake in this decision, as do the thousands of Mojave Desert businesses that provide tourist services, outdoor guides, and outdoor supplies. Please do your part to protect these American natural treasures by continuing to use the ample millions of acres the Air Force already controls in Southern Nevada. I thank you for your consideration of these remarks and trust you will do the right thing for the people and environment of our fragile, beautiful, and world-renowned wild desert lands.	PA-36 PA-5
0301	Noah Youngelson	The US Air force is proposing the Nevada Test and training range expand over 300,000 more acres of land now managed by the US	

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		Fish and Wildlife services and BLM. I am strongly opposed to this action. This proposed expansion would cut off recreational opportunities to the public, harm bighorn sheep populations, and hinder wildlife movement and habitat. As well, more air traffic and bombing will increase the chance of fires. Public land by Beatty, NV is also being considered to be withdrawn for military use, which would also harm recreation use and antelope habitat. As a lover of Nevada's wilderness and public lands, I am opposed to both of these actions. I urge the Air Force to continue its activities within existing access, and leave these lands for the public. Thank you, Noah Youngelson	LU-1 BI-3 BI-1 PA-1 HS-1 BI-1 SO-4
0302	Donald Smith	To: U.S. Air Force Subject: Proposed expansion Nevada Test and Training Range Date: March 6, 2018 As it regards the proposed expansion of the Nevada Test and Training Range, please be informed that I oppose said expansion and thus support Alternative 1. There are a number of reasons I oppose the expansion, some of which I touch upon here. Considering that the Test/Training Range is now 2.9 million acres, it is inconceivable to me why adding 300,000 acres would be justified. As one who has recreated in the area many times, I can attest to the astounding features of the landscape. Disturbance of wildlife and a significant reduction to public access seem to this writer to be unacceptable. Construction of extended fence, airstrips, etc., would be very unfortunate. Furthermore, there is potential risk of damage to archeological sites, while closing 200 miles of road deny access to an area that represents what is becoming increasingly a rarity today would be a serious loss recreation, including hunting. Air traffic and bombing increase risk of wildfire as well as potential contamination. Impacts to the Amargosa River would result in serious consequences. More explosions may damage sensitive archeology sites. As one who looks forward to visiting and recreating in the area of both Beatty and Alamo NV, the impact of the expansion would be a serious disincentive.. For these reasons and more I urge the U.S. Air Force to not expand the Test/Training Range. Sincerely, Donald Smith [redacted]	PA-5 BI-1 LU-1 CU-2 LU-1 LU-8 PA-1 HS-1 HZ-1 WA-2 CU-2
0303	Billita Jacobsen	Please don't withdraw our public lands from our use. The land should be preserved for us and future generations. As a taxpayer, I don't approve of the impact to wildlife, air, noise and water quality should the parcels be turned over to the military.	
0304	Kathleen Steacy	I would like to submit that I oppose two of the proposals, #2 and #3C. While researching to understand benefits in each of the proposals, what I learned is that there are no studies performed to determine actual direct military impact to wildlife in the range. In addition, I appreciate the maintenance of the military training and economic benefit from the range. The reason for my opposition to the two proposals is simple, there has been wide spread disease reported in the bighorn population, I feel strongly that the continuance of current wildlife management will assist in ensuring this population gains strength and grows in numbers. Not only will they assist with	BI-19 BI-3 BI-4

0304-0307

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		improved land efforts, they will also reach the human population to identify disease sources and work to identify control measurements. I also feel that expanding the current range, while it improves strength, training, economic and employment numbers, will deter from ensuring our wildlife management has the opportunity to improve and grow our wildlife resources. The fragility of a desert environment is something I consider a wild card with wildlife, in a moment's notice it can be wiped out. I look forward to hearing the results of these proposals, and hope the decision creates mutual benefits. Thank you	BI-4
0305	Andrew Vineyard	Please pursue the No Action Alternative and return the land of the Nellis Test and Training Range to the Department of the Interior. The effort to extend the withdrawal of this land from public management and use constitute a crisis of imagination and thinking, not a real estate predicament. With the land already withdrawn, as a nation we prevailed in the Second World War, settled for stalemates in Korea and Vietnam, won the cold war, and defeated the radicals in the middle east. Who is left to beat? Unless your secrets conceal alien threats from other planets, who is left to sacrifice our land to? The national defense demands of the future require imagination and anticipation, not old habits and antique thinking. You know as well as we do, that the future of air combat is un-manned, asymmetrical, and likely moving to space. So consider the following clever dual purpose solution. Take any additional land you think you'll need, and any Space above, from the underachieving squatters of the Department of Energy. Whose boondoggle they used to call the Test Site, now only produces secrets and excuses. Between the two departments, Defense and Energy, the pathology of pseudo-secrets and lasting land destruction would at least serve a maximum of Washington DC, for a minimum sacrifice of Nevada. Imagine the actual innovation that will result from the two Departments being forced to work together! Thank you. Respectfully, Andrew Vineyard Life Long Nevadan	
0306	Donna	As an American citizen and resident of Nevada who happens to value land, water, plants, and animals, please count me among those who voice OBJECTION to any plan, effort, or intent to reduce the wildlife refuge granted by President Franklin D. Roosevelt. It is truly inconceivable to ponder that after 81 years of continued conservation, management, and restoration of this valued land and animal populations, the public can only beg Congress to refrain from jeopardizing the lives of multiple living species, as well as the air, noise, and water quality of the land on which they dwell.	
0307	Carter Wilkinson	Because I value access to public lands, and because there is already airforce land the size of Delaware, I strongly OPPOSE turning the DNWR into airforce land. It would disrupt important wildlife habitats and disrupt access for locals. Please do not go through with this project! Save the Desert National Wildlife Refuge!	PA-5 BI-1 LU-1

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0308	Ellen Kriser	I am writing to express my opposition to the proposed NTTR Military Land Withdrawal. Specifically, I wish to support Proposed Alternative #1 (Extend Existing Land Withdrawal and Management of the NTTR, North and South Range). In particular, I am strongly opposed to any land withdrawal that would result in loss of public access to currently open lands on the Desert National Wildlife Refuge. As a hiker, photographer, and amateur naturalist active in southern Nevada, the lands proposed for withdrawal offer me unique and irreplaceable opportunities for recreation and study in the region, with a diversity of scenery and ecosystems which do not exist in similarly primitive condition elsewhere in southern Nevada. The sand dunes near Desert Lake are Nevada's only substantially protected dune system. I believe it is very important that the general public retain access to the entire west side of the Sheep Range, including Desert Dry Lake and Dunes. The small towns of Alamo and Beatty must not lose potential backcountry recreation opportunities. Nevada residents and tourists are visiting the state's backcountry in unprecedented numbers. Nearby recreational areas such as the Spring Mountains, Red Rocks, Death Valley and Lake Mead are already overcrowded and experiencing resource degradation. NTTR has already withdrawn substantial lands and closed public access to a large portion of the Desert NWR's original territory. In a time when Nevada is actively promoting and developing its outdoor recreation economy, loss of public access to these landscapes is simply unacceptable. It is also vital that scientists and wildlife managers retain unrestricted access to the wildlife, archeology, hydrology and geology of the region. Nellis already has 2.9 million acres withdrawn (an area larger than almost any Federal wilderness area in the contiguous U.S. and approaching the size of Nevada's total designated wilderness acreage), as well as flyover access to much more. Military lands throughout the region already greatly limit public access to desert recreation. I believe it is reasonable to expect the highly competent and professional leaders of our military to achieve their training goals on existing land withdrawals via modernized technology (e.g. built-in threat emitters), more efficient use of existing withdrawals and better cooperation between military branches. Development is booming in Nevada, with major impacts to desert land via urban growth, demand for water and solar energy infrastructure, all while the state is attempting to diversify its economy with an emphasis on outdoor recreation. In this context, public access to healthy land in undeveloped condition is more important than ever.	LU-1 SO-3 LU-2 PA-5 PA-6
0309	Carol Tushkowski	I disapprove of the expansion.It would take away from the wildlife that inhabit the land.Also take away from people that like to hike,camp,and just enjoy Nature.It"s land that the Native Americans use for hunting,medicines etc.These area's need to be protected.	BI-1 LU-1 CU-1
0310	Richard Furman	Use the 2.9 million acres already controlled by the Air Force for readiness training. Do not remove more of the DNWR from public use.	PA-5

0311-0313

Commenter ID	Commenter	Comment	
0311	Teddy Elwell	I am a native Navadian and I have to say I am COMPLETELY AGAINST this land take over. I support my military 100%, I have family in the military, retired from the military but this is gone too far. You have not taken the correct actions to do complete this mission. The reports are full of holes and are not taking into consideration of our wildlife what so ever. Nevadians have worked extremely hard to get our Nelson bighorn sheep populations back to where we are today. We struggle enough keeping our population where it is, with fighting the diseases from domestics and our wildlife habitat getting smaller and smaller everyday. We do not need another land take over where our NEVADA WILDLIFE is to just be tossed to the side and the landscape bombed and littered with all the debris the military leaves behind on our landscape. I have been fortunate to be been able to work on all of these springs and water developments in the base. I have volunteered my time to protect something that I love. I am not willing to see all of that hard work from me and the hundreds of others that have helped create a habitat to better our wildlife. I would like to see more time and effort in creating the reports. A better effort from your biologists in protecting our water, habitat and wildlife. You “the military” own so much of Nevada already. There is no reason to take away more land from us.	BI-1 PA-1 BI-1 BI-4 PA-5
0312	Clint Bentley	I am opposed to both alt 1 and alt 2 for the same reasons. The draft legislation does not addequetly address ability of any agencys or NGO's access to manage wildlife or to continue the present day maintenance of existing big game water developements. My recommendation is to either leave the bounderies as they exist or release the present lands that are on the original boundary of the National Desert Wildlife Refuge. I am also opposed to alt. 3a, 3a1 and 3b for the same reasons listed above plus the issue of not addressing the separation of Desert Bighorn and domestic sheep grazing allottments. I am also opposed to alt3c theAlamo Road Withdrawl for the same reasons as listed in alt 1 and 2 but also strongly oppose the closure of the the main north south travel corridor for more years than any of us can remember. On alt 4a I strongly support the 20 year with drawl period. I am opposed to the alt 4b proposal for 50 year withdrawl and strongly oppose alt 4c an indefinate withdrawl period. Let us remember that in 1999 the Air Force informed all stake holders that they would neveer need any additional lands than those they were aquiring then. Now here we are, so what happens in another 15 years we're right back here again looking at another needless land grab. There were ideas presented at the original scoping period topossibly set with other stake holders and come up with some more realistic working conditions but they were not addressed are considered showing that thr is no future intentions of working out any diffrences that have been discussed. Clint Bentley	LU-2 LU-9 BI-10 PA-76 NP-17
0313	Chris Cefalu	I'm opposed to the Navy expansion because of the significant impact it would have on Nevada's wildlife, especially (Nelson) desert bighorn sheep. We have critical water developments within the expansion	PA-49 BI-3 LU-9

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		scope that need to be maintained for a healthy desert sheep population and cutting off access or worse yet having them damaged by military operations would be devastating. Sincerely Chris Cefalu	LU-9
0314	Michael W. Cassiday	I support the position and comments as presented by the Fraternity of Desert Bighorns in their 7 March 2018 letter. Regards, Mike Cassiday Member of the General Public	GE-13
0315	Jim Cantrill	I am against turning over any additional part of the Nevada Desert Wildlife Refuge to the Air Force The Air Force already has almost 3 million acres in this area. That should be more than adequate to conduct their mission. I am in full support of a string military but not at the expense of everything that makes this country great. Once this is gone, it will never be back.	PA-5
0316	George Mitchell	As a long-time visitor to Southern California and Nevada desert areas used by various branches of our armed forces for a range of important purposes, I have come to understand their importance for national defense. However, with the extraordinary amount of acreage already off limits to citizens in these areas, it is inappropriate and, frankly, unnecessary to remove even more lands from public access, at least in this already heavily impacted region. Our military can find appropriate ways to continue their important training and testing/development activities within the extensive confines of land already withdrawn from public access for these purposes. I do not support this withdrawal of existing public land for these purposes.	PA-5
0317	Cindy Alexander	I strongly SUPPORT the NO ACTION ALTERNATIVE and Alternative 4A. I am OPPOSED to Alternatives 1, 2, 3a, 3a-1, 3b and 4b. I am STRONGLY OPPOSED to ALTERNATIVE 3C an 4C My reasoning are numerous. I help construct water guzzlers. The Air Force has made it difficult to say the least on getting approvals to maintain those guzzlers which the Desert Bighorn so desperately need. We have built or maintain 15+ water sources in the lands that is part of this land grab. The remaining portion of the Desert National Wildlife Refuge (DNWR) is a protected wildlife refuge administered by the U.S. Fish and Wildlife Service (FWS) and must be protected from further land grabs by the U.S. Air Force. The DNWR was created on May 20 1936 as the largest wildlife refuge in the lower 48 states of the United States with the primary objective to perpetuate Nelson Desert Bighorn Sheep and its habitat. This mission has already been infringed upon by the existing NTTR encroachment into the DNWR.	LU-9
0318	Rob Vinson	The Loss of additional lands surrounding the current NTTR would have negative impacts to the local community. Currently these lands are open to any person that wishes to hike, explore, hunt, camp, drive, view wildlife, photography, or just get fresh air. Being situated to Las Vegas, a growing metropolis, there are not many places this close to do this kind of recreation on. I hope congress can see the importance of keeping these spaces open to the general public, and not take away these lands from us. Removal of these lands from the American public would have devastating consequences to the local economy, wildlife, and burden on tax payers. The property in the	

0318-0319

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		proposed is crucial to our local wildlife and recreation economy to the town of Alamo, in which I'm a current resident. The town has no economic industry, thus depends strongly on tourism, which is generated by the public lands owned by the U.S. Fish & Wildlife Service and Bureau of Land Management. One major recreation areas is on Desert National Wildlife Refuge (NWR) and Pahranagat NWR. The Alamos will affect both, although Pahranagat was never mentioned. Pahranagat is the largest waterfowl and migratory bird stop in southern Nevada. This cannot be replaced if the disturbance of the Air Force forces birds to change their migration routes. The fact that the Air Force says that they need to be able to fly lower, and is why they want the Alamo's also will put our military aircraft and pilots in a situation to increase bird strike possibilities. This was never mentioned. With geese, swans, and Sandhill cranes moving through this refuge year round, I think this would not be ideal area do try to do low level operations. Pahranagat is also a major hunting area, and if the Air Force caused waterfowl to move from this area, would destroy a much sought after, limited, recreation sport in southern Nevada. This would be taking away a huge outdoor recreational activity, in a very limited area. Moving on to the additional tax burden, I have a major concern that has never been addressed. The fact that fences will be installed and patrols will have to be added to ensure compliance was never addressed, if these lands are withdrawn. This additional cost was not outlined in the public meetings, thus its unknown on how much this would cost. I would hope congress would hear the voice of the people and act to preserve this unique gem in southern Nevada for the people of Nevada and the United States.
0319	Tracy	I do not feel like NTTR needs to have more land to do there training on. Speaking as a Alamo resident I see no value or incentive to increase the land for training. The impact of any of the proposed option other than proposed alternative 1, have negative impact to the land and the surrounding communities. Part of the presentation mentioned the clean-up of hazardous material would be in the millions if they went through withdraw- So why would we want to allow them to have more land to contaminate? They tried to paint this picture of fences to keep people from vandalizing and polluting the area but that is not much of a trade off for polluting the area with hazardous waste. And devastating the wildlife that lives and relies on the surrounding resources to stay alive, seems cruel. I deal with the sonic booms, and the cracks in my walls and ceilings and the fact my dogs go crazy each time they happen- its a part of life here, but I feel the additional sonic booms would be a huge impact on the residence here causing more damage to their homes, and there seems to be a lack of care to address or take care of damage on homes, so again why would we want to go through the this. Also the restrictions on the land would impact the business in Alamo the trail from Desert to Pahranagat is a favorite for groups to take, then come into town for a meal and gas. There are area's that have history to them that would

NO-4

BI-5

NO-5

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		no longer be available to visit. I vote to leave things as they are and to rearrange the land that is already being utilized by TTR, Beatty Bombing Range, Mercury, Yucca Mtn, Area 51 to be used in a manner that allows NTTR to do their training.	
0320	Brian Soehngen	I don't know how I can say NO to your proposal strongly enough, so I will simply say this has zero support from me or any in my circle. I am a lifelong NV resident, and the government land available in this state is extreme. Why in do you need even more? I have seen access to public lands simply erode to a joke compared to what it was in the 70s and 80s and 90s, and now the Feds want more -- anot5her wall to lock the people of Las Vegas into their "reservation". You don't want to go north or west or to another state even, but you want to overtake the oldest NWR in our history. The impact, despite your assessments, will be severe. And you want to restrict access to the road network in the Desert NWR too. This is insane. And you should know I come from a military family with deep participation our war history, but that does not give the military my carte blanche approval for anything they decide to do. Please consider removing this proposal...you have united incredibly diverse, and usually diametrically opposed, groups in the fight against you. At a minimum, that should give you pause as to the negative effects and lasting resentment within the community the USAF will engender by following through on this land action.	PA-5 PA-5 PA-3
0321	Greg Blascovich	We at KIP have the utmost respect for the Air Force and the vital role it plays in protecting our country. However, this proposed withdrawal simply takes too much land out of the public domain, especially considering the large landholdings the USAF currently has in Nevada. This refuge was created in the 30s for desert bighorn, and the program has been quite successful. For decades, many conservation groups and governmental agencies have spent considerable resources and time for habitat and wildlife, all open to the public. If this proposed withdrawal goes through, it will negatively impact these efforts. Consider that wildlife managers wont be able to work there except on a case-by-case basis, this is hardly a recipe for success.	LU-2 BI-4
0322	Paul Schmidtlein	I do not support a reduction of habitat for the sensitive desert tortoise habitat, big horn sheep habitat or any of the other animals that are dependent on this fragile ecosystem for existence. As the population of Clark County, Nevada continues to grow there is less and less habitat for these sensitive species.	
0323	Kit Fischer - National Wildlife Federation	The National Wildlife Federation strongly supports the "No Action" alternative for the Nevada Test and Training Range (NTTR) Military Land Withdrawal at Nellis Air Force Base. The Desert National Wildlife Refuge was founded in 1936, the same year as the National Wildlife Federation, as the largest National Wildlife Refuge in the lower 48. The Refuge provides phenomenal habitat to a myriad of species including bighorn sheep as well as unique recreational opportunity. NWF believes the proposed withdrawal proposal will	

0323-0325

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		result in significant impacts to traditional public use of public lands. Any proposal must also fully address the impacts to native wildlife populations and associated wildlife movements/ corridors. Sincerely, Kit Fischer Senior Program Manager National Wildlife Federation	BI-1
0324	Nancy Sollinger	The land withdrawal will impact the economy of several communities. The report shows that some efforts are being made to assist businesses (such as ranchers) who are affected; such assistance should be required if proposals are adopted. Outdoor activities, such as hiking, observing wildlife, etc. should be protected as much as possible as these activities contribute to the economy. The proposed Alternatives 3A and 3A-1 will impact the area around Beatty. Of these two alternatives, I think Alternative 3A-1 is the better one as it removes less land from the public. The reason given for the proposed land withdrawal in Alternatives 3A and 3A-1 is to provide for a safety buffer to protect the public. Since the public is expected to be near the proposed fence, people need a reliable way to contact the NTTR authorities if they have questions or concerns. A telephone number with a person available to answer questions would best serve the interests of the public.	SO-1 SO-3 GE-14
0325	Jim Boone - birdandhike.com	I oppose the transfer of public Wildlife Refuge lands to closed-to-the-public military lands, and I oppose the conversion of Wilderness Study Areas to open-access military lands. Rather, I support Proposed Alternative #1 (Extend Existing Land Withdrawal and Management of the NTTR, North and South Range). I am strongly opposed to any land withdrawal that results in the loss of public access to currently open lands on the Desert National Wildlife Refuge (DNWR) and elsewhere. As an avid hiker, camper, off-roader, photographer, and ecologist in southern Nevada, the lands proposed for withdrawal offer me unique and irreplaceable opportunities for quiet recreation and study in the region, with a diversity of scenery and ecosystems which do not exist in similarly primitive condition elsewhere in southern Nevada. The sand dunes east and southeast of Desert Lake are the only protected dune system in Nevada. My favorite campsite in all of Nevada is located on the south edge of Desert Dry Lake, and another favorite campsite is located high on Deadhorse Road. It is very important to me that the entire west side of the Sheep Range, including Desert Dry Lake and Dunes, remains open to the public. Furthermore, the towns of Alamo and Ash Springs need these lands to spur local tourism regarding these backcountry recreation opportunities. Residents and tourists alike are visiting our southern Nevada backcountry in unprecedented numbers. Nearby recreational areas such as the Spring Mountains, Red Rocks, Death Valley, Zion, and Lake Mead already are overcrowded and experiencing resource degradation. The NTTR already has withdrawn substantial lands and closed public access to a large portion of DNWR. In a time when Nevada is actively developing an outdoor recreation economy, loss of public access to these landscapes would damage business. In particular, my backcountry	LU-1 SO-3

0325

Commenter ID	Commenter	Comment
		guide-services business would be harmed by the loss of access to these lands. It is vital that scientists and wildlife managers retain unrestricted access to the ecology (wildlife including big game species as well as migratory birds and other species, botany, hydrology, geology, etc.) and cultural history (Native American and European history) of the region. The NTTR already has withdrawn 2.9 million acres that are not now available for study. For example, ongoing studies of mountain lions in the Sheep Range and surrounding mountains is adding to our understanding of how this species moves among mountain ranges. Limiting access would curtail asking questions such as: where are the breeding males and how big are their ranges? Studies of cultural sites would also be curtailed. For example, the historical water developments on the edge of Desert Dry Lake inform us of adaptation to a drying climate by ranchers. Studying and better documenting these sites preserves important history and may inform us about the ongoing drying process in our arid lands. As an ecologist, I offer my services for several Citizen's Science projects, including Nighthawk surveys. These surveys are conducted every year during spring or early summer, the dates and times of which depend on the lunar cycle (moon must be visible in the survey area), and the winds must be nearly calm. During springtime in the desert, calm nights are hard to predict, making the exact timing of the survey impossible to plan ahead of time. Usually, I must wait until the weather looks promising, then head out and hope for the best. Sometimes I get out there and find that the wind is too high, forcing me to cancel and come back another night. If these lands are withdrawn, it would be impossible to schedule access to the area (Desert Dry Lake south 10 miles along Alamo Road) ahead of time. With several years of data already in the books, it would be disappointing to discontinue my efforts and lose the potential to contribute to this nation-wide, long-term breeding bird study. During my studies, I have found and photographed a species of small spider on the northern Desert Dry Lake Dunes that is unique in my experience. The species is cryptically colored to match the sand grains upon which it lives. When threatened, this species pulls its legs in against the body and remains motionless; looking like nothing more than a few grains of sand. This species probably is unique to this dune system and deserves to be studied before it is lost. The lands proposed for withdrawal and those proposed for removal from Wilderness Study Area status are some of the most pristine lands in southern Nevada. Cutting these lands with roads and allowing overland travel by vehicle will damage the vegetation, introduce weeds, fragment wildlife habitat, and potentially impede wildlife corridors. With so few pristine lands remaining, it would be unconscionable to damage even more. Development is booming in Nevada, with major affects on desert lands due to urban growth, demand for water, and renewable energy infrastructure, all of which is occurring while the state is working to diversify our economy with an emphasis on outdoor recreation. In this context, public access to

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Commenter ID	Commenter	Comment	
		healthy land in undeveloped condition is more important than ever. The NTTR already has withdrawn 2.9 million acres (an area larger than almost any Federal wilderness area in the contiguous U.S. and approaching the size of Nevada's total designated wilderness acreage), as well as having flyover access to much more land. This should be enough. Military lands throughout the region already limit public access to desert recreation. It is reasonable to expect our military leaders to achieve their training goals on existing land withdrawals via modernized technology, more efficient use of existing withdrawals, and better cooperation between military branches. Don't Bomb the Bighorn — Save the Desert Dunes Spider — Survey the Nighthawks!	PA-5 PA-6
0326	Robert J Rogan - Eastern Chapter of the Wild Sheep Foundation	To those responsible for deciding on the expansion of the USAF Nevada Test and Training range. Please know that the Eastern Chapter of the Wild Sheep foundation is opposed to this initiative in favor of the preservation of lands to protect the fragile desert sheep and other indigenous wildlife that inhabit these lands. There are countless individuals that dedicate much of their time to preserve Wild Sheep and to see these creatures put at risk seems amiss. We align with the Fraternity of the Deset bighorn on all accounts and ask that these lands be returned to the National Fish and Wildlife Game Services. Thank you for your time and consideration. Robert Rogan Director	
0327	Heather Quinto	Please do not take more of the precious wildlife that we have worked hard to preserve so you can test your bombs. You honestly do not need that much land for practice. This is really about what is more important. Protecting Earth (the planet you live on, but the way), or wanting to deface it with war.	PA-1 PA-5
0328	Alyce Brownridge	I strongly oppose the military's proposal to remove any of the Desert Wildlife Refuge from its current protected status. These lands were set aside to protect wildlife in the 1930s by President Roosevelt. The wildlife of these lands along with the American people deserve them to stay protected. My family moved to Las Vegas four years ago and have been able to enjoy the beauty of this wild region many times. We appreciate the immense value that this area provides our people and the wildlife that inhabit it. Leave it alone!	
0329	Lisa	Please do not seize this land for the military installation. Corn Creek and hidden cabin and the Mormon Well area are important hiking destinations now. And I hope for a long time to come. Thank you.	LU-1
0330	Patricia Crandal	We are destroying our ecosystem and leaving nothing to future generations, study and enjoy.	
0331	James F Shepherd	There is no need to expand into the training area into the wildlife area. there is plenty of land throughout the Nellis ranges and the test site... Due to the habitat and water availability, the land in the wildlife area is best suited for the use of bighorn and other wildlife. The use of fences will further harm the area.	PA-5 BI-5
0332	Denise Bensusan - The	3-8-18 NTTR MILITARY LAND WITHDRAWAL LEIS COMMENTS I am a seasoned Environmental Researcher~Activist. I have	

0332

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	Bensusan Foundation	thoroughly reviewed the full LEIS offered to the public. I could certainly crunch the data into pretty little scientific graphs. I could detail the irreversible contamination and negative societal impact that has been inflicted upon the 2.9 million acres of publicly owned land controlled by the military since 1940. Sadly however it has been my experience that scientific facts and verifiable negative impact(s) on the environment are of no concern to the current administration. In that regard I will offer my comments from a personal perspective. Our ranch is in northern rural Mohave County Arizona. We are neighbors to NTTR and are distinctly impacted by the same. We are indeed stakeholders in this issue. You may remember the Down-Winders of Mohave County. These Americans had the unsuspecting privilege of being the military's lab rats to its “nuclear’ testing-war games within their own country's borders. They were human beings. They were friends, family and neighbors. They were never acknowledged as victims of direct destructive actions by their own government. They were never compensated and were discarded as collateral damage. Some died, some lived lives filled with ill health and pain. The Congressional decree that granted control to the military some 60 years ago expires in 2021. The right to approve said extension was reserved for Congress by Congress alone. This is disturbing on many levels. NTTR quietly attempted to close off access to these publicly owned lands from the citizens in 2015 and there was outrage. Current actions are also cloaked in insufficient disclosure. There is a lack of open participation in the process with the public as well as the states. Western Governors Association has detailed the lack of response to their repeated request for participation and communication with NTTR. A government entity not fully participating with state officials In the issue of handing over public lands to anyone should be of great concern to all of us. Alarmingly there are no restrictions on what the military can do with this kind of total control over citizen owned lands. They control all natural resources. Water and mineral rights are of serious concern. All of which the controlling entity can turn over to private for profit industry such as mining, dirty fossil fuel, natural gas fracking, oil and gas pipelines etc.. This has been a loudly boasted intention for this administration. A military entity taking over these large publicly owned land masses is a perfect way to inhibit and even remove entirely the legal rights of the American people to fight destructive environmental projects. The Southwest has no sustainable water supply. These resources can never be replaced. I do not believe an additional 300,000 acres should be added to the current 2,9 million acres the military already controls. It is appropriate for U.S. Fish and Wildlife to continue management of 846,000. acres. This was supposed to be a Wildlife Refuge. Trained conversationalist who's mission and life's work is to steward the land will best serve the public interest. Total control of all acreage should not be dominated by a military presence. There should also be no extension to control the Desert National Wildlife Refuge to the Military Industrial Complex.

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0332-0334

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		They have experimented with toxic weapons which has caused irreversible damage to the land and the people. In fact we must begin returning the lands that have been taken to its rightful owners…THE AMERICAN CITIZENS. Respectfully Submitted, Denise Bensusan
0333	Bill Helmer	Alternative 1 should be chosen, which continues the status quo on Nellis Air Force Base, since it is the least destructive among the narrow alternatives offered. At the same time, there should have been an alternative which scales back the land and military use of Nellis Air Force Base. Continued military expansion needs to be curtailed for the health and continued survival of all life on this planet. This is not some utopian dream, it is just common sense. Closing off another large part of the Desert National Wildlife Refuge (DNWR) SHOULD NOT EVEN BE CONSIDERED AS AN ALTERNATIVE. Nellis Air Force Base and the adjoining Nevada National Security Site consist of millions of acres which can be used for the scaling back of military training. Nellis Air Force base has only been in existence for a few decades and should not be considered an eternal occupation. In addition, the use of drone warfare should be specifically scaled back, not increased, and there is a very likely chance that the use of drones will increase in the areas proposed for expansion. I have been to the Desert National Wildlife Refuge, and thus I have first hand knowledge of the unique beauty and power of this area. In 1996, I was in the Sheep Range of the DNWR and saw a herd of bighorn sheep across a ravine while visiting a packrat midden that was many thousands of years old. Limber pine twigs were in the packrat midden, over 3,000 ft. below their present range. This type of life-enhancing experience should not be shut off to present and future generations. Letting this ecosystem exist has more value than the short-term, destructive expansion of a military base. Instead of expanding, Nellis Air Force base needs to plan for reducing its range, and as stated above, this should have been an alternative. Since this was not an alternative, Alternative 1 is chosen as the best among bad choices. Nellis Air Force base needs to develop ways to reduce its impact on the environment, cultural resources, and wildlife. Nellis Air Force base can work towards expanding peaceful solutions in world conflicts while protecting the environment and the life within it. Thank you, Bill Helmer Cohasset, California March 8, 2018
0334	Burton Miller	I am a 24 year resident of Nevada writing to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. This is the largest refuge in the continuous US, 70% of which is designated as wilderness. I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR. At the January 23rd public meeting at the Aliante, 250 interested Nevadans attended to hear the presentation. 100% of the 45 people who spoke publicly

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		were in favor of keeping the status quo of the range (Option 1) and were not in favor of any range expansion. Native American groups who spoke that night expressed their concerns and specifically, the federal governments' broken treaties (Ruby Valley for one), continued colonization of native lands, restriction of access to sacred lands, destruction of irreplaceable artifacts and the endangerment of the sacred Desert Bighorn. This is one way that the federal government can honor those who rightfully inhabited these lands long before we did. Local politicians, off-road enthusiasts, business owners, students, and environmental groups all spoke in opposition to the expansion from across party lines with the unified message: any expansion of the NTTR is bad for Nevada. It is the responsibility of all Americans to protect this land and all of its value therein for future generations, which has been evident since 1936 when Roosevelt established the range for "the conservation and development of natural wildlife resources." Option 1 remains consistent with that original intent, it aligns with the overwhelming voice of Nevadans, and is my opinion as well. Thank you.

0335

Andrew Church
[redacted]

To Whom it May Concern,

My name is Andrew Church, a fifth generation Nevada rancher, and I am writing in regards to the Air Force's proposed expansion of the Nevada Test and Training Range (NTTR). While I understand that a well-trained and prepared military is vital for our national security, the proposed expansion of the NTTR exceeds what is necessary for acceptable preparedness.

Firstly, US Air Force has a plethora of other land assets located throughout the United States. These include the neighboring Utah Test and Training Range (2.3 million acres), the Barry M. Goldwater Air Force Range (1.9 million acres), and the already expansive Tonopah Test Range to the north (400,000 acres). These assets, coupled with the existing 2.9 million acres of Nevada land allocated for Air Force, already provide the area and topography necessary for future operations. Both the existing NTTR and Utah ranges have the required mountain ranges necessary to implement the range infrastructure necessary for newer aircraft and exercises. Having read the Air Force's draft LEIS, I do not agree that the additional 300,000 acres of Nevada land is necessary to continue and expand operations. PA-5

The proposed expansion outlined in the LEIS also poses a threat to native wildlife and ecology. Analysis of the LEIS shows that of the 300,000 acres to be added to the NTTR, 200,000 acres would come from the Desert National Wildlife Range (NWR). The Desert NWR was founded in 1936 and has played a crucial role in rehabilitating desert bighorn sheep populations, as well as protecting and expanding local flora and fauna. The Air Force seeks to expand into the Sheep Range east of the NTTR, which is critical habitat for the bighorn sheep. Testimony by Air Force representatives about the potential environmental impact of testing operations has not been satisfactory. The creation and maintenance of new test range infrastructure would create a permanent impact on the landscape. The necessity for road easements to this infrastructure would create a heightened disturbance to wildlife in the region, which currently suffer minimal disruption. The Desert NWR is the second largest wildlife refuge in the United States, expanding the NTTR would undermine its mission and purpose. BI-1

One of the core tenants of Nevada land use is the concept of common and compatible land use. All members of the public are allowed to use the commons so long as that use does not disturb the land or interfere with another's use. Under such a system, ranchers, hikers, ATV enthusiasts, equestrian riders, bird watchers, and students are all able access and use public lands. The lands that fall under the NTTR expansion are some of the most scenic and pristine areas in Southern Nevada. Decades of careful stewardship have allowed the public to frequent this land while keeping disturbance to a minimum. The expansion of the NTTR would deprive the public of both access and use of lands that LU-1

0335

have been enjoyed for generations. Fencing off these areas it a direct contradiction to the tenant of compatible land use. LU-1

Lastly, there is a concern that falls outside the scope of environmentalism and social function. It is a concern over our values as not only Nevadans, but as citizens of the United States. What makes Nevada unique is its wilderness, its vast expanses. Those who have climbed the remote ranges of Nevada and peered out on to a horizon uninterrupted and without end will know of this feeling. In a nation where urbanization and the development of natural resources have caused nature to become relegated to convenient and permissible zones, Nevada stands apart. Nevada is wild, and so it should remain. But the expansion of the NTTR is incompatible with that vision.

The NTTR expansion is part of a trend in which this state of openness and wandering becomes one of fences, borders, no trespassing. We pay great deference to our military in protecting this country from enemies abroad. But we must also ask ourselves what we are protecting. The United States is more than warm bodies, it is a collective agreement on values we all uphold; individual freedom, preservation of nature, the right to go forth and wander. When what we cherish most about our country fades with each stroke of the pen and fence on the ground, we will have lost all reason for defending this nation, all in the name of national security.

For these reasons I cannot endorse the US Air Force's plans to expand the Nevada Test and Training Range. I would allow the training range to operate at its current size and for an extended period of twenty years.

Thank you for your time and patience in this matter.

Respectfully,

Andrew Church

0336

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

March 5, 2018

Re: Public Comment on the Draft LEIS for the NTTR Land Withdrawal

As a resident of Beatty, NV, since 2005, I am concerned about the proposed NTTR withdrawal of land near Beatty in the draft LEIS. Specifically, I wish to comment on Alternative 3A-1 in the draft LEIS.

When I moved to Beatty, the town was still suffering the impact of the closure of the Barrick mine in 1999. Over the next few years, several businesses closed, and the town's residents were hoping that additional mining activity would help to restore and revitalize a vibrant small community in the midst of a truly wonderful natural environment. It became apparent, however, that reliance upon service to tourists and visitors would be the more likely route to recovery.

In the last 5 years or so, the town has made significant progress toward that goal. The "Beatty Habitat Committee" (of which I was a member and ultimately Chair) worked to develop hiking trails and protection for the threatened Amargosa Toad, a species that exists only in and near Beatty. In collaboration with the "Amargosa Toad Working Group" (ATWG), a joint committee with members drawn from the Nevada Department of Wildlife, the US Fish and Wildlife Service, BLM, Nye County, the Beatty Township Board, the Nature Conservancy, as well as citizens and other groups (public and private), we helped to develop toad population surveys, experimental programs for habitat restoration and creation, and public outreach -- efforts that have paid off in a toad population that has recovered in numbers and in diversity of habitat. "Our" Toad has since become a star player in efforts to establish Beatty as a destination for eco-tourism. The ATWG has received awards for its efforts, and national attention as a prime example of public-private

0336

cooperation in the service of conservation of species and habitat.

Species other than the toad are important to the area, of course. The desert tortoise (which is a listed endangered species, unlike the toad) has been seen in the area proposed for removal by Alternative 3A-1, and the construction of fencing is likely to be disturbing to the species. In general, the area has abundant wildlife, including Big-Horn Sheep, and it is important to the community and to the environment that it be left undisturbed. If the area becomes part of the NTTR, all of our private and public efforts will be impacted. BI-2 BI-5 BI-1

Other efforts have established Beatty and the surrounding area as a locus for annual and semi-annual racing and tour events. The most notable of these are events sponsored by Best in the Desert racing, the local VFW poker run, and the many events sponsored by STORM-OV, particularly focused on mountain biking, and spearheaded by the Spicer Ranch, which has developed miles of bicycle trails and is in the process of developing more. In the last five years, we have seen our motels, RV parks, and restaurants at peak capacity whenever these events are held.

I am very concerned that the proposed withdrawal will negatively impact both these events and the need for continued habitat restoration and development. I note in particular that a proposed long bicycle trail (which would be the longest practicable one in the area) would be entirely lost under the withdrawal proposal. This could have a significant negative impact on the development of Beatty as a mountain bike "destination." SO-4

Note also that Beatty and the Oasis Valley are sandwiched between Death Valley National Park and the NTTR. While the Park lands can be accessed by individual vehicles and small groups, the Park will not permit large events in its areas. Thus, many potential events that could be organized to the west of Beatty are impossible. Large groups must rely upon the areas to the east and northeast -- exactly the area that would be impacted by the loss under Alternative 3A-1.

There are other economic impacts as well; mining claims are constantly LU-16

0336

being permitted in the area, and grazing lands are of vital importance to the ranches located northeast of Beatty. Both ranching and mining could suffer by loss of the proposed areas to these activities. LU-16

Finally, it is not clear to me (and others I have talked with), why exactly the USAF needs the proposed areas under Alternative 3A-1. Except for fencing, no construction is planned for the area; instead, it is apparently to be used as a buffer zone for emitters to be stationed on the inside of the existing NTTR. It is especially puzzling because the existing NTTR airspace boundaries already extend outside both the existing NTTR boundary and the proposed new boundary. Yet, in spite of the claim that today's faster aircraft need more turn-around space, the proposal contains no mention of extending the airspace boundary. PA-21 AS-1

The town of Beatty has long had a positive relationship with the NTTR. I hope that you will give serious consideration to my concerns and those of my neighbors and fellow citizens and eliminate Alternatives 3A and 3A-1 from your plans.

Ryan D. Tweney
[redacted]

0337

March 8, 2018 *submitted via e-mail*

Tom Seley
Project Manager
BLM Southern Nevada District Office
Attn: NTTR Withdrawal
4701 North Torrey Pines Drive
Las Vegas, NV 89130
BLM_NV_SNDO_NTTR_Withdrawal@blm.gov

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 8919
99ABW.PAOutreach@us.af.mil

Re: Comments on the U.S. Air Force's Draft Legislative Environmental Impact Statement for the Nevada Test and Training Range (NTTR) Land Withdrawal

Dear Mr. Seley and Nellis AFB,

Upon review of the Draft Legislative Environmental impact Statement (DLEIS), supporting studies and reports, and other documents, I present the following comments for the administrative record and for your respective consideration in the development and processing of the Final Legislative Environmental Impact Statement (LEIS) and land withdrawal application processes.

The DLEIS fails to adequately and clearly describe the Purpose, the Need and the Proposed Action as required under 40 CFR 1502.13 and 40 CFR 1502.14. Section 1502.14 requires that the Proposed Action be clearly defined in comparative form to the various alternatives. PA-7

I provided similar comments relating to inconsistencies and contradictions in the Purpose, the Need and the Proposed Action in my scoping comments letter dated December 9, 2016 which seem to not have been addressed in the DLEIS. For example, in Section 1.4 (Purpose and Need) on page 1-16 of the DLEIS the Purpose and Need is stated as, "*the Air Force's purpose and need for action is to sustain and enhance the military testing and training capacity, capability, and functionality of the NTTR through the land withdrawal process to meet current and future mission requirements, while continuing environmental stewardship of the lands entrusted to it*" (lines 11 – 14). However, in Chapter 2 (Description of Alternatives) on page 2-1 of the DLEIS the purpose and need is stated as being, "*for withdrawing and reserving land for the NTTR*" (line 4). The DLEIS adds further inconsistency in Section 1.4 (Purpose and Need) on page 1-16 where it is stated that, "*the Air Force proposes to withdraw and reserve public lands for military use to support the utilization and modernization of the NTTR by enhancing range capability for improved training and testing*" (lines 37 – 39). Is 'withdraw and reserve public lands for military use', etc. the purpose and need, or is it part of the proposed action? The DLEIS fails to clearly describe what exactly is the Purpose and Need versus the Proposed Action. PA-7

0337

Further inconsistency with these items is manifested in Section 1.4 (Purpose and Need) of the DLEIS by going into great detail about "*mission requirements*" starting on page 1-16 in the Purpose and Need paragraph itself (see lines 15 – 19) as well as the extensive descriptions in Section 1.4.1 – 1.4.3. Mission requirements seem to be more about actions, but nowhere in the DLEIS are these mission requirements described or otherwise labeled as being part of the Proposed Action. The DLEIS fails to clearly identify the purpose or intent of such lengthy descriptions for mission requirements in the Purpose and Need.

Section 1.4.3 gives a description of increasing NTTR operational security and safety due to public encroachment onto the range from simply being lost or disregarding perimeter signage. The proposed solution is to institute a larger buffer, but the desert is a vast and open place – people will always lose their bearings and there will always be those who disregard signage. There is absolutely no justification for increasing the land withdrawal based on this weak premise. The DLEIS fails to adequately identify other, and more effective, solutions to this 'problem' such as fencing and signage along the existing land withdrawal perimeter, public outreach and education, for example at the Desert National Wildlife and Pahranagat Wildlife Refuges Visitor's Centers. Extending the land withdrawal is not the solution. PA-39

Section 1.5.2.2 states that a "*full report*" of all public scoping comments is included in Appendix A, but this is a false statement. There is no full report, only a brief description of "*topic areas*", and in fact Section A.2 (Public Scoping Summary) of Appendix A, on page A-13 refers to the reader back to Section 1.5.2 (lines 19 – 20)! Section 1.5.2.2 is just a list of public concerns, not a discussion of the concerns as stated in the DLEIS (line 30). The DLEIS fails to describe how, or more importantly, if, the Air Force addressed all public scoping comments and gives the reader a circular path between Section 1.5.2.2 and Appendix A with no real presentation of how the public's comments were addressed. NP-8

Section 2 (Description of Alternatives) is extremely confusing, primarily because there is no formal Proposed Action identified. In fact, the DLEIS states that <u>all of the alternatives</u> taken collectively would fully meet the Purpose and Need, thereby implying then that the range of alternatives presented in the DLEIS are actually disguised as the Proposed Action, with no real substantive alternatives. This violates 42 CFR 1502.14 and 32 CFR 989.8. PA-74

I described and recommended alternatives for the Air Force to consider in my scoping comment letter dated December 9, 2016, however, the DLEIS fails to describe how the Air Force addressed my recommendations, whether chosen to be included as an alternative or eliminated for justifiable reasons. This omission also violates of 42 CFR 1502.14 and 32 CFR 989.8. NP-8

Section 2.3 (Alternatives) on page 2-20 is most disturbing where it is stated that, "*in order to meet the USAFWC's requirements, the Air Force requires implementation of Alternatives 2 and 3, including all subalternatives, as well* [sic] *Alternative 4C. Consequently, implementation of any individual alternative or subalternative would meet a part of the purpose and need but not fully meet the requirements of the Air Force*" (lines 30 – 34). These statements describe "*USAFWC's requirements*", "*requirements of the Air Force*" and "*purpose and need*" as interchangeable purposes/subjects and furthermore, implies as described above that the Air Force is telling the public that all alternatives (i.e., disguised as a single Proposed Action) are required and that PA-59

0337

anything less than selecting all alternatives would not be acceptable for the requirements of the Air Force, or the USAFWC or the Purpose and Need. The DLEIS fails to clearly identify parameters as required by CEQ Regulations as well as 32 CFR 989. PA-59

Thank you for the opportunity to provide these comments on the Draft LEIS.

Sincerely,

Paul Aguirre

0338

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:28:34 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Come on guys.. This is so unnecessary. It's they home and should not have to experience this just because you feel like it. That's not fair. We should not go that way, but towards peace and light. We are all one and this planet is our mother.

Love,

Kajsa

Sincerely,

Ms. Kajsa Ingelsson
[redacted]

A.4.2.2 Common Public Written Comments (CINs 2000-2278)

2000

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1 BI-5

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources.

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

2001

From: Gayle Janzen
To: nttrleis
Subject: EXTERNAL: I support No Expansion of NTTR - Select Alternative 1
Date: Friday, January 19, 2018 12:28:54 AM

Dear Nellis Air Force Base,

Bombing in the Desert National Wildlife Refuge is a really bad idea and think it will do nothing to keep us safe, if that's the excuse the Air Force is using to open this beautiful refuge up to their bombing practices. How can the Air Force even consider taking over this important landscape that exists for the conservation of desert bighorn sheep in Nevada? It has been permanently set aside for wildlife protection purposes so please leave the sheet and the landscape alone. Destroying the sheeps' habitat and most likely killing them with your bombs is not what this refuge was intended for. PA-1 BI-1 PA-1

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Gayle Janzen

[redacted]

2002

From: Jake Hodie
To: nttrleis
Subject: EXTERNAL: NO Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 1:32:29 PM

Dear Nellis Air Force Base,

The world has been up and down in terms of protecting animals. Some great things have been done recently for them, but plenty of threats still remain.
So many of our waters, public lands, forests, and open spaces have already been ruined by development, drilling, mining, encroachment, and other man-made harm. And now we have the threat of bomb testing! The animals are running out of places to live and be safe. Our wildlife are under threat from so many angles. They desperately need to be protected, mainly from humans.
Life is hard enough for people, let alone the animals.
Can't we please offer the WILDLIFE some much needed help?! PA-1

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Jake Hodie

[redacted]

2003

From: Kae Bender
To: nttrleis
Subject: EXTERNAL: NO Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 3:34:19 PM

Dear Nellis Air Force Base,

As a Mojave neighbor, I encourage preservation of the 1.6 million acres of pristine Mojave Desert in the Desert National Wildlife Refuge. Our desert ecosystem is unique and should be protected, not bombed. PA-1

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Kae Bender

[redacted]

2004

From: F and E Voltz
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Saturday, January 13, 2018 7:59:52 PM

Dear Nellis Air Force Base,

Why does the Air Force need more land in Nevada? Already over 80% of Nevada's land area is under the control of some Federal agency; we are no longer in a cold war with the Soviet Union. The recent opening of part of the Air Force's considerable holdings to indiscriminate hunting and decimation of our wildlife populations is nothing short of appalling and hardly reflective of the 97% of Nevadans who do not hunt or trap. PA-5

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

F and E Voltz

[redacted]

2005

From: Lizbeth Giletto
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 12:20:28 PM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes. Please respect this and conduct the bomb tests somewhere else ! PA-1

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Lizbeth Giletto

[redacted]

2006

From: Peter Ayres
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 12:29:54 PM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

I don't want any bombing on public lands. PA-1

Thank you,

Peter Ayres

[redacted]

2007

From: Don Cornelius
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 12:33:09 PM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. In addition, use by the public would have to be stopped on the refuge. In essence the refuge would cease to be anything but a bombing range. BI-1 LU-1 PA-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. Please select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations plus maintain public access while maintaining the Air Force's current national security resources. BI-1 LU-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Don Cornelius

[redacted]

2008

From: Ed Loosli
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 12:57:50 PM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been PERMANENTLY set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the law and violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. PA-4 BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Ed Loosli

[redacted]

2009

From: Bonnie MacRaith
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 12:57:58 PM

Dear Nellis Air Force Base,

Please consider the fate of living creatures, valuable native species both animal and plant. We need our wild places to help sustain the Earth! BI-1

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Bonnie MacRaith

[redacted]

2010

From: Elizabeth Agostinho
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 2:12:06 PM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. In addition, the proposed usage of the land for bomb tests is an admittedly short-sighted endeavor, especially when weighed against alternative -- the preservation of life. PA-1

I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Elizabeth Agostinho

[redacted]

2011

From: Danna Dal Porto
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 2:21:01 PM

Dear Nellis Air Force Base,

I urge reconsideration of the use of the Desert National Wildlife Refuge as a military firing range. This property has extremely important environmental importance. The Air Force can choose to use other property, the native animal living on this dessert land cannot move to another site. Using this for military purposes is selfish and does not consider the native species that require this land for their home. This property is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes. PA-1 PA-5 BI-1

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

My father was a career Air Force officer and he served during WWII. My husband is retired from the Air Force and the Washington State National Guard with 33 years of service. My family did not serve to see the Air Force ignore the environmental legacy of public land. My family asks for the preservation of the Desert Wildlife Refuge.

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Danna Dal Porto

[redacted]

2012

From: Virginia F Purvis
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 2:24:39 PM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the Wildlife Refuge. PA-1

Thank you,

Virginia F Purvis

[redacted]

2013

From: Joel Vignere
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 3:37:29 PM

Dear Nellis Air Force Base,

Please, these animals have a difficult enough life as it is without bombing them. PA-1

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Joel Vignere

[redacted]

2014

From: Amir Baum
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 6:30:36 PM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. We need them for our children to enjoy and destroying their land and putting their entire species survival at risk for your selfish needs is completely wrong at every level as we as humans are not separate from our biome. PA-1 BI-1

Thank you,

Amir Baum

[redacted]

2015

From: Lynn Borgen
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 6:35:27 PM

Dear Nellis Air Force Base,

This is a wildlife refuge, not a bombing target!! Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes. PA-1

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Lynn Borgen

[redacted]

2016

From: Mary Cross
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 6:46:41 PM

Dear Nellis Air Force Base,

It is Incredible! to me that our military is considering Bombing in our own Country!!! Stop!!! and Think!!! of the consequences; today, tomorrow and to future generations. Do Not Bomb. PA-1

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Mary Cross

[redacted]

2017

From: Phyllis Lau
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 11:47:47 PM

Dear Nellis Air Force Base,

The Desert National Wildlife Refuge must be preserved for our precious North American wildlife! The animals are irreplaceable; bomb sites should be confined to the large amount of land the military already has! What about preparing for cyber warfare, apparently coming sooner than we realized? The vast majority of Americans do not want our public lands destroyed and our precious animals sent to extinction! PA-1

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Phyllis Lau

[redacted]

2018

From: F Hammer
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Friday, January 19, 2018 3:48:52 AM

Dear Nellis Air Force Base,

The desert is a beautiful place and seeing the big sheep is an awesome experience. Do you really need to practice bombing here? I think not. PA-1

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

F Hammer

[redacted]

2019

From: Robert Weingart
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Friday, January 19, 2018 7:42:45 AM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would be patently illegal and violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. PA-4 BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I encourage you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Robert Weingart

[redacted]

2020

From: Susan Ericson
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Friday, January 19, 2018 1:40:52 PM

Dear Nellis Air Force Base,

Can't you practice virtual bombing and virtual warfare? Why must you destroy land and endanger life with actual bombing? Please consider the virtual option. PA-6

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Susan Ericson

[redacted]

2021

From: Sue Biederman
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Friday, January 19, 2018 9:13:00 PM

Dear Nellis Air Force Base,

Instead of bombing - try virtual reality. Duh! Quit ruining our land with stupid bomb tests. PA-1 PA-6

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Sue Biederman

[redacted]

2022

From: Karen Jacques
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Monday, January 22, 2018 12:52:05 AM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. It is absolutely wrong to turn a wildlife refuge into a bombing rage, I don't have words for how outraged I am that this is even being considered. BI-1 PA-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." It is the only responsible alternative and will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Karen Jacques

[redacted]

2023

From: Saran K.
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Sunday, January 21, 2018 7:53:47 PM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes. Bombing will also cause harm to the refuge that will last for years, not necessary. PA-1

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Saran K.

[redacted]

2024

From: Susan Dobbelaere
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 12:03:04 PM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes. I strongly oppose the Desert National Wildlife Refuge to be used for bomb tests. PA-1

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Susan Dobbelaere

[redacted]

2025

From: DIANE KASTEL
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1!
Date: Sunday, January 21, 2018 10:53:40 AM

Dear Nellis Air Force Base,

DESERT NATIONAL WILDLIFE REFUGE IS THE MOST IMPORTANT LANDSCAPE FOR THE CONSERVATION OF DESERT BIGHORN SHEEP IN NEVADA! IT HAS BEEN PERMANENTLY SET ASIDE FOR WILDLIFE PROTECTION PURPOSES!

The U.S. Air Force wants to take almost all of this precious land for military training and bomb tests! MY FAMILY AND I ARE TELLING THE AIR FORCE THAT WE OPPOSE THIS LAND GRAB! PLEASE SELECT ALTERNATIVE 1, AND, DO NOT BOMB THE BIGHORN SHEEP! PA-1

WE ARE SPEAKING UP FOR BIGHORN SHEEP, DESERT TORTOISE, AND, OTHER WILDLIFE! WE ARE TELLING THE AIR FORCE THAT WE DO NOT WANT THE DESERT NATIONAL WILDLIFE REFUGE APPROPRIATED FOR BOMB TESTS! PA-1

THIS LAND GRAB WOULD ALSO ELIMINATE ACCESS TO AN ENORMOUS SWATH OF DESERT, FOREVER TAKING THESE PUBLIC LANDS OUT OF PUBLIC HANDS! LU-1

EXPANDING THE NEVADA TEST AND TRAINING RANGE (NTTR) INTO THE REFUGE WOULD VIOLATE THE SANCTITY OF OUR PROTECTED PUBLIC LANDS! Road building, runway construction, fencing, and, cross-country travel would negatively, and, permanently impact the habitat for protected wildlife, such as desert bighorn sheep, and, desert tortoise! BI-1

Encompassing 1.6 million acres of pristine Mojave Desert, the Desert National Wildlife Refuge was designated in 1936 by President Franklin D. Roosevelt to protect the largest herd of desert bighorn sheep in the southwestern United States! The refuge is right in Las Vegas's backyard, with the highest peaks of the Sheep Range visible from the Strip!

The Air Force is eyeing almost 1.2 million acres of the refuge for an expansion of the Nevada Test, and, Training Range! This expansion would involve building roads, fencing and air strips, and, would cause other significant impacts within areas currently managed as wilderness! BI-1

EXPANDING THE NEVADA TEST AND TRAINING RANGE (NTTR) INTO THE REFUGE WOULD VIOLATE THE SANCTITY OF OUR PROTECTED PUBLIC LANDS! ROAD BUILDING, RUNWAY CONSTRUCTION, FENCING, AND, CROSS-COUNTRY TRAVEL WOULD NEGATIVELY, AND, PERMANENTLY, IMPACT THE HABITAT FOR PROTECTED WILDLIFE, SUCH AS THE DESERT BIGHORN SHEEP,AND THE DESERT TORTOISE BI-1

NTTR ALREADY ENCOMPASSES NEARLY 3 MILLION ACRES! IT DOES NOT NEED TO EXPAND FURTHER! Our family is encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo!" This will help ensure the continued viability of our desert bighorn sheep, and, desert tortoise populations, while maintaining the Air Force's current national security resource! BI-1

DIANE KASTEL

[redacted]

2026

From: Julia Rosenstein
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Monday, January 15, 2018 5:17:18 PM

Dear Nellis Air Force Base,

Below is a form letter, but I would also like to have a say. Before destroying our deserts, do some research on desert ecology. When one looks at a desert, one is seeing land that has stayed the same for eons. With the exception of flash floods, desert does not erode or change. One can still see tire tracks made by Gen. Patton during WWII and also wagon wheel tracks. As I said, the desert does not change. When the desert is bombed, it will not only destroy life, it will remain so for thousands of years. Bombing any desert should be out of the question. Personally, I hate war and all wars should end. If the military has to bomb to keep in shape, find some area that is already screwed up due to mankind, and bomb that. Or use simulators. Sheesh. Pristine lands are rare in today's world. We need to keep some pristine lands for wild life. Keep in mind we have lost half the world's wild life since the 1970s, and bombing our deserts would only make things worse. PA-1 PA-6

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

Julia Rosenstein

[redacted]

2027

From: D.R. Patterson & family
To: nttrleis
Subject: EXTERNAL: from NV hunters: No Expansion of NTTR - Select Alternative 1
Date: Wednesday, January 24, 2018 10:23:35 AM

Dear Nellis Air Force Base,

We're Nevada hunters. We support wildlife and national security.

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1

We question the 'purpose and need' of this proposed action. NTTR already encompasses nearly 3 million acres. It does not need to expand further. PA-7

I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources. BI-1

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,

D.R. Patterson & family

[redacted]

2028

From: John Pasqua
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Sunday, January 14, 2018 10:09:34 PM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1 BI-5

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources.

Please select Alternative 1, and don't bomb the bighorn. PA-1

Thank you,UNACCEPTABLE FOR THIS TO BE THOUGHT TO DO THIS TO NATURE NOW. BAN THE BOMBINGS OF THE BIGHORN SHEEP NOW. PA-1 BI-3

John Pasqua

[redacted]

2029

From: Betty Sabo
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Friday, January 12, 2018 4:32:25 PM

Dear Nellis Air Force Base,

As a 66 year-old resident of Nevada, I am appalled that the US Air Force wants to take almost all of the Desert National Wildlife Refuge for military training and bomb tests. Doesn't the Air Force understand that this land is a Wildlife Refuge - refuge, a place for sanctuary not bombing and other military actions? PA-1

Expanding the Nevada Test and Training Range (NTTR) into the refuge would require road building, runway construction, fencing, and cross-country travel - all of which would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1 BI-5

NTTR already encompasses nearly 3 million acres. I am astounded that you already have this much acreage. You do not need more land!

Please select Alternative 1, which keeps land management in southern Nevada at "status quo." I live here. Please support us residents and not this Army land grab.

Betty Sabo

[redacted]

2030

From: Carol Jurczewski
To: nttrleis
Subject: EXTERNAL: No Expansion of NTTR - Select Alternative 1
Date: Thursday, January 18, 2018 5:56:28 PM

Dear Nellis Air Force Base,

Desert National Wildlife Refuge is the most important landscape for the conservation of desert bighorn sheep in Nevada. It has been permanently set aside for wildlife protection purposes.

Expanding the Nevada Test and Training Range (NTTR) into the refuge would violate the sanctity of our protected public lands. Road building, runway construction, fencing, and cross-country travel would negatively and permanently impact the habitat for protected wildlife such as desert bighorn sheep and desert tortoise. BI-1 BI-5

NTTR already encompasses nearly 3 million acres. It does not need to expand further. I'm encouraging you to select Alternative 1, which keeps land management in southern Nevada at "status quo." This will help ensure the continued viability of our desert bighorn sheep and desert tortoise populations, while maintaining the Air Force's current national security resources.

Please select Alternative 1, and don't bomb the bighorn. PA-1
Please do not use the Desert National Wildlife Refuge as a target for bomb tests!
Thank you,

Carol Jurczewski

[redacted]

2031

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely,

2032

From: Diane Wong-Kone
To: nttrleis
Subject: EXTERNAL: LEIS Comment - Do Not Withdraw Desert Refuge Lands for Military
Date: Friday, March 02, 2018 11:29:32 PM

As a biologist who has worked on the Pahranagat National Wildlife Refuge and visited other areas of the Desert National Wildlife Refuge, I am opposed to the transfer of refuge lands for military use. The Nevada Testing and Training Range already has plenty of space and fragmenting important habitat for bighorn sheep, the desert tortoise (endangered species), gila monster, southwestern willow flycatcher (endangered species) and other unique species from the Mojave Desert and Great Basin in Nevada will only cause greater species declines and loss of critical wildlife corridors. Pahranagat NWR provides a rare water source that attracts not only thousands of migratory birds, but also long ranging desert dwellers that also need water to survive. This important wildlife area should not be cut off from other parts of the Desert National Wildlife Range, an action currently being proposed. Besides direct mortality events that could result from military activity, I fear reduced survivorship of wildlife species, some already listed as federally threatened or endangered, will occur with the proposed land withdrawal, because habitat loss will occur. Roads will fragment habitats and create barriers to migratory animals that travel long distances looking for food, shelter, nest sites, etc Blocking these migratory pathways will also increase mortality, even if indirectly, because certain populations may lose access to important food or water resources, become exposed to predation, etc. Noise and vibration from overhead aircraft can also affect behavior and negatively impact burrowing animals such as the desert tortoise, western burrowing owl, kit fox, and gila monster, to name a few examples. BI-1 BI-2 BI-3

Opening areas between Las Vegas and Alamo, a corridor that's currently experiencing human population expansion, would bring military activity closer to human populations as well, and this is risky and potentially dangerous.

The Desert National Wildlife Refuge is the largest refuge in the contiguous United States, and large reserve areas are needed for the protection of wide-ranging desert animals such as the desert bighorn sheep. The Desert NWR provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Due to its importance, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who find needed solitude and escape from cities and urban landscapes.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current WI-2

2032

NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Diane Wong-Kone [redacted], United States

2033

From: Richard Spotts
To: nttrleis
Subject: EXTERNAL: My NTTR Military Land Withdrawal LEIS comments
Date: Thursday, February 22, 2018 8:39:58 PM

Please accept my comments on your NTTR LEIS. I am very disappointed that the Air Force is proposing to expand its training and thereby harm a crucial wildlife refuge and the species it was intended to protect. BI-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for compatible public access. WI-2 LU-1

Overall, this landscape is ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure that the Desert Refuge's purpose is respected and upheld, not ignored.

Thank you very much for considering my comments.

cc: Nevada Congressional Delegation

Sincerely,

Richard Spotts [redacted], United States

2034

From: David Bobzien
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 08, 2018 11:19:59 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

In particular, my family and I REALLY love hiking, hunting and fishing in wilderness areas and on protected public lands. We live in Nevada, so PLEASE do not get rid of public access to this beautiful land. LU-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely,

David Bobzien

2036

From: Donald Kakas
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, February 22, 2018 7:32:31 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR. When is enough,enough? This land needs to stay intact for protection of wildlife. It does not need to be turned into bombing range or military use. Let's stop the madness. I have visited this refuge and loved it, lets reduce the military acreage and increase the refuge's acreage.

PA-1

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

_____ This email was sent by Donald Kakas

2037

From: Ethan Crisp
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, February 22, 2018 4:07:55 PM

This land is vital to a healthy desert ecosystem. It is land that was set aside to protect the Desert Bighorn Sheep. How can we protect them if we continue to drop live bombs on them. Wild land is running out in the world and we continue to destroy those few areas we have left. PA-1 BI-3

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Ethan Crisp [redacted], United States

2038

From: Constance Howard
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, February 22, 2018 3:11:03 PM

To Whom It May Concern:

As I thirty-five year resident of Nevada, I am writing to express my profound concern that the Desert National Wildlife Refuge located in southern Nevada should be protected in its present state and not subjected to further reduction and destruction by the Military. The Desert National Wildlife Refuge is a unique conservation treasure and should be preserved for its biological resources and ecological value. I would like the see the majority of the Refuge protected as Wilderness as was recommended by the U.S. Fish and Wildlife Service. WI-2

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Constance Howard [redacted] United States

2039

From: Kelly Fleming
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, March 06, 2018 12:06:08 AM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Furthermore, since there is no more “atomic testing” to the north of the gunnery and bombing range, may I suggest areas of that be used. Seriously, somebody should have thought of that instead.

PA-5

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Kelly Fleming [redacted], United States

2040

From: Cate Astrof
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 21, 2018 4:10:06 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded. Don’t bomb our Bighorn Sheep! This land and it’s inhabitants are a National Treasure. This is the most biodiverse land in the World. Thank you.

PA-1

cc: Nevada Congressional Delegation

Yours sincerely, Cate Astrof

2041

From: Derek Haze
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Monday, March 05, 2018 11:06:30 PM

I moved to Las Vegas in June 1980 from Arizona. My family lived in Tucson and I often travel there while my family was growing in Vegas. When you entered the damn area there is a sign that shows Bighorn Crossing. After 15 years of driving the same road, often early in the morning, I began to complain it was a fake sign. At that very moment three Bighorns walked across the road. I was lucky enough to see them one other time in the last 38 years. I believe this country needs the 1936 Desert National Wildlife Refuge to provide habitat and protection for desert bighorn sheep. They are magnificent creatures who can survive in a harsh, dry, hot environment. Being the Desert National Wildlife Refuge is the largest refuge in the contiguous United States and provides a home habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. It also is a great sky watching area.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. Let us not expand 1.2 million acres for military bombing in our desert which would threaten the wildlife and keep Nevadans out. PA-36 PA-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement. I am not in favor of Alternative 2. I am not in favor of Alternative 3 or any of its sub-alternates.

I would favor all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness. WI-2

I love our desert. It does not have the beauty or lushness of the Sonoran. But it's home. As were the Air Force bases I grew up on before college.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Derek Haze [redacted], United States

2042

From: Peter Sbraccia
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, January 31, 2018 6:10:46 PM

Hello!

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. It is a valued place for local families. As a lifelong resident of Las Vegas, some of my earliest memories of enjoying the desert are of being in the DNWR. I visited on school field trips, with my scout troop, and as an adult.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. Further, you cannot simply relocate bighorn sheep, or whatever other harebrained schemes are on the table. Communicable diseases, such as a deadly pneumonia-like infection that has ravaged other bighorn populations, are a serious threat to Nevada's largest herd of bighorn sheep. The isolation of the DNWR protects them from communicable diseases that are widespread in other areas of the Mojave and Great Basin.

WI-1
BI-1
LU-1
BI-1
BI-3

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Peter Sbraccia [redacted], United States

2043

From: Lee Hamer
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, January 31, 2018 4:55:35 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

There are many other options for bombing ranges. I support our military, but other options are available. Thank you. PA-1 PA-5

cc: Nevada Congressional Delegation

Yours sincerely, Lee Hamer

2044

From: Patricia Weidknecht
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Saturday, January 27, 2018 12:39:46 PM

I have lived in this area since 1972. We have enjoyed hiking, camping, exploring, and driving the Desert National Wildlife Refuge, with its natural beauty, historical sites, and array of wildlife. My son saw his first bighorn on a hiking trip there. I frequently head up to the Refuge as a respite from Las Vegas. The Air Force has so much land in this area (and there is other land available; it just means going through land owners, rather land grabbing a National Refuge!)l Please leave our area alone!! PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

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In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Patricia Weidknecht

2045

From: Jodi Pudwill
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, January 26, 2018 2:35:11 PM

I enjoy visiting the Hidden Cabin, which is an historical building. Taking from the public would be a huge tragedy to those who still have not visited this beautiful location. Not to mention the impact on the wildlife that calls this area home! Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. LU-1

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

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In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Jodi Pudwill [redacted], United States

2046

From: Eric Kassan
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, January 26, 2018 12:44:32 PM

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range.

As a technologist, I am appalled at the "justification" that higher speeds require greater buffer zones. If speed advances have outpaced accuracy enhancements (which I doubt), then more resources need to be focused there. Improvements in technology should improve accuracy and safety more than enough to counter increases in speed. Further, improvements in simulation technology should further reduce the need for real-world tests which put pilots, expensive equipment, and the environment, at risk. PA-12 PA-6

The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Eric Kassan [redacted], United States

2047

From: Dorothy Chaney
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Monday, March 05, 2018 10:42:21 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

With all of the other areas in Nevada that are already designated for the military use, and off limits to the general public, why can't some of these other areas be used for these purposes? PA-5

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Dorothy Chaney

2048

From: Sharon Gregory
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, January 25, 2018 12:38:54 PM

Hi, Please do not bomb the bighorn! Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. PA-1

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Sharon Gregory [redacted], United States

2049

From: Valerie Miller
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, January 24, 2018 8:11:11 PM

This is refuge needs to be left alone. We the people have suffered enough horrific assaults on our national treasures in the past 2 years Please don't bomb our refuge! Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. PA-1

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Valerie Miller

2050

From: Laura Kniola
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, January 24, 2018 7:48:23 PM

DON'T BOMB THE BIGHORN! PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Laura Kniola [redacted], United States

2051

From: Janette Miller
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, January 24, 2018 1:12:40 PM

The military already has a huge tract of land up here by Fallon to practice bombing. We do not need to cede land that has been set aside for iconic species like the Bighorn Sheep for decades to be subject to destruction. PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

This area deserves continued Federal protection for the future citizens of our nation.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Janette Miller [redacted], United States

2052

From: Yolanta Jonynas
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, January 23, 2018 10:33:35 PM

I am opposed to the expansion of the NTTR to the detriment of the Bighorn Sheep and the public who enjoys the sheep and the refuge. This land was set aside for a purpose: to protect and preserve the magnificent bighorn not to allow them to be subject to the dominion of the Air Force which so eagerly would destroy their habitat and them. Does the Air Force already have enough land to reuse for their purposes? PA-5

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Yola Jonynas [redacted], United States

2053

From: Janice Barrow
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, January 23, 2018 7:41:22 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

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Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

I live in Las Vegas and view the Desert Refuge as just that....a magnificent refuge, not to be spoiled by land demolition from bombings. The Air Force has taken enough land in that area. I vehemently request that you go north of Nellis, where the land is more barren, much lless people who enjoy that area, and less bighorn sheep, if there are any. PA-1 PA-5

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Janice Barrow

2054

From: Louis Bubala
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, January 23, 2018 7:02:20 PM

I've lived in Nevada for 14 years and taken my kids all around the state to see these great places. This weekend, I get to camp for the first time at Desert National Wildlife Refuge. I'm doing it now because I want to keep it protected, and not opened up to more bombing. This is such a large expanse of wilderness and habitat, and it needs to stay that way. For my kids, my neighbors, for Nevada, for all Americans. PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Louis Bubala

2055

From: Adam James
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, January 23, 2018 2:57:32 AM

Please see the information below. Don't bomb the DNWR. PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

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I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Adam James [redacted], United States

2056

From: Marisa Lindsey
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Monday, January 22, 2018 11:05:33 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

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Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Being able to explore the rich wilderness in the Desert National Wildlife Refuge is one of my favorite activities. I love the flora, fauna, and wildlife that call the DNWR home. The encroachment by the Air Force onto this land will have a lasting negative impact on both the wildlife and the people who want to preserve and enjoy this land. By closing off 75%, the Air Force will destroy public access and the goal of people and US Fish & Wildlife in our goal to preserve and protect this deserving land. Don't destroy it! BI-1 LU-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Marisa Lindsey [redacted], United States

2057

From: Amy Wiley
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Monday, January 22, 2018 9:39:06 PM

We have already sacrificed enough of the Desert Refuge, I want to make a stand for what remains.

Please don't bomb one of our nation's most precious resources – The Desert National Wildlife Refuge with its large tracts of undisturbed wild lands that provide invaluable habitat for threatened, sensitive, and endangered wildlife species. PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Amy Wiley [redacted], United States

2058

From: Bobbie Lassiter
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, January 21, 2018 6:45:23 PM

Do not bomb the Big Horn Sheep!! PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Bobbie Lassiter [redacted], United States

2059

From: Anthony Green
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, January 21, 2018 12:34:38 PM

Really, you are considering bombing Bighorn sheep? They are beautiful creatures that belong here. Leave them alone! PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

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I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Anthony Green [redacted], United States

2060

From: Judith Trejo
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, January 21, 2018 1:04:58 AM

As a neighbor to this particular wildlife refuge, I strongly believe in the convictions of protecting nature, animals, and as a getaway for people who enjoy the wildlife. This is simply not needed and the Air Force can find another place to test or build an underground facility for training purposes. PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Judith Trejo

2061

From: George Brush
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Saturday, January 20, 2018 7:57:40 PM

The current range is massive. There can't be a reason to expand it. PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, George Brush [redacted], United States

2062

From: Andrea Wellborn
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Saturday, January 20, 2018 4:34:04 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. I have concern that if this land is turned over completely what will happen to it, the wildlife and exactly what type of training will continue there's would it be harmful to anything living or the environment.

WI-2
LU-1
BI-1
PA-34

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Andrea Wellborn [redacted], United States

2063

From: Donna Stanton
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Saturday, January 20, 2018 4:19:04 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

DON’T BOMB THE BIGHORN Thank you. PA-1

cc: Nevada Congressional Delegation

Yours sincerely, Donna Stanton [redacted], United States

2064

From: Stefan Goehring
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, January 19, 2018 8:03:01 PM

Please DO NOT take away public land and restrict it's access! Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. LU-1

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Stefan Goehring [redacted], United States

2065

From: Laurie Simons
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, January 19, 2018 3:29:02 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is preserved.

The Air Force should update and improve wildlife protections and enhancements on the Refuge to mitigate and compensate for impacts of training on wildlife over the years. They should especially increase conservation efforts for desert bighorn sheep to reduce disease and other problems they face. BI-4

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Laurie Simons [redacted], United States

2066

From: Cheryl Miller
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, January 19, 2018 11:24:36 AM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am horrified that this is even under consideration. We do not need any more places to bomb into oblivion, and thanks to the current administration we have to hold on to every scrap our recreational areas because they are being stolen from us.

PA-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Cheryl Miller [redacted], United States

2067

From: Catherine Wiener
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, January 19, 2018 12:55:17 AM

Leave this area bomb free! PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

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Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Catherine Wiener

2068

From: Al Martie
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, January 18, 2018 9:08:58 PM

It has come to my attention that the Nevada Testing and Training Range has a proposal to take refuge lands. This is unacceptable, in my opinion, as the Range itself has already restricted an immense amount of land in the middle of Nevada, which could have been used for recreation purposes and wildlife refuges. The Range does not require more land. As a regular hiker and explorer, I thrive on the vast tracts of untouched land of Nevada. The Desert National Wildlife Refuge is one of the last remote stretches of land largely untouched by man (in Nevada), and removing this designation would surely be a tragedy. The scenery and adventures this area provides for me personally are some of the best within a close proximity of the Las Vegas area. Additionally, this area is home to the largest concentration of bighorn sheep in Nevada. Removing this designation to begin military operations would disrupt their habitat greatly. This is not even beginning to think about the hundreds of other fauna that reside in this area. Of course, no one is going to read this. Why am I doing this? The military will annex this land anyway. What an outrage.

PA-5

BI-1
BI-3

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

Yours sincerely, Al Martie [redacted], United States

2069

From: Rory Kuykendall
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, January 17, 2018 5:19:39 PM

Don't bomb the bighorn! Let the people enjoy this beautiful place. PA-1

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Rory Kuykendall

2070

From: Kimberly Derezotes-Miernik
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, January 17, 2018 3:06:16 PM

I am truly concerned about the current proposal for military expansion into the Desert National Wildlife Refuge. A refuge should be just that, a place of REFUGE, it should not be bombed or used for military purposes. With the reduction in forces that has been transpiring since the 80's I am sure that an expansion of training area is unnecessary. The forces are not expanding, there are not more troops so why can't they continue to use what is already in place. PA-1 PA-5

The current proposal would irreparably destroy the wilderness and threaten wildlife. Not to mention it could change migration patterns for lots of species of animals that will no longer be able to pass through the range. These changes could have far reaching consequences, that even a layman like me can see. WI-1 BI-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am whole heartily against of Alternative 2 and Alternative 3. I feel that only the first alternative is the only viable option.

I would like to see all the land outside the NTTR be designated wilderness and open to the public. I feel that it is time that we start treating our animals and land as protectable assets and not expendable commodities. WI-2 LU-1

The landscape of Desert National Wildlife Refuge is ecologically rich and diverse and should be preserved for future generations. There are countless reasons that the refuge should remain a refuge like preserving cultural sites, outdoor recreation and the preservation of our big horn sheep and other animals that call the Refuge their home.

Please keep the Refuge a safe and peaceful place for the Big Horn sheep and the many people who enjoy relaxing in her beauty.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Kimberly Derezotes-Miernik [redacted], United States

2071

From: Sam Tolman
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, March 04, 2018 6:31:35 PM

Please keep the Corn Creek as it is. The Airforce can leave this area alone, PLEASE — LU-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. — WI-1, BI-1, LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. — WI-2, LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, S Tol

2072

From: Susan Rambo
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, January 17, 2018 9:24:26 AM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

As one who has traversed the length of the Alamo Road on foot, I cannot begin to express the impact that being in an open space has on my thinking and how visiting the refuge always provides me with space to think, to understand awesomeness, to return to daily life renewed and with plans to make our world better.

Nevada already maintains so much area given over to military exercises and other purposes. Just as the wildlife refuge shares space with the Air Force, I'm wondering why other military spaces could not be shared with the Air Force, providing alternatives to this plan. How much space does the Air Force need when technology could be used to simulate training instead of bombing open lands? We need the refuge to remain intact to provide a place for humans to understand the natural world, to value the natural world as we continue to distance ourselves from nature.

PA-5
PA-6

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Susan Rambo [redacted], United States

2073

From: Stacie Coppens
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, January 16, 2018 7:01:38 PM

I live near and work with Desert National Wildlife Refuge. Enough is enough. Please let the refuge continue to be a refuge. The animals and artifacts should be cherished, not bombed. PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Stacie Coppens [redacted], United States

2074

From: Elizabeth Leon
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, January 16, 2018 6:04:20 PM

The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 850,000 acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Elizabeth Leon [redacted], United States

2075

From: Kimberly McNamara
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, March 04, 2018 6:08:05 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Please don’t bomb our Bighorn or destroy the beautiful lands and wilderness that we all love and enjoy. I am pro Military and come from a Military family, but this is wrong on so many levels. A government should never go back on its word to its people, to other nations, or its promised protections of wildlife and sacred lands. This should never happen and yet sadly it has too many times. This is supposed to be the land of the free and yet we are slowly loosing those freedoms and the land that my family has fought to protect. PA-1

How can we ever ask other nations trust our country and its words if it cannot not even keep its word to its own people.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Kimberly McNamara [redacted], United States

2076

From: Jaina Moan
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 08, 2018 7:07:22 PM

I am an avid hiker and lover of wilderness and I adamantly prefer Alternative 1.

The Desert National Wildlife Refuge (DNWR) has incredible archaeological resources, spectacular wildlife habitat and biological diversity and offers wonderful recreational opportunities. Most importantly though, It is the most expansive area of untrammeled wilderness that we have left in our country. Designated in 1936 to provide habitat and protection for desert bighorn sheep, the DNWR is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service.

Any alternative besides Alternative 1 would begin a negative trajectory for the preservation of wilderness qualities of that land. I'm opposed to any additional land withdrawals. I'm worried that we will lose the wilderness characteristics in the refuge. I'm worried about the loss of public access. I'm worried about the negative effects to irreplaceable archeological and cultural resources in the refuge. I'm worried about the increased noise and it's effect on the wildlife. I don't think that the Air Force has adequately addressed these concerns in the LEIS. — WI-1, LU-1, CU-2, BI-1

And, I think we need to ask for what purpose is the Air Force withdrawing this land? So that additional fences and roads and threat emitters can be installed? So more loud planes can fly over the range? These technologies will likely be obsolete in the future. I am gravely concerned about the ever-expanding military industrial complex. Why do we always need to be waging war all over the world? I am not willing to see our public lands taken over by the military so that they can expand testing for heavy weaponry, missiles, and bombs. These weapons are destructive--first we assault the plants and animals on our own public lands. Then we ship them overseas and drop them on other people, or we sell them to other countries (e.g., Saudi Arabia) so they can wage war on their neighbors (e.g., Yemen), whether it's justified or not. I don't want to sacrifice any more of our precious desert wildlife refuge for this pain and destruction. — PA-5, PA-1

It's not worth it. I am opposed to any further military takeover of these lands. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. — WI-1, BU-1, LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. — WI-2, LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for

2076

wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely,
Jaina Moan
[redacted]

2077

From: L Pleasant
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, March 04, 2018 2:11:20 PM

Stop taking from our earth for your warmeans. You do enough environmental damage as it is and you are impacting tge. NATIVE AMERICANS way of life. When will you stop?When it's too late abd and nothing is left??? Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. CU-1

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, L Pleasant [redacted], United States

2078

From: Cheresa Taing
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, March 04, 2018 1:27:05 PM

To whom it may
concern:
I am an informal educator that works with youth in grades K-12. Before every field trip I take my students on, I ask them if they have ever visited the place we are about to go to. Mostly all, if not all, students say that they never have been to the places that are only 30-60 minutes away from them. I want our Desert Refuge to remain as it is so that youth can continue to visit the refuge and see it as it has been since it was designated in 1936. If we allow part of the Desert Refuge to be taken away then I know that it will happen again and again like paint being chipped off on a wall until there is no Refuge and no place for people to recreate or animals to call home. I don't want any part of the Refuge going to the military because it sets a precedent on all other Refuges to be taken too. If Americans set aside land that we believe should be protected then it should remain protected! I'm tired of our government not listening to what the American people want! I'm writing not only for what I believe, but also as a voice for my students and for youth in my community when I say don't bomb the bighorn! PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.
I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Cheresa Taing [redacted], United States

2079

From: Sarah Mahler
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, March 04, 2018 10:32:45 AM

We do have other bombing ranges and this expansion is not in our best interest. The military proposal would cost us more money, lose more public lands and threaten our wildlife populations! Please #DontBombTheBighornSheep

PA-1
PA-5
LU-1
BI-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and the Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded. #DontBombTheBigHornSheep

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Sarah Mahler

2080

From: Lauren Beattie
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Sunday, March 04, 2018 1:15:53 AM

Please pick a different area. Nevada is huge. Pick some of the millions of acres of uninhabitable land north of the Amargosa Valley and south of Ely. Thank you. PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Lauren Beattie [redacted], United States

2081

From: Erin Eichenberg
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Saturday, March 03, 2018 11:51:54 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

In addition to being an area for recreation, the land preserves many cultural resources to include many prehistoric and historic archeological sites. Additionally, the indigenous tribes of the Las Vegas Valley and surrounding areas are tied to the land as a sacred area where their ancestors hunted for resources and traveled to during their various spiritual and traditional quests.

CU-2
CU-1

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Erin Eichenberg [redacted], United States

2082

From: Stephanie Glover
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Saturday, March 03, 2018 9:55:31 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you, and please don’t bomb the bighorn! PA-1

cc: Nevada Congressional Delegation

Yours sincerely, Stephanie Glover [redacted], United States

2083

From: Christina McClaughrey
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Saturday, March 03, 2018 12:16:03 PM

Even though I do not live in the southern half of out state, this will greatly impact Northern Nevada. Allowing this would force my animals out of their natural habitat and making them move into areas where they are not normally seen or designed for. We have a different weather patterns all over this state and to make these creatures move to places is harmful. BI-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Christina McClaughrey [redacted], United States

2084

From: Jonathan Tooth
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, March 02, 2018 9:41:40 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

The Desert Refuge is also an important part of Las Vegas' outdoor heritage. I have lived in Las Vegas since 1999. During that time I have explored some of the Refuges dirt roads and climbed some of it's peaks but I still haven't been to the hidden forest cabin, which would be included in the expansion, as well as many other trails. While this would affect me personally it would also affect many other people as well as generations to come. Public lands are an important part of the American identity both past and present and provide us with a special place that stays with us even after we have left. Please don't take this important place away from the American people, the wildlife, or me. LU-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Jonathan Tooth

2085

From: rachael brown
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, March 02, 2018 6:03:32 PM

You don't need anymore land to bomb! Bomb what you have or stop bombing. PA-1 PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, rachael brown [redacted], United States

2086

From: Donny White
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, March 02, 2018 2:41:31 PM

I personally do not want this bombing happening in my state. I love all animals and don't need the environmental impact this war game will have on all of us. PA-1 PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Donny White [redacted], United States

2087

From: Pamela French
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, March 02, 2018 12:56:06 PM

As a person who spends much time in nature, I am very concerned to learn if this proposal! Having hiked the remote outback of the area, including Death Valley for the past 30 years, I have had my peacefull experience shattered by low flying military jets intentionally coming up from behind me mere feet over my head. This in an already designated " protected" National Park. My Adrenaline levels go from 0-60 in microseconds at this unexpected assault! I can't imagine what effect this would have on wildlife over time. I am a RN and understand the effects of stress in humans, my husband is the Conservational biologist. BI-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Please

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Ms Pamela French [redacted], United States

2088

From: John DuPont
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, March 02, 2018 12:12:06 PM

Please make this a wildetness refuge and not a bombing range. Please keep public access open. Thanks — PA-1, LU-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. — WI-1, BI-1, LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. — WI-2, LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, John DuPont [redacted], United States

2089

From: Jeanie Geiser
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, March 02, 2018 12:47:49 AM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. Please show some respect to the Moapa Paiute Indian tribe & their sacred lands on the Desert National Wildlife Refuge thst has been thete for centuries. .The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

CU-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Jeanie Geiser [redacted], United States

2090

From: BK McNulty McNulty
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, March 02, 2018 12:20:00 AM

Hello,

I just moved to Nevada to teach. I love the desert. In the desert the most amazing animals have made their home. We should respect that home. I think the United States Military has enough space and stuff. We should leave this refuge alone. There comes a time when asking for all this land is just abusing the good will of the people. Leave the wildlife alone. Use AI. PA-6

Thanks, BK

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

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I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

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Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Bridget-Kate McNulty

2091

From: Nicholas Marquart
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 01, 2018 3:10:12 PM

Please, as a Las Vegas resident for 20 years I have grown to love this land around us and fully treasure what it has to offer us. The idea that we need to use it for military testing would do irreparable harm and prevent me and thousands of other Nevada outdoorspeople from enjoying the land we cherish so much. Apart from the impact it would have on me personally, it would negatively affect the plants and animals that reside in this region. PA-1

I wish to continue to visit the wild desert and enjoy its beauty, serenity, and wildlife. Should this plan go through we are saying that our land and history means nothing. It's saying we are accepting the scar that would be placed on our desert and there's nothing we could ever do to rectify it. I'm asking as a Nevada transplant to truly protect what is sacred and not choose to destroy it through ordinance practice drills. PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

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I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

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Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Nicholas Marquart [redacted], United States

2092

From: Chris G
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 01, 2018 11:48:00 AM

No more bombs! Preserve the serenity of this fragile environment. Dont blow it up! Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. PA-1

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Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Chris G [redacted], United States

2093

From: Theresa Hermanny
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 01, 2018 3:05:56 AM

My name is Theresa Hermanny, a [redacted] local since 1992, when my dad retired here after serving 22 years in the Air Force. We are blessed to have such a variety of things to see and do in our beautiful state, I truly love and respect my desert home. Being a CCSD teacher of 13 years, I continuously go to trainings and Inservices relating to my art teacher profession, to pass that knowledge onto my students, especially if it would inspire them to attain their own sense of appreciation and wonder for our state. Last year I went to hear a Native American couple speak at the wetlands nature reserve about their life growing up, both having lived on and off of a reservation throughout their years. I learned the bighorn sheep are more than just inhabitants in the desert, (even though that alone should warrant protection for their home range)- the couple explained they believe the big horn sheep are in fact their family- their people are descendants of the sheep, they come from the same tribe. I compared it to It many other cultures who revere and protect animals and wildlife because of their significant in either their religion or their culture. Like cows in India, or Pandas in China, or Monkeys who live in Buddhist temples. Please do the right thing and rescind your plans to take away our public land. I'm sure deep down you feel the same and I hope and pray you choose the morally upstanding decision, and not monopolize our land as if you have the right to claim it. Your reasons to use the land for bombing practice does no benefit to anyone on this planet, it is not worthy of destroying a beautiful area of the desert that is vital to the survival of the mountain sheep and the people who call them family. Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. PA-1

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

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Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Theresa Hermanny [redacted], United States

2094

From: Mary Lynn Monge
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 28, 2018 1:45:35 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

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Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

I have visited this refuge to hike several times and find its beauty and ecology wonderful. I will be back, too, as I have family who live nearby. We must preserve as much land as possible to keep wild areas and wildlife for generations to come. Please keep this land as it is or as wilderness; do NOT make it into a bombing/military area! PA-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Mary Lynn Monge [redacted], United States

2095

From: Jas Val
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 28, 2018 1:29:58 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

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I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded. Please dont bomb the big horn!!!! PA-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Jas Val [redacted], United States

2096

From: Melinda Sleight
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, February 28, 2018 11:42:57 AM

Day after day, year after year the planes from Nellis and from their guests roar over my home, back and forth, leaving an indelible impression of the commitment the military has to be prepared. So I don't begrudge the slew of deafening moments wherein all conversation must cease and I can't even hear myself think as they pass by. And I pray for the safety and well being of the men and women overhead as they travel back and forth to their exercises. That Nevada is a large state with the expanse to afford them nearly 3 million acres to do so has been providential for them.

Likewise, I am inspired by occasionally sighting bighorn sheep in the desert when exploring. Unrestrained nature is riveting like nothing else when so experienced, and connects us not only to the world on a deep seated level, but to the past and to a hoped for future. So I pray for the safety and well being of the sheep and other creatures currently protected within the Desert Refuge and the Broader Sheep Range Proposed Wilderness. If we keep expanding an already generous space for bombing, we will eventually not have much left worth defending but uninhabitable emptiness. If discretion truly is the better part of valor, I would challenge the Air Force to man up and proactively choose to use their considerable intelligence and creativity to make even better use of the substantial land they now have possession of and to honor the great land they are sworn to protect by leaving this long designated refuge still intact for the benefit of themselves as well as the iconic sheep. PA-1 PA-5

Freedom isn't for man alone. And we won't enjoy what freedoms we have much, when we are eventually alone if we keep encroaching on all else.

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

2096

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Melinda Sleight

2097

From: Anthony Funtanilla
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 08, 2018 11:10:19 AM

Have you all hiked up there lately? It's beautiful. Where else can you see bighorn on a morning hike besides NV? Honestly too, simulators can be used for the training exercises you all need. Please leave the lands back to nature. Thanks. PA-6

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

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I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

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Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Anthony Funtanilla [redacted], United States

2098

From: Sara Sullivan
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, February 27, 2018 7:51:05 PM

Bighorn sheep are one of my favorite animals, and encroaching on their territory would be a terrible tragedy! Lets find less beautiful, wild and amazing land to do military bombing exercises on, yes? PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

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I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

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Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Sara Sullivan

2099

From: Mark Ports
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, February 27, 2018 2:22:54 PM

I am a retired college professor from Great Basin College in rural Nevada. Having worked with the invertebrates of the Sheep Range over the last six years I have found this ecosystem rich in biodiversity and the potential for several I described species of land snails. I am opposed to this plan to lock out scientific studies and the general public. Please consider leaving the Alamo road open. Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. LU-2

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Mark Ports [redacted], United States

2100

From: Nancy Heggarty
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, February 27, 2018 9:19:12 AM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded. I don't see where it is necessary to take more land for training than the military already had. It would only destroy our ever dwindling open space.

PA-5

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Nancy Heggarty [redacted], United States

2101

From: Caleb Steele
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Tuesday, February 27, 2018 2:07:00 AM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

I do not believe the reasons stated for the withdrawal are adequate to permanently destroy such an important area. Furthermore, I believe with the amount of restricted land and air space already in place all across the region, existing spaces can be better utilized between agencies to achieve stated training and readiness goals.

PA-5

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Caleb Steele [redacted], United States

2102

From: Joseph Post
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Monday, February 26, 2018 10:38:44 PM

YOU HAVE ENOUGH OF NEVADA TO DROP BOMBS ON!!! Leave the Desert NWR the way it is!! My family and many others enjoy going up into the sheep mountains and accessing areas that you plan to close off to the public. Screw you. Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. PA-1

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Joseph Post [redacted], United States

2103

From: Kathy Ridler
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, March 07, 2018 9:27:56 PM

Why would you choose to bomb an 80 year old wildlife refuge? Why not bomb an area with less livability and animals? I realize no place is perfect for bombing but I do think a better choice can be made.Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. PA-1 PA-5

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Kathy Ridler [redacted], United States

2104

From: Bill Gardner
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Monday, February 26, 2018 6:39:19 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

I agree wholeheartedly with all of the above. Military “games” should not take precedence over protection of natural areas. Nellis AFB already has more than enough closed areas to practice and play their “games”. Draw the line, stop the expansion of Nellis AFB's areas that are closed to the public and are destructive and deleterious to the wildlife that are supposed to be protected by the Desert National Wildlife Refuge. I no longer live in Nevada, but I'm from Nevada and have visited many areas in Nevada------please protect your state! Congress seems to think that Nevada has no other purpose than to be used as a dumping ground or playground for dangerous and destructive military practices. Nevada is a beautiful state, please protect it!

PA-5

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Bill Gardner

2105

From: Donald Molde
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Monday, February 26, 2018 11:24:00 AM

I'm concerned about the proposed expansion of the National Test and Training Range at the expense of portion of the Desert National Wildlife Refuge. I have visited the west side of the DNWR frequently over the years mostly for birding purposes.

Also, the expansion would appear to put in jeopardy the southern part of the Pahranagat National Wildlife Refuge with respect to intrusive noise disturbances and perhaps other factors that could adversely affect the marvelous environment of that refuge as well. NO-4

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Donald Molde [redacted], United States

2106

From: Jacqueline Wiebe
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Saturday, February 24, 2018 1:01:37 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you for your attention to this matter. Don’t bomb the bighorn. PA-1

cc: Nevada Congressional Delegation

Yours sincerely, Jacqueline Wiebe [redacted], United States

2107

From: Marigelle Malapira
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Saturday, February 24, 2018 7:05:22 AM

To Whom It May Concern,

Please preserve the Wildlife in Nevada. Consider building up from what you already have rather than out. We sincerely appreciate your consideration. PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Marigelle Malapira

2108

From: Stephen Ingram
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Wednesday, March 07, 2018 7:17:04 PM

Designated in 1936 by Franklin Roosevelt to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge (DNWR) is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. It offers a much-needed respite from the crowded Las Vegas area, and is visited by thousands of local and foreign tourists every year, bolstering the local economy.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

While doing research for my book, Cacti, Agaves, and Yuccas of California and Nevada, I spent many days driving the roads and hiking the slopes of the beautiful Sheep Range in search of the uncommon Whipple cholla, ivory-spined agave, and Blue Diamond cholla, a Fully Protected and BLM state listed species. As I wrote in a profile of the DNWR, it “secures habitat for 18 cacti, one agave, and three yuccas, in addition to nearly 750 other plant species.” And of course, it is critical habitat for desert bighorn, pronghorn, desert tortoise, and other charismatic wildlife species. It is a truly remarkable area that should not be lost to the public.

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement (LEIS) which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Please do not allow this ecologically rich area to be fenced in, keeping the public and biological researchers out and inhibiting the movement of wildlife. It is too precious and too large an area to be taken from the people of the United States.

LU-1
LU-2
BI-5

Thank you for considering my comments.

cc: Nevada Congressional Delegation

Yours sincerely, Stephen Ingram

2109

From: Laura Graham
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comments.
Date: Saturday, February 24, 2018 5:25:05 AM

Population growth on this earth has well surpassed its means of support to the point of no return and we still, the inhabitants of this fine earth continue to destroy, ruin and pollute on a daily basis. when will we realize the damage can no longer continue and we take a stance on preserving what is left for future generations. As a mother of three grown children we see the effects on a daily basis. The land that was designated in years past to preserve the wild life this planet has left has become a daily fight to keep it wild. I have lived in Nevada for 15 years now and have seen for myself what development and growth has done to Reno, I rarely see any wildlife and I watch for wild life every chance I get but to my disappointment sightings have become very few in the last ten years. Now the Air Force has released a proposal to utilize 200,000 acres from the Desert National Wildlife Refuge to add to the 2.9 millions of acres they already have? I understand the importance of testing and training what I do not understand is why are they requiring more area to test and train in? if the Air Force cleans up and store what ever testing they have done in their 2.9 million acres then use the land they have already test and trained on instead of acquiring land from one of the largest national wildlife refuge. I personally do not wish to see this happen. I would wish my grandchildren get the chance to see a big horn sheep in their natural environment and habitat. PA-5

Best Regards, Laura Graham

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to

2109

protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Laura Graham [redacted], United States

2110

From: Mark Rossow
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 10:47:50 PM

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. I am a career US Service member who retired from the Marine Corps in 2004. Since 2004 I have annually visited and hunted in Nevada as it is a Sportsman's utopia due to the diverse landscape, the wide variety of wildlife, and mostly the significant amount of public land that provides freedom to not only myself but photographers, hikers, and Americans seeking a solitude that cannot be experienced almost anywhere within the lower 48 states of the country. Nevada is a paradise that is unequalled by any other state due to its public lands. While I support a strong military capability, I do not support the current Air Force proposal that essentially bombs one of the most pristine and environmentally sensitive areas within Nevada and the U.S. Senator John McCain, my Senator from Arizona, and a lifetime resident of the desert, would not only recognize the fragility of the Bighorn, but he would, as a Maverick would and should, question the necessity of the Air Force's effort to invade and destroy thiso sacred geography. Please...PLEASE...do not support this effort! PA-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you and Very Respectfully

MSgt (Retired). Mark Rossow United States Marine Corps

cc: Nevada Congressional Delegation

Yours sincerely, Mark Rossow

2111

From: Anthony Barron
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 7:42:32 PM

Don't bomb the damn sheep! Jeez. PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Anthony Barron

2112

From: Stephanie Myers
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 4:22:14 PM

Nevada's wildlife was here FIRST. Our wildlife deserve to NOT BE SQUEEZED into small areas but be allowed to roam free over large swaths of acreage.

SO why is there even a question about that?

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service.

What about the migratory birds? DO they not also deserve a HUGE area to be protected?? The sage grouse? The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. BI-1

ANd what about the Native Americans, whose ancestral lands are in question?? CU-1

WE DO NOT NEED MILITARY EXPANSION!!

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Stephanie Myers

2113

From: Karen Domzalski
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 4:14:14 PM

Enough is enough. The big horn don't have many places in NV left. There is plenty of desert for the military to practice bombings and other activities. Let them go elsewhere. PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Karen Domzalski [redacted], United States

2114

From: Walter Kuciej
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 3:50:07 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

In my own state, the military has appropriated a large area of the Central WA desert, known as the Yakima Firing Range. I suggest the military use existing areas so designated, such as the China Lakes area, for usage, instead of expanding its territory.

PA-5

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Walter Kuciej

2115

From: RONALD GRIFFIN
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 3:16:57 PM

WHY CAN'T THERE BE A COMPROMISE ON THIS ISSUE? The Air Force wants to extend the buffer zone to the bombing range. They say that the acquisition will allow for a more direct flight path to the testing range. The most contentious part of the plan is Alternative 3C.So, why not leave the Alamo Road corridor open to the public, provide for Bighorn Sheep and other wildlife, to move to the protected areas via animal corridors, and allow BLM and Wildlife people to have approved joint access to the buffer zone when needed for conservation studies.

HS-3
BI-1
BI-5
LU-2

If the flight path is an important issue with the military, allow them low level flying access to the existing bombing range so that there would be no need for deviation around protected areas. Yes, there would be some noise pollution, but better this than losing everything. The wildlife will survive. The occasional errant missile will not completely destroy the entire sector.

PA-12

We are fighting world wide wars on more than just the four or five major fronts that are known to the public. Our pilots need and deserve to have the best training possible to compete with enemy air forces and continue to carry out precise bombing missions. If we are to remain superior in our global military actions, we must make sacrifices and compromises when needed.

There is a win-win situation here if only each side will work harder to reach agreement. If the Air Force decides later that the new land acquisitions are not needed, then the land can revert to the Desert national Wildlife Refuge.

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of a compromise between all parties such that Alternative 1 and Alternative 3 reexamined so that public access to historic and recreational areas is not restricted, but at the same time, sufficient lands be made available for critical military needs with the provision that such needs be reassessed at intervals and unused lands be returned to public use.

2115

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

_____ This email was sent by RONALD GRIFFIN

2116

From: Susan Saul
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 2:09:24 PM

I oppose the current proposals for withdrawal of land and military expansion in the Desert National Wildlife Refuge to become part of the Nevada Test and Training Range. he currently proposed military expansion would irreparably destroy 1.2 million acres of wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. I have visited Desert National Wildlife Refuge during trips to Las Vegas so I personally know what a stunning place it is and how hard the U.S. Fish and Wildlife Service has worked to protect the desert bighorn sheep, Nevada's state animal.

The Air Force needs to drop this land grab and focus its training and testing on the 2.9 million acres it already has in the Nevada Testing and Training Range. Please leave the wildlife refuge for wildlife and people. PA-5

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Susan Saul [redacted], United States

2117

From: David Mackett
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 1:39:55 PM

Let's not transfer a unique area of public land to the Military and its many many private contractors to be used as a bombing range and then be ruined forever after. When Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. PA-1

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, David Mackett

2118

From: Carolyn Sherve
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 1:15:58 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

The cultural and archaeological resources found in this area are also extremely important to all Nevadans. Transferring jurisdiction of this area from USFWS to NTTR would reduce or eliminate the possibilities for further archaeological research in this area of Nevada. LU-2

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Carolyn Sherve [redacted], United States

2119

From: Paul Kasperek
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 12:19:44 PM

There are few areas that are close to the Las Vegas valley where one can find peace and quiet without thousands of people around. Red Rock Canyon and Mt. Charleston/Spring Mountains become overrun with people (and trash) during temperate times of the year to the point that they are not enjoyable. The DNWR is a place that can be enjoyed by all, but is relatively undiscovered and still retains it's mission of being a place for wildlife to thrive. All that will change with the Air Force proposal. I find it disturbing that the transients who occupy Nellis AFB not only plan to close the area to the public, but to develop parts of it in opposition to why it was established and what it's purpose is. I suppose if our military were not involved in perpetual worldwide desert operations, perhaps somewhere east of the Rockies would be considered? I personally feel that the military has done enough damage to the Mojave through nuclear testing, and has more than enough room for "practice" when Nellis, Creech, Edwards & the Testing and Training Range are considered. PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Paul Kasperek

2120

From: Michael Plyler
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 10:21:05 AM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Since its creation in 1936 our country has been through WW II, Korea, Vietnam, and several conflicts in the Middle East, and yet, up to now, the range as it was originally created has sufficed for military training purposes. I don't understand why in this moment in our history that those original Testing and Training Ranges expanses need to be modified in a manner that threatens precious desert resources. PA-5

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Michael Plyler

2121

From: Christy Fermoile
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 9:05:13 AM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge for people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family. Do we want our legacy to be a bombing range or the experience of a lifetime when viewing Bighorn Sheep in this beautiful, natural, unique habitat? We need to keep the balance that has been established. Intentionally destroying 1 million acres of priceless American landscapes is unconscionable! WI-1

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Christy Fermoile [redacted], United States

2122

From: Kerensa Brooks
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 8:48:36 AM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation.

WI-1
BI-1
LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

In graduate school, the Sheep Range and the Desert Refuge were the site of several of my research stations. These Nevada Climate-ecohydrology Assessment Network (NevCAN; http://sensor.nevada.edu/nccp/) stations are still being operated and have staff members hiking into and out of the Desert Refuge regularly. Should this area be overtaken by he military, I fear for the lives of our researchers, as well as for the disappearance of the valuable climate data these stations are collecting.

LU-2

Furthermore, this is a REFUGE. There are likely THOUSANDS of big horn sheep and mountain lions that live in and around these mountains. In 2011, our research team encountered a team of USGS wildlife biologists that was tasked with tracking and tagging these mountain lion on the Desert Refuge. One of the animals they encountered had traveled from as far away as the Grand Canyon. Please leave the Desert Refuge alone.

BI-1
BI-3

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Kerensa Brooks

2123

From: Susannah Gelbart
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, February 23, 2018 12:59:35 AM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded. Desert bighorn sheep are still in need of these protections. Do not disregard their rights and needs. We do not need more land to blow up in military exercises. Preserving history and nature for future generations is far more worth our time and efforts. PA-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Susannah Gelbart

2124

From: Susan Terry
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, February 22, 2018 9:48:03 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

We, ALL the people own this refuge area and love to use it for natural exploration and wilderness enjoyment. The military can expand someplace else where there is no wilderness areas. PA-5 WI-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Susan Terry [redacted], United States

2125

From: Sarah Drake
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, February 22, 2018 9:46:55 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. Not only is the refuge an important habitat supporting native flora and fauna, but it is also a beautiful scenic area worth preserving. As large-scale industrial functions such as military testing ranges degrade more and more sensitive desert ecosystems, threatened species adapted to the Mojave could be permanently lost.

WI-1
BI-1
LU-1
BI-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.

WI-2
LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Sarah Drake [redacted], United States

2126

From: Neva Bennett
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, February 22, 2018 8:56:33 PM

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

If you take this land away from the wildlife, it will be almost impossible to give it back to them. They will starve, migrate, fight, and run out of land to roam. They are creatures of the earth as well and they deserve to have a place to call their own. Instead of focusing efforts on to fighting, violence, and negativity, lets focus it on saving our precious animals and bettering the land for them and ourselves. BI-1

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Neva Bennett

2127

From: Kirstine Odegard
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, February 22, 2018 8:33:26 PM

As a Nevada resident, I understand the importance of wild spaces and want to add my voice to the many saying , :"Don't bomb the bighorn!" Our wildlife are often threatened by habitat encroachment-- and we can limit that in this case. PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Kirstine Odegard

2128

From: Dorothy Hudig
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, March 09, 2018 12:16:21 AM

I have hiked the Sheep Range. It would be a travesty to bomb it. The sheep have a right to live without bombs and to have the land they need. Sheep travel from range to range. A wildlife refuge should be a refuge. The military can bomb elsewhere. Their proposed damage will be long lasting. We need to think long term and plan for more than military tactics. Please limit the military land and preserve the Desert National Wildlife Refuge. PA-1 PA-1 PA-5

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I oppose Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service and oppose Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Please listen to the voices who want to respect nature!

cc: Nevada Congressional Delegation

2129

From: Bianka Dodov
To: nttrleis
Subject: EXTERNAL: FIND ANOTHER SPOT: NTTR Military Land Withdrawal LEIS Comment
Date: Friday, January 26, 2018 11:24:25 PM

Find another spot. PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is proposed for Wilderness by the U.S. Fish and Wildlife Service. The Desert National Wildlife Refuge is not only a refuge for wildlife but also a refuge from people who enjoy sitting in a quiet landscape, exploring canyons, playing on sand dunes or enjoying a long scenic drive with their family.

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor ofAlternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Bianka Dodov [redacted], United States

2130

From: Jennifer Schicker
To: nttrleis
Subject: EXTERNAL: NTTR Military Land Withdrawal LEIS Comment
Date: Thursday, March 08, 2018 8:21:18 PM

I am writing to you today to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 1.2 million acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1

As a former test project manager at Creech AFB, I do not agree that an expanded range is necessary. The NTTR is already large enough to accommodate a very wide range of test activities. There are also several other test and training ranges available inside the US. The minor benefit of increasing the NTTR capability is not worth the loss of public access to public land, nor is it worth the destruction that results from military management. I have spent plenty of time on the ground in the NTTR, and it is clear that the military does not respect nature. The land currently managed by the NTTR is embarrassingly littered with trash. Even in areas where trash cans are available, military/civilians/contractors working there drop garbage everywhere they go. Until the NTTR starts responsibly managing its land, it definitely should not expand. PA-5

I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today. I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR.

In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access. WI-2 LU-1

Overall, this landscape is an ecologically rich and a vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. The Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Desert Refuge's objective is not disregarded.

Thank you.

cc: Nevada Congressional Delegation

Yours sincerely, Jennifer Schicker

2131

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

2132

From: Gloria Richman [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] Don"t Bomb the Desert National Wildlife Refuge
Date: Wednesday, February 14, 2018 4:03:45 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. — PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. — WI-1, BI-1, LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Bombing in a Wildlife refuge is not only in-humane, it is immoral. Humans are stewards of the land and it's flora and fauna. Using high frequency emitters also endanger pollinators. Without nurturing the continuance of pollinators, such as bees, we are ending the food supply for humans as well as other animals. This proposal to practice bombing in any Wildlife refuge illustrates the consequence as bombing a city of citizens-the insanity of the perpetrators! — PA-1, BI-36, PA-1

Sincerely,

Gloria Richman
[redacted]

2133

From: Elaine Carrick [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] Don"t Bomb the Desert National Wildlife Refuge
Date: Friday, February 09, 2018 4:40:10 PM

Dear US Air Force,

AS A RESIDENT OF NV, I AM TOTALLY OPPOSED TO ALLOW BOMBING PRACTICE ON THE DESSERT NATIONAL WILDLIFE REFUGE. THE MILITARY ALREADY HAS A HUGE AREA OF LAND FOR BOMBING PRACTICE and THAT SHOULD BE SUFFICIENT. ELAINE CARRICK — PA-1

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. — PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. — WI-1, BI-1, LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Elaine Carrick
[redacted]

2134

From: John Meyer [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] Don"t Bomb the Desert National Wildlife Refuge
Date: Thursday, February 08, 2018 2:58:13 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.
I am new to the Las vegas area and have been amazed by the diversity of life and nature this area of the country has to offer. I support the military and this country with a great deal of pride and understanding but I do not support this at all. There is no reason to take these lands and turn them into an unattainable bombing range no one can ever enjoy or use, not to mention the potential damage to the wildlife and delicate fauna in this part of the desert. Please do not approve this. PA-1 BI-1

Sincerely,

John Meyer
[redacted]

2135

From: Beverly Colgan [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] Don"t Bomb the Desert National Wildlife Refuge
Date: Thursday, February 08, 2018 2:56:26 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. PA-36

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

The bombing range is large already. Why does it need to be expanded at the risk of so much destruction? It seems very shortsighted. PA-5 PA-1

Thank you for your attention to my concerns

Sincerely,

Beverly Colgan
[redacted]

2136

From: Rita Ransom [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] Don"t Bomb the Desert National Wildlife Refuge
Date: Saturday, January 27, 2018 5:39:45 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. Please do NOT expand the Nevada Test and Training Range. PA-36

The proposed expansion will endanger wildlife, cut off public access to public land, and hurt rural recreation economies. It is a very bad idea. BI-1 LU-1 SO-3

Thank you for your attention.

Sincerely,

Rita Ransom
[redacted]

2137

From: Sigrid Asmus [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] Don"t Bomb the Desert National Wildlife Refuge
Date: Sunday, January 21, 2018 7:22:05 AM

Dear US Air Force,

I am profoundly concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw -- to use as nothing more than a bombing range. PA-36 PA-1

This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range.

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn.

It is imperative that you immediately ensure that the Refuge's longstanding (81 years) objective to preserve ethis area is not disregarded, much less treated with poisonous mechanical destruction.

Immediately take action to stop the Air Force proposal to make inaccessible and destroy about 75% of the 1.6 million acre Desert National Wildlife Refuge.

Sincerely,

Sigrid Asmus
[redacted]

2138

From: Russel Hall [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Tuesday, March 06, 2018 11:45:15 PM

Dear US Air Force,

When and where does it end!? The US Air Force has so many test ranges now in which to "practice" it isn't funny. Consider the ranges in New Mexico. — PA-5

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. — PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. — WI-1, BI-1, LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Russel Hall
[redacted]

2139

From: Susan Ambler [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Monday, March 05, 2018 7:12:24 PM

Dear US Air Force,

I am highly concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

The Air Force already has plenty of land for training and testing purposes. Conversely, high quality desert habitat is in short supply. We need to preserve these areas intact. PA-5

Sincerely,

Susan Ambler
[redacted]

2140

From: Mindy Newby [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Monday, March 05, 2018 5:16:38 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

We do not need a military dictatorship. You have plenty of places to bomb. Quit trying to take over our public lands. We do not want you in there and we do no want the wildlife harmed. I am from a military family and this is not a military thing. So just stop it. PA-1 PA-5

Sincerely,

Mindy Newby
[redacted]

2141

From: Rosalie (Sara) Ransom [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Monday, March 05, 2018 2:20:50 PM

Dear US Air Force,

A "National Wildlife Refuge" is just that!!! It is a place where wild animals are SAFE FROM INTRUSION -- from BOMBS???? Yes!!! Especially from BOMBS! Your plan to use Desert National Wildlife Refuge as a BOMBING TEST SITE will utterly DESTROY the wildlife that have sought refuge there. PA-1

Read below for more information of the area you seek to UTTERLY DESTROY:

I am FURIOUS about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. PA-36

WHY? BECAUSE:
This landscape is an ecologically rich and vast complex of wild public lands for:
(A) wildlife, (B) cultural sites, and (C) outdoor recreation.
There should be NO EXPANSION of the Nevada Test and Training Range.

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service.
*** THE CURRENTLY PROPOSED MILITARY EXPANSION WOULD IRREPARABLY DESTROY THESE WILDERNESS-QUALITY LANDSCAPES!!! WI-1
*** IT WOULD THREATEN THE WILDLIFE THAT THRIVES THERE! BI-1
*** IT WOULD DESTROY A PLACE WE CITIZENS HAVE SOUGHT OUT FOR PEACE IN NATURE AND FOR RECREATION. LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn.

I am writing to do what I can to ensure the Refuge's objective is not disregarded.

Sincerely,

Rosalie (Sara) Ransom
[redacted]

2142

From: Jake Caveny [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 5:29:39 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

We need to do everything possible to conserve the limited amount of beautiful natural resources that this country has left. Please refrain from this land grab - war is unnecessary in the first place so no need to waste your time bombing innocent wildlife to further needless violence. PA-1

Sincerely,

Jake Caveny
[redacted]

2143

From: Robert Marshall [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 5:11:56 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Doesn't't the Air Force have enough territory in the State of Colorado to satisfy their thirst for war games? Leave New Mexico public lands in the hands of the public!!! PA-5 PA-49

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Robert Marshall
[redacted]

2144

From: Larry Hoyt [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 4:57:03 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

This is a very bad idea, and one that can be avoided by resorting to readily available alternatives. PA-5

Sincerely,

Larry Hoyt
[redacted]

2145

From: Diane La France [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 4:03:56 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

I AM PARTICULARLY CONCERNED ABOUT THE BIGHORN SHEEP, WHICH ARE A WESTERN ICON AND DESERVE OUR PROTECTION. THERE ARE PLENTY OF OTHER AREAS WHERE YOU COULD DROP SOME BOMBS THAT I WOULD NOT OBJECT TO. BI-1 BI-3 PA-1 PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Diane La France
[redacted]

2146

From: Richard Deem [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 3:28:34 PM

Dear US Air Force,

i do NOT agree with the takeover of more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. This is NOT about more test range - it is more about more taking of lands from public access - - and for what causes? - which are kept secret from that public

PA-36

PA-5
PA-7

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation.

WI-1
BI-1
LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Richard Deem
[redacted]

2147

From: Monica Steensma [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 2:51:09 PM

Dear US Air Force,

My husband and I, and our families, are VERY DEEPLY concerned, and INALTERABLY OPPOSED to the Air Force's extremely ill-advised and vastly destructive proposal, for the Nevada Test and Training Range to take some 300,000 acres of the Desert National Wildlife Refuge for highly damaging BOMBING exercises!!! PA-36 PA-1

This proposal is ignorant, unnecessary, repugnant, and quite frankly unthinkable, given the high value of this region, which is an ecologically rich and a huge, interdependent complex of wild public lands, that is VITAL for the area's environment, its still abundant wildlife, its cultural sites, and its treasured status for outdoor education and recreation by our entire Citizenry -- to which it BELONGS!!!

There MUST BE NO EXPANSION of the already enormous Nevada Test and Training Range. To allow such a monstrous proposal to go forward, would be to sign the death warrant for countless thousands of its wild inhabitants, and render the entire area inaccessible and heavily polluted for the foreseeable future!

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands MUST remain untouched to ensure the viability of this huge area and the protection of the extremely important biodiversity it contains.

It MUST be preserved in its current sustainable state -- for us, and for future generations!!

The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not sacrificed to deadly destruction by the military, in its efforts to become even more efficient at killing other humans and everything else in its misguided, war-loving path!!!!!!!

Sincerely,

Monica Steensma
[redacted]

2148

From: Deanna Vickers [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 12:54:17 PM

Dear US Air Force,

I am writing to express my concern about expanding the Test and Training Range in the Desert National Wildlife Refuge. Why are we expanding this is the first question. PA-5

As you are aware, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States for bighorn sheep. . Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations, as well as preventing public access to these areas that are heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. This is just one more step in a parade of orders by this administration to turn back the gains we have made of over decades to preserve our fragile environment and important habitat for our wildlife. It needs to stop.

Respectfully yours,
Deanna Vickers

Sincerely,

Deanna Vickers
[redacted]

2149

From: Lyn Lowry [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 12:22:22 PM

Dear US Air Force,

I am extremely concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. We need more protected desert land, not less. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range, and certainly no bombing in this fragile and ecologically important region. PA-36 PA-1

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Lyn Lowry
[redacted]

2150

From: Elizabeth Knepp [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, March 04, 2018 10:29:15 AM

Dear US Air Force,

There should be no expansion of the Nevada Test and Training Range. If the Air Force needs more space for transmitters and other such things they should return to the Barry Goldwater range. There is a nearby AF base there as well. PA-5

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Elizabeth Knepp
[redacted]

2151

From: Emma Doineau [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 23, 2018 10:17:21 AM

Dear US Air Force,

Please change your mind about your proposal to make this national treasure a bombing range! I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-1 PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Emma Doineau
[redacted]

2152

From: Tammy Bosse [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Wednesday, February 21, 2018 12:44:03 AM

Dear US Air Force,

Why do we need a bombing range in the middle of the Deseet Nation Wildlife Refuge. Oh.. we don't !! Please stop this. — PA-1, PA-5

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. — PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. — WI-1, BI-1, LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Thank you for listening.

Sincerely,

Tammy Bosse
[redacted]

2153

From: Lennon Rea [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Monday, February 19, 2018 10:35:06 AM

Dear US Air Force,

First of all, the Bighorn sheep is our state animal and it is an endangered species and it is a FEDERAL CRIME to put an endangered species at risk. So bombing them IS NOT an option. I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range.

BI-24
PA-1
PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. If anyone endangers these animals MY PEOPLE TAKE ACTION IN RESPONSE. PLEASE DO NOT MALE US HAVE TO DO THAT...THIS IS MY STATE AND MY HOME AND I WILL SAY NO MORE.

WI-1
BI-1
LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Lennon Rea
[redacted]

2154

From: Dianne Woods [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Sunday, February 18, 2018 9:44:05 AM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Nevada is OUR State...go bomb DC you idiots! How about your backyard? Hands and bombs OFF my lands! PA-1

Sincerely,

Dianne Woods
[redacted]

2155

From: Eric Blumensaadt [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 9:24:04 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

** At meetings with the US Air Force there has NEVER been an explanation of HOW MANY directions bombing airplanes will be vectoring from. WHY?? P-48

Sincerely,

Eric Blumensaadt
[redacted]

2156

From: Debra Marin [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 8:46:13 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Huge chunks of the western states are already test and bombing ranges. Consider the enormous West Desert range in Utah. Please do not take land already historically designated for wildlife and pristine wilderness. PA-1 PA-5

Sincerely,

Debra Marin
[redacted]

2157

From: Debra Cunningham [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 7:12:18 PM

Dear US Air Force,

Why do you need all of that space? PA-5

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Debra Cunningham
[redacted]

2158

From: Margaret Finnerty [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 5:06:55 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Absolutely do NOT turn this beautiful place into a shooting range for jet planes. PA-1

Sincerely,

Margaret Finnerty
[redacted]

2159

From: Thomas Slaback [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 4:18:11 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for Nevada's state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Please withdraw your request. Protect the Desert National Wildlife Refuge. Do not bomb it. PA-1

Sincerely,

Thomas Slaback
[redacted]

2160

From: Donna Bell [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 3:35:52 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Ignoring wild life and our lands that has been always protected is ignorance of humans that disregard life of of planet and the nurturing it is for family experiences. BI-4

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1, BI-1, LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Donna Bell
[redacted]

2161

From: Catherine Smith [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 3:26:15 PM

Dear US Air Force,

I am familiar with this country. I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Besides there is already a large bombing range just to the south in Arizona
Public lands are not just useless territory prime for bomb jockeys, things live there. The land is beautiful, empty, and should stay that way. PA-1 PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Catherine Smith
[redacted]

2162

From: Weslie Phillips [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 2:46:03 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Keep your dirty bombs out of OUR refuge!!! Refuge is the key word here, it means SAFE FROM HARM!!! PA-1

Sincerely,

Weslie Phillips
[redacted]

2163

From: Catherine Morgan [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 2:36:30 PM

Dear US Air Force,

Do we seriously really need to destroy the planet anymore then what's already happening and the animals that live there ? To practice shooting weapons ? Seriously!!! WAKE UP!
I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range.

PA-1
PA-5
PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation.

WI-1
BI-1
LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Catherine Morgan
[redacted]

2164

From: Lauriann Bradford [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 1:46:37 PM

Dear US Air Force,

The military does not need this land to bomb. Use what you already have please!I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-1 PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Lauriann Bradford
[redacted]

2165

From: Judith Castiano [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 1:30:25 PM

Dear US Air Force,

There HAS GOT TO BE ANOTHER LOCATION THAT CAN BE USED, A LOCATION WHERE THE LIVES OF SO MANY SPECIES WILL NOT SLAUGHTERED! EVERYTHING IN THAT AREA IS FAR TOO IMPORTANT TO BE SACRIFICED FOR MILITARY USE!! Since 1936 this area has been protected and IT MUST REMAIN PROTECTED!!! PA-5

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Judith Castiano
[redacted]

2166

From: Karen Beyers [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 1:24:37 PM

Dear US Air Force,

If the USFWS has already determined that the area should have been left as wildland with no human commercial/military activity, then leave it as wildland. Defense of our own homes and homeland now relies enough upon cyber abilities, to make deliberate ecologically destructive use of wilderness unnecessary, in my humble opinion. "Logical compromise" (moving our wars and playgrounds into dedicated wilderness) has already had its day. We can now choose to not bomb and contaminate there. PA-1

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Karen Beyers
[redacted]

2167

From: Charles Andrews [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 12:53:18 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Find an area that has not been proposed as a wildnerness area. Bombing a wildlife refuges is inexcusable. PA-5 PA-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Charles Andrews
[redacted]

2168

From: Reed Sanderson [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 12:52:15 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

USE BARRY M GOLDWATER AIR FORCE RANGE! STAY OUT OF THE DESERT NATIONAL WILDLIFE RANGE! PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Reed Sanderson
[redacted]

2169

From: Wayne Goin [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 12:51:23 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. If you want to expand, move your sites to the eastern part of the US. We are sick and tired of bombing ranges in the West. PA-36 PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Wayne Goin
[redacted]

2170

From: Barry Friedman [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 12:45:18 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

OUR MILITARY MAY HAVE TOO MUCH MORE MONEY BUT THAT DOESN'T MEAN THEY CAN DO WILLY-NILLY WHAT THEY WANT FOR THEIR FRIGGIN GAMES FOR FUN. DO VIRTUAL TRAINING-THAT OUGHT TO SAVE MONEY TOO!! PA-6

Sincerely,

Barry Friedman
[redacted]

2171

From: Kathie Julian [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 12:42:55 PM

Dear US Air Force,

YOU ARE KIDDING ME? NOW THE TRUMP ADMINISTRATION IS BOMBING SHEEP? I EXPECT MORE FROM OUR MILITARY. PA-1

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range. PA-36

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Kathie Julian
[redacted]

2172

From: Patrick Brown [redacted]
To: 99 ABW/PA (Outreach)
Subject: [Non-DoD Source] NTTR Military Land Withdrawal Legislative EIS
Date: Friday, February 16, 2018 12:40:48 PM

Dear US Air Force,

I am very concerned about the more than 300,000 acres of the Desert National Wildlife Refuge that the Nevada Test and Training Range seeks to withdraw. This landscape is an ecologically rich and vast complex of wild public lands for wildlife, cultural sites, and outdoor recreation. There should be no expansion of the Nevada Test and Training Range, THERE IS NO NEED TO EXPAND THE TESTING RANGE! LEAVE OUR PUBLIC LANDS ALONE! PA-36 PA-5

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, the Refuge provides a high quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems.

70% of the Desert Refuge was previously proposed for wilderness by the U.S. Fish and Wildlife Service. The currently proposed military expansion would irreparably destroy these wilderness quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been heavily used for outdoor recreation. WI-1 BI-1 LU-1

Within the Desert Refuge lies some of the most pristine habitat left in the United States. These lands should remain untouched for future generations. The Sheep Range, Hole-In-The-Rock, and Desert-Pintwater Ranges contain prime habitat for our state animal, the desert bighorn sheep. Originally, the Desert Refuge was created specifically to protect the habitat of the desert bighorn. We need to ensure the Refuge's objective is not disregarded.

Sincerely,

Patrick Brown
[redacted]

2173

National Headquarters
1130 17th Street, N.W. | Washington, D.C. 20036-4604 | tel 202.682.9400 | fax 202.682.1331
www.defenders.org

March 8, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Avenue, Suite 107
Nellis AFB, Nevada 89191

Re: NTTR Military Land Withdrawal Legislative EIS Comment

Dear Planning Officer:

As advocates for Defenders of Wildlife, we strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. We are especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

We strongly urge the Air Force to fully consider the impacts to wildlife and habitat at Desert National Wildlife Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service and maintains the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality, intact habitat for desert bighorn sheep, mule deer, mountain lions, and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. Finally, the refuge provides hiking, camping, and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. PA-15 CU-3 LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. We strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from the U.S. Fish and Wildlife Service. We encourage the Air Force to select an alternative that maintains the status quo, to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

2174

From: Defenders of Wildlife on behalf of Susan Rudnicki
To: nttrleis
Subject: EXTERNAL: No Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:55:38 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As a American Taxpayer and visitor to desert refuges for watching birds, hiking and camping, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. These harms have been recorded for decades in the case of other military appropriations of wild lands---much of this data recording is publicly available to be read on-line. BI-1

Your bureaucracy is OBLIGATED to inform the citizens of this country how the increased military presence in a WILDLIFE protection area is going to damage habitat, kill wildlife and affect public access to increasingly constricted wild areas in the United States. We have seen more and more wild land being appropriated by the military and private corporate extractive industry ---oil, gas, minerals, grazing interests. BI-1, LU-1, NP-1

The U.S. Air Force must fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. PA-15

This lack of transparency and due diligence is a failure of the democratic process. This country has laws and regulations for all bureaucracies to operate by. The patrimony of our Public Lands and the increasingly beleaguered state of wild creatures due to human appropriation of land ---all is not waived for the interests of the Military. NP-1

Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed

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wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force is required to address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act and to act in a transparent manner for the citizens of this country.

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

Unfortunately, some in the military may view desert landscapes as "barren and lifeless" so tearing it up is inconsequential.
But I will correct any and all of you in this misguided thinking---this view is unscientific and ignorant.

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Susan Rudnicki

[redacted]

2175

From: Defenders of Wildlife on behalf of David Adams
To: nttrleis
Subject: EXTERNAL: Oppose this Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 5:19:58 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I urgently oppose this threat to one of our larges national wildlife refuges, part of the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge (including impacts from any electronic weaponry). Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions, threatened desert tortoises, and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This valuable landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 HS-4 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve

2175

wildlife for present and future generations.

Sincerely,

Dr. David Adams

[redacted]

2176

From: Defenders of Wildlife on behalf of Allison Cherry
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge.
Date: Monday, March 05, 2018 5:19:28 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

If the military destroys the nation's beautiful wildernesses and the majestic creatures there, the military would have a much poorer America the Ugly to defend. Keep America the Beautiful and avoid killing precious and rare wildlife.

Empty plains in, say, Kansas and Oklahoma mayvbe more appropriate bombing targets. Or abandoned coal mine sites in Kentucky. PA-5

Wildlife refuges and national monuments should be avoided.

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military LU-1

2176

activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Dr. Allison Cherry

[redacted]

2177

From: Defenders of Wildlife on behalf of David Weible
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:22:05 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

The Air Force already has enough land to drop bombs. You don't need more. The more land you bomb, the more wildlife you kill, the more natural beauty you destroy, and the less valuable you make the USA. In this present era of diminishing public lands all over the country, this is another move to strip our public lands away from the people. If this country does not belong to the people, what is the point of pretending to defend the American people and treasure our land? PA-1 PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this LU-1

2177

harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. David Weible

[redacted]

2178

From: Defenders of Wildlife on behalf of Debbie Geraghty
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 3:39:22 PM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

What will be left that is worth defending??? The devastaing loss of our treasured land, waterways and wildlife from destructive military training and bombing practices will ripple outward in its impact. As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. PA-1 BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2178

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Debbie Geraghty

[redacted]

2179

From: Defenders of Wildlife on behalf of Debra Hoekstra
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:49:29 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Please reconsider the proposal to use more land for military practice. Do you need more? What about God's creation?. Why are we trying to use more and more for government projects and seemingly forgetting our mandate to care for the earth God put us on? PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. CU-3

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose LU-1

2179

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Thank you for reconsidering.

Sincerely,

Mrs. Debra Hoekstra

[redacted]

2180

From: Defenders of Wildlife on behalf of Dennis Lyday
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 1:50:08 AM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

There must be millions of acres of land where the Air Force can do practice bombing that does not endanger wildlife. Please have a conscience. — PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. — BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). — BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. — PA-15, CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. — LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose

2180

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Dennis Lyday
[redacted]

2181

From: Defenders of Wildlife on behalf of Don Ghidoni
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 11:47:17 AM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2181

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Please constrain the military to the more than addiquate existing bombing ranges. PA-1 PA-5

Sincerely,

Mr. Don Ghidoni

[redacted]

2182

From: Defenders of Wildlife on behalf of Elizabeth Emmel
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 1:51:11 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Have you lost your minds entirely!!!

Do you think that human beings are the only organisms on this planet; the only ones that matter?

Do you feel that open area; any open area without houses on it; or even with houses on it, if it happens to be in another country; is fair game for your lethal play-things.

Go to Hell! The sooner the better!

This world has a multitude of rich and varied ecosystems that have more right to be here than you do.

They were here first!!

So "No!" to your bombs, and "No!" to your bombing! PA-1

Elizabeth A. Emmel

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave PA-15

2182

Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Dr. Elizabeth Emmel

[redacted]

2183

From: Defenders of Wildlife on behalf of Andrew James
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 1:22:41 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Bombing wildlife, we bomb everyone else's country, now our own lands too! STOP, no more killing of our countries wild life. We already know how bombs work, we've already destroyed enough species, bombing practices do not need extensions that kill more wild life, no more! PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. PA-1 PA-5

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. BI-1 NP-1

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. PA-15

The NTTR already encompasses nearly three million acres, providing CU-3

LU-1

2183

ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Andrew James

[redacted]

2184

From: Defenders of Wildlife on behalf of Elsa Voelcker
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Wednesday, March 07, 2018 4:42:05 PM

Mar 7, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2184

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Please protect our wildlife and use already ruined place to bomb. PA-1

Sincerely,

Ms. Elsa Voelcker

[redacted]

2185

From: Defenders of Wildlife on behalf of Gail Schneider
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 6:09:25 PM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2185

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations. Part of what is most worth defending in our country are it's natural places and the wildlife that live there. Please show some regard for this refuges and choose another location.

PA-5

Sincerely,

Ms. Gail Schneider

[redacted]

2186

From: Defenders of Wildlife on behalf of Gerald and Mary Lou DeVane
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 2:49:37 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. Please find another location for your activities. LU-1 PA-5

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2186

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Gerald and Mary Lou DeVane

[redacted]

2187

From: Defenders of Wildlife on behalf of Gloria Bryant
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 5:50:12 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

This proposal is complete BULLSHIT! there is more than enough land in the present areas for any and ALL bombing practicing. If you need to bomb something useless, how about Mar-a-Lago?

PA-1
PA-5

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

CU-3

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose

2187

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Gloria Bryant
[redacted]

2188

From: Defenders of Wildlife on behalf of Hannes Brueckner
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:53:13 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I strongly oppose the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. Please consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

The Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes and expansion would affect cultural artifacts and tribal history. Finally, the refuge provides hiking, camping and wildlife viewing opportunities.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. That should be ample for testing.

PA-5

Sincerely,

Mr. Hannes Brueckner

[redacted]

2189

From: Defenders of Wildlife on behalf of Heather Weymouth
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 1:50:24 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. With an additional 1.7 million acres at the nearby Utah Test and Training Range (UTTR) and other training ranges associate with Mountain Home Air Forces Base the Air Force has ample space to conducts its training and military exercizes without additional encroachment on the Desert Refuge. PA-5

2189

strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Heather Weymouth
[redacted]

2190

From: Defenders of Wildlife on behalf of Helene Whitson
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 7:20:27 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

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Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

******

These are MY endangered animals on MY public land. No expanding military on my land! The U.S. military is NOT an endangered species. In fact, it has too much money and too many people. Shrink the size of the military and its budget! In fact, put this action in a state that has lots of space and supports it, e.g., Texas, Alabama, Arkansas. It really doesn't matter WHAT you do to those states.

PA-5

Sincerely,

Ms. Helene Whitson

[redacted]

2191

From: Defenders of Wildlife on behalf of James Kleinschmidt
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:54:10 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Taking over two thirds of a wildlife refuge in order to bomb it? Give me a break. I am an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. PA-1 BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to

2191

select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. James Kleinschmidt
[redacted]

2192

From: Defenders of Wildlife on behalf of Jennifer Reed
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:22:44 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Protect America's Natural Treasures. America's iconic wildlife must be protected. We are a country that is supposed to be governed of, by and for the People. The People's public lands are precious. Our wildlife refuges are precious

And now instead of protecting American, the military wants to bomb wildlife refuges into oblivion along with our Iconic American wildlife. What is behind this drive for self destruction, national suicide? PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and LU-1

2192

activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

America's wildlife refuges belong to the country, to the People and must be protected.

Sincerely,

Ms. Jennifer Reed

[redacted]

2193

From: Defenders of Wildlife on behalf of Jenny Walker
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 1:25:10 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

Given modern technology it is no longer necessary to perform these military actions as fine in the past. Given that brain surgery, other intricate medical procedures can be done using virtual reality and/or robotic manikins or other "substitute exercises", it seems that many of the military procedures can too. This will not only protect the wildlife and our environment and national treasures (parklands), it will also save millions in fuel, ammunition and wear-and-tear on equipment. It will also allow more soldiers to participate in the training than conventional maneuvers. PA-6

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military LU-1

2193

activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Given all of the above -and that alternatives exist, it is imperative that you reconsider both the necessity and the risk/benefit analysis of increasing the war against the environment and endangered species

Sincerely,

Dr. Jenny Walker

[redacted]

2194

From: Defenders of Wildlife on behalf of Andrew St Laurent
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 9:39:52 PM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

How much bombing area can you possibly need? PA-1 PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer

2194

of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Andrew St Laurent
[redacted]

2195

From: Defenders of Wildlife on behalf of Jo Fields
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 5:19:51 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Just stop it!!!! I think the area that has already been ruined will suffice for future military and training exercises! Give the wildlife critters a break. Most of their habitat is almost gone! — PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. — BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). — BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. — PA-15, CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. — LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose

2195

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Jo Fields
[redacted]

2196

From: Defenders of Wildlife on behalf of Joel Szasz
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 5:49:34 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I believe that we as the dominant species of this planet have a responsibility to the well-being of the indigenous species and habitats that surround us, and so, on behalf of Defenders of Wildlife, I must add my strong opposition any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving wildlife and the native habitats necessary for their continued existence. And while I do acknowledge the need to ensure that the aerospace branch of our military is prepared to defend our country, that doesn't change my concern that the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species which would be harmed by military training exercises, as well as other changes that would be necessary for their execution.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. I believe that thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is called home by moreover 300 species of birds and is almost entirely proposed wilderness. This treasured landscape is also treasured by Native Americans, due to encompassing an area their ancestral homeland. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides recreation in the form of hiking, camping and wildlife viewing opportunities. And while I do understand that at times that it is necessary to restrict or redact public lands for the well-being of the country, I also believe that these types of restrictions should only be done if absolutely necessary. Therefore, it is extremely important that the planning document fully explain to the public and to Congress how an increase in military activity on Desert

LU-1

2196

Refuge will affect all the parts of the Desert National Wildlife Refuge currently available to the public and its activities, as well as how the military intends to keep any disruption down to a minimum.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. And so I am skeptical that any expansion of land for military use of the Desert Refuge is necessary, and opposed to changes to proposed wilderness or transfer of any management authority from FWS. As far as I understand, the reasons cited for the expansion are in order to increase the capacity for training exercises, and to create more realistic training exercise for the next generation of aircraft and equipment. However, due to what is at stake, I have to wonder if this is absolutely necessary, or if perhaps the exercises and training can be spread out to units nationwide to compensate for the any insufficient airspace. I encourage the Air Force to select an alternative that balances the need to ensure that the Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations with the need to ensure that there will be future generations to enjoy it.

PA-5
AS-1

Thank you for your consideration and service.

Sincerely,

Mr. Joel Szasz

[redacted]

2197

From: Defenders of Wildlife on behalf of Judy Fairless
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 2:19:26 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

Protect wildlife - don't bomb them. I refuge should be a place of safety. Leave wildlife alone. PA-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2197

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Judy Fairless
[redacted]

2198

From: Defenders of Wildlife on behalf of Judy Hayden
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 4:19:56 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Oh my gosh. I was stunned to learn of the plans to enlarge the military training areas. You will kill animals and the habitat by using the areas as a practice bomb sites. You would not only destroy the habitat and kill animals and all other living creatures in these areas, but you will also wound and hurt other animals etc. These animals will suffer to a great extent. Humans have to take a stand and find ways to get your practice down and live cohesively with the creatures on this earth. It just seems that the animals are always taking the hit, no matter where they go. — PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. — BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). — BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. — PA-15, CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military — LU-1

2198

activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Please put your minds together and come up with better solutions for the Miltaries needs. Please.

Sincerely,

Ms. Judy Hayden

[redacted]

2199

From: Defenders of Wildlife on behalf of K Burch
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 8:39:14 PM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I'm a former Marine Naval Aviator and familiar with the area in question both from numerous flight trainings over the area and hiking the vicinity of the area for recreation. As a pilot, the CURRENT area provides ample area for maneuvers and training exercises. As a hiker and outdoorsman, I can attest the value of this desert region as an ecosystem and a marvel of nature is irreplaceable. There is absolutely no National Defense reason to expand the area, for 'training'. There is EVERY reason to protect the necessary habitat for species who occupy this and must have the expanse for survival. This proposal is plain ass stupid. PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully LU-1

2199

explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Dr. K Burch

[redacted]

2200

From: Defenders of Wildlife on behalf of Karen Guerin
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:29:33 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Bombs do not belong on our public lands. Our beautiful country is already under attack by Nazis and criminals posing as politicians and you want to literally destroy our land and our animals now so add to the problem instead of the solution. You are invading areas that we the taxpayers own. PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 PA-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

2200

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Karen Guerin
[redacted]

2201

From: Defenders of Wildlife on behalf of Karriaunna Scotti
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 5:19:13 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Adding to the message below...

I am a "military brat" proud of my parents and friends in the military. I support our military. BUT, humans are not the only living things on this planet. There are other places that bombing is not as devastating and harmful to both the environment and the wildlife. This is place is a refuge for a reason. Please respect that. — PA-1, PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. — BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). — BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. — PA-15, CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this — LU-1

2201

harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Karriaunna Scotti

[redacted]

2202

From: Defenders of Wildlife on behalf of Kathleen Collins
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 2:49:24 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

This is a National Wildlife Refuge that you have been allowed to use a part of for your training. It is not a public area meant specifically for the U.S. Air Force. As such, your LEIS is woefully inadequate. NEPA specifies consideration of historic sites under Section 106 of the National Historic Preservation Act. Consultation with State and/or Tribal Officers is required and approval must be given before any project can proceed.

CU-3

The U.S. Fish & Wildlife Service are fully responsible for any wildlife that might be affected, and must be fully involved in planning. Writing an LEIS that does not include the USFWS as a lead agency cannot be a true LEIS. This LEIS must be redone, with signoff from the Advisory Council of Historic Preservation and the USFWS. The loss of habitat for the animals on the preserve has not been adequately address, nor mitigation of such.

NP-1
CU-3
BI-1
BI-4
PA-15

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect

PA-15

CU-3

2202

CU-3

LU-1

cultural artifacts and tribal history as required by the National Historic Preservation Act.

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Kathleen Collins

[redacted]

2203

From: Defenders of Wildlife on behalf of Anne Borts
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 5:50:17 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

PLEASE DONT BOMB THE BIG HORNS ENVIRONMENT. As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-3
PA-1

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2203

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Anne Borts

[redacted]

2204

From: Defenders of Wildlife on behalf of Kathleen Querner
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 8:19:08 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges-CHOOSE SOMEWHERE ELSE!! The the most important system of public lands and waters in the country for conserving fish and wildlife are the refuges we have created and nurtured. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. PA-5 BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to

2204

select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Kathleen Querner

[redacted]

2205

From: Defenders of Wildlife on behalf of Kenneth Woods
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 3:53:18 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Wildlife is MUCH more important than an increase in acreage where bombing runs can be done! PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2205

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Kenneth Woods

[redacted]

2206

From: Defenders of Wildlife on behalf of Kim Kahl
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:30:13 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I am adamantly against your proposal to expand your bombing exercises!! PA-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer

2206

of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Kim Kahl
[redacted]

2207

From: Defenders of Wildlife on behalf of Kim Katzenbarger
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:21:59 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for both the military and Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. My father served 21 years with the Navy and 20 years with DOD. I was raised on bases and I understand the importance of having a very strong military. However, there must be a balance between military readiness and protection of the lands that we love. Utilizing national refuges as bombing ranges goes too far off balance, especially with the current technology that synthesize such practices. PA-1 PA-6

I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this LU-1

2207

LU-1

harm.

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Kim Katzenbarger

[redacted]

2208

From: Defenders of Wildlife on behalf of Gail Bates
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:54:08 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Are you serious?! A wildlife refuge is meant to protect the wildlife, not make them targets for the military's war games. I STRONGLY object to this use of the land. It is impossible to believe that the military is unable to find land other than a national wildlife refuge for its war games! Shame on you for having no regard for our national treasures - our wildlife. PA-1 PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

2208

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Gail Bates
[redacted]

2209

From: Defenders of Wildlife on behalf of Linda Seymour
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:31:15 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

You can't send letters to wildlife asking them to temporarily move so you can play war games. They live there. They deserve to be left alone. And we the taxpayers deserve to see them in all their natural beauty - NOT blown to pieces. With all the modern technology, there must be other non-lethal ways to train.

PA-1
PA-6

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

CU-1

LU-1

2209

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Linda Seymour
[redacted]

2210

From: Defenders of Wildlife on behalf of Lori Smith
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:50:46 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

This is crazy and cruel!

As an advocate for Defenders of Wildlife, I strongly oppose the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

A National Refuge is just that - a refuge, where animals and wildlife and its ecosystems are protected from being killed, hunted or harmed in any way. NO BOMBING IN A NATIONAL REFUGE!!! PA-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2210

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Lori Smith
[redacted]

2211

From: Defenders of Wildlife on behalf of Lula Kay (Katie) Ingham
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 8:23:41 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I OPPOSE A MILITARY TAKEOVER OF DESERT NATIONAL WILDLIFE REFUGE! THE USE OF THE REFUGE FOR MILITARY TRAINING, INCLUDING AERIAL BOMBING EXERCISES & FENCES & BARRIERS WILL BLOCK WILDLIFE & PUBLIC ACCESS. THE DESERT BIGHORN SHEEP AND DESERT TORTOISES NEED OUR PROTECTION! I HAVE LIVED NEAR ASPEN, COLORADO FOR 60 YEARS & HAVE SEEN WHAT CAN HAPPEN TO UNPROTECTED POPULATIONS & THEIR HABITAT. — PA-1, BI-5, LU-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. — BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). — BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. — PA-15, CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. — LU-1

2211

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Lula Kay (Katie) Ingham

[redacted]

2212

From: Defenders of Wildlife on behalf of Lynne Birdsall
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 5:19:51 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

Why is this proposed expansion necessary? PA-5

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. CU-3

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I ask again, why is this expansion deemed necessary? I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations. LU-1

Sincerely,

Ms. Lynne Birdsall
[redacted]

2213

From: Defenders of Wildlife on behalf of M Wil
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:56:26 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Dear Air Force Officials,
First, you have already bombed the Hell out of everywhere so why do you continue to bomb sacred lands. You bombed the hell out of an area in FL that I grew up in and I still have nightmares of the bombing practices not to mention the yellow fever virus you people dropped on innocent citizens back when. IN THE NAME OF JESUS, I PRAY THAT YOU REPENT AND STOP! YOU ARE CHEMTRAILING EVERYWHERE AND EVERYONE KNOWS WHAT YOU ARE DOING! STOP IT...GOD IS GOING TO JUDGE YOU, BUT THEN YOU ARE HELL BENT ON GOING TO HELL UNLESS YOU REPENT NOW! JUST STOP IT IN THE NAME OF JESUS I CURSE YOUR HELLISHNESS! — PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. — BI-I

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). — BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. — PA-15, CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully — LU-1

2213

explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. M Wil
[redacted]

2214

From: Defenders of Wildlife on behalf of Marcia Kellam
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 7:54:09 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

PLEASE STOOOOOPPPPPPP using taking over these refuge lands, which are supposed to be just that--REFUGE!--and bombing our beautiful wildlife. As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. PA-1 BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer

2214

of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Marcia Kellam
[redacted]

2215

From: Defenders of Wildlife on behalf of Marianna Riser
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:51:02 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. — BI-1

I don't understand how a National Wildlife Refuge can be taken over by the military, to the exclusion of the animals that this site was set up to protect. And excluding public Access. This is a National Wildlife Refuge not a military base!! — BI-1, LU-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). — BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. — PA-15, CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. — LU-1

The NTTR already encompasses nearly three million acres, providing

2215

ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Marianna Riser

[redacted]

2216

From: Defenders of Wildlife on behalf of Martha Williamson
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 6:20:30 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Please do not convert the Desert National Wildlife Refuge into a bombing range. Our public lands cannot be replaced and the wildlife they support are endangered. Public access and public use of these lands are a significant plus to local economies.
As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

PA-1
SO-3
BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15
CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose

2216

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Martha Williamson
[redacted]

2217

From: Defenders of Wildlife on behalf of Mary Miller
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:59:41 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I am horrified that a national wildlife refuge area could be bombed, killing thousands of animals, plants, and endangering ecosystems. As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

PA-1

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer

2217

of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Mary Miller
[redacted]

2218

From: Defenders of Wildlife on behalf of Mary Slyby
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:20:49 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Why do you need this extra acreage? Why threaten and/or destroy our environment and wildlife to practice your inane military exercises. Is this being bumped up because Trump is incoherent and you don't know what he'll do? If this information is accurate, you must protect that which you are inclined to destroy. Look what the Republican's (namely Cheney and Bush) did to Iraq's people, environment and animals both domestic and wild based on their lies. It's time to realize these living creatures have a right to live and be respected. PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and LU-1

2218

activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Mary Slyby

[redacted]

2219

From: Defenders of Wildlife on behalf of Matthew Richardson
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 7:19:21 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Come on guys. Can't you find another spot? Save this place for the animals. I genuinely care about the Big Horn sheep. They've struggled and a lot of people have put in a lot of hard work to help them out. — PA-5

The military has a LOT of property. You must be able to find a different location. — PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. — BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). — BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. — PA-15, CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. — LU-1

2219

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Matthew Richardson

[redacted]

2220

From: Defenders of Wildlife on behalf of Maya Grove
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 11:15:25 AM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2220

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.
Perhaps consider a different region with less endangered wildlife, even better an area with almost none. These beautiful creatures must survive for the future of our entire planet, and even us as humans.

PA-5

Sincerely,

Ms. Maya Grove

[redacted]

2221

From: Defenders of Wildlife on behalf of Buzz Alpert
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:49:52 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Why must God's creatures always be sacrificed. Is there no other place in this vast United States that can be used? It's really sad that animals are always the least important of all things on the earth.l

PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

CU-3

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose

LU-1

2221

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Buzz Alpert

[redacted]

2222

From: Defenders of Wildlife on behalf of Mindy Newby
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 3:48:53 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2222

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Are we living in a military dictatorship? If not, then the military has no right to destroy our precious natural resource so they can "test" their new destructive weapons. I have an uncle still MIA from Korea who was "top gun" at Nellis. He would be rolling in his grave (if he had one)! We don't send people to fight so that we get bombed here at home. PA-1

Sincerely,

Ms. Mindy Newby

[redacted]

2223

From: Defenders of Wildlife on behalf of pamela mcdonald
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 6:19:50 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

You already have an area in California close to 29 Palms that is used for similar use, as well as Fort Irwin, which is used for "war games", and often soldiers die during those exercises. WHY do you need to decimate even more land that is home for many native animals. Why not wastelands in Wyoming, N.Dakota, and other states with vast land areas that serve no real purpose? PA-5 PA-5

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

2223

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. pamela mcdonald

[redacted]

2224

From: Defenders of Wildlife on behalf of Patty Teubner
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Thursday, March 08, 2018 12:12:29 AM

Mar 7, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2224

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations. While a strong, trained military is good, a country with wildlife is more important to me. Please find another place to do training and testing.

PA-5

Sincerely,

Ms. Patty Teubner

[redacted]

2225

From: Defenders of Wildlife on behalf of Paula Defelice
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 5:50:14 AM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

This land isn't empty. Don't bomb it. PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer

2225

of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Paula Defelice

2226

From: Defenders of Wildlife on behalf of Phyllis Lau
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 8:19:31 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Please do not expand military bombing in the Desert Wildlife Refuge! How is it possible that the current test range is not enough? Please do not destroy our country's precious (and rapidly dwindling) wildlife. Doesn't it seem that computer hacking is the current problem? Please do not expand the bombing area and kill off America's animals. Thank you.

PA-1
PA-5
PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

2226

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Phyllis Lau

[redacted]

2227

From: Defenders of Wildlife on behalf of Rebecca Gage
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 2:49:57 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I cannot believe that the military wants to drop bombs on a wildlife refuge.
Every time I turn around, wildlife, national parks and seashores are under attack and being exploited. We are not the only generations that will every exist on this planet. People before us had foresight to protect certain areas of our country. Had they not done something, there might be development everywhere and no place suitable for training and for bombing by the military. Certainly a wildlife refuge isn't suitable now. In just 14 months, the Federal Government (which includes the military) and the Trump Administration are attempting to unravel all of the hard work of past generations. These lands may take many hundreds of years and possibly never recover from the destruction we impose today.

PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

2227

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Rebecca Gage

[redacted]

2228

From: Defenders of Wildlife on behalf of Rebecca Lincoln
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 1:24:20 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

It's not a refuge if bombs and bullets are being dropped and shot at you. Stop playing with your Big Boy Toys and wasting money. As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

PA-1

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer

2228

of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Rebecca Lincoln

2229

From: Defenders of Wildlife on behalf of Reinessa Neuhalfen
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Wednesday, March 07, 2018 3:12:10 PM

Mar 7, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

There HAS to be a better way to for the Air Force to meet their training objectives than taking over a WHOLE refuge area, and I strongly encourage that efforts be made to minimize destruction of REFUGE lands.. As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

PA-5
PA-15
BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15
CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2229

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Reinessa Neuhalfen
[redacted]

2230

From: Defenders of Wildlife on behalf of Richard Stallman
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Wednesday, March 07, 2018 12:47:47 AM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at the Desert National Wildlife Refuge as part of the public process for renewing its overflight and training zones in the refuge. I expect that a thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

Alternatives based incomplete analysis are automatically suspect. Analysis must also properly address the public use of the area for hiking, camping and wildlife viewing.

LU-1

I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS.

Sincerely,

Dr. Richard Stallman

[redacted]

2231

From: Defenders of Wildlife on behalf of Carol Lambert
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 8:19:51 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Don't the military kill enough people and animals! Now they are going to "practice" bombing in a Wildlife Refuge. Look up the definition of the word "refuge"!!!! PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2231

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Carol Lambert

[redacted]

2232

From: Defenders of Wildlife on behalf of Rick Lanham
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 8:44:31 PM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Bomb America's enemies, not our nation's wildlife in their "protected refuge". As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. PA-1 BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to

2232

select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Rick Lanham
[redacted]

2233

From: Defenders of Wildlife on behalf of Roberta Stephan
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 3:49:56 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Omg, I can't believe it's even brought up to bomb in the refuge! As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

PA-1

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to

2233

select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Roberta Stephan
[redacted]

2234

From: Defenders of Wildlife on behalf of Ronald Clayton
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 1:50:20 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

There is NO NEED to destroy any wildlife refuge to practice bombing. PA-1
* KILLING and DESTRUCTION are not the only responsibilities you have.
* PROTECTING America includes PROTECTING our environment and our NATURAL NATIONAL TREASURES and CULTURAL ARTIFACTS. CU-2

I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife.
I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. BI-1 NP-1

A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. PA-15

*** Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems.
- The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness.
- This treasured landscape also lies within the ancestral homeland of area Native American tribes.

The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. CU-3

*** Finally, the refuge provides hiking, camping and wildlife viewing opportunities.
- It is imperative that the planning document fully explain to the LU-1

2234

public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training.

I strongly OPPOSE any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS.

I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

PLEASE!

Sincerely,

Mr. Ronald Clayton
[redacted]

2235

From: Defenders of Wildlife on behalf of Ross Bullard
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:28:55 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife and a VETERAN, I STRONGLY oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

IN THE EYES
OF THE USAF THIS MIGHT SEEM AS USELESS DESERT BUT IT IS, IN FACT, TEAMING WITH LIFE AND BEAUTY. THIS PLACE DOES NOT NEED OR DESERVE TO BE USED AS A BOMBING RANGE!!!!! PA-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities, where I often spend time. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2235

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Ross Bullard

[redacted]

2236

From: Defenders of Wildlife on behalf of Sally Larson
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:51:50 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I can't believe you want to jeopardize, maybe even KIILL all these poor animals/wildlife just so you can PRACTICE BOMBING! Bombing practice and other military exercises would put desert bighorn sheep, desert tortoises, mountain lions and hundreds of other species in harm's way.

PA-1
BI-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

CU-3

LU-1

2236

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Sally Larson

2237

From: Defenders of Wildlife on behalf of Susan Daley
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 3:20:14 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2237

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

As a former member of the Air Force myself, I beg you to reconsider these actions and leave this desert area alone. The Air Force has enough places to bomb and practice warfare already. Please do not do this!

PA-1
PA-5

Sincerely,

Ms. Susan Daley

[redacted]

2238

From: Defenders of Wildlife on behalf of Susan Serventi
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 12:50:00 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2238

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

I am surprised that the as the Air Forces weapons become more sophisticated you that you need more and not less space for bombing runs.

PA-5
PA-6

Sincerely,

Ms. Susan Serventi

[redacted]

2239

From: Defenders of Wildlife on behalf of Susan Williams
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 6:53:23 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Please stay where you are. And wouldn't make more sense if you didn't use up precious dollars practicing all the time. Do more virtual practice instead. I have to say I don't know to much about it and I certainly support the armed services but I suspect you are being emboldened by our current president. — PA-6

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. — BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). — BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. — PA-15, CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. — LU-1

2239

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Susan Williams

[redacted]

2240

From: Defenders of Wildlife on behalf of Susan Wood
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 3:19:20 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2240

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

I know you have many alternatives to bombing for military testing and training. Please RECONSIDER AND STOP THE BOMBING IN THIS AREA. Once the ANIMALS, WILDLIFE and TREES are gone this wildlife area WILL NEVER RETIRN. And that is what you will be REMEMBERED FOR. Destroying the endnagered wildlife. ONCGRATULATIONS, what a great rememberance.

PA-1
PA-6

Sincerely,

Ms. Susan Wood

[redacted]

2241

From: Defenders of Wildlife on behalf of Carole Fletcher
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 8:54:08 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

How can a refuge in name be a refuge in fact if the inhabitants are being bombed? As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. PA-1 BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to

2241

select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Carole Fletcher

[redacted]

2242

From: Defenders of Wildlife on behalf of Suzanne Salvas
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:53:44 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2242

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

It's obvious the government is hellbent on destroying the environment and wildlife. Don't forget, when they're gone you're next. We have military jets constantly flying over us leaving contrails/chemtrails and scaring our pets and wildlife. How much training do those pilots require?

Sincerely,

Ms. Suzanne Salvas

[redacted]

2243

From: Defenders of Wildlife on behalf of Suzzette Wilson
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:53:09 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

There is no need to Expand the current test site area. PA-5
As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to

2243

select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Suzzette Wilson

[redacted]

2244

From: Defenders of Wildlife on behalf of Teresa Finnell
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:58:16 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15

Do it some place else.

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. CU-3 PA-5 LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2244

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Teresa Finnell

[redacted]

2245

From: Defenders of Wildlife on behalf of Thomas Tereszkiewicz
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:54:02 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

Is there not enough open land to practice aerial drills?

PA-5

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer

2245

of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Thomas Tereszkiewicz
[redacted]

2246

From: Defenders of Wildlife on behalf of v mangum
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:50:02 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I am against using any land not already set aside for the military to trash. I KNOW we have lands here in Washington for them to practice... I also know what the land is like AFTER it has been used... My husband plowed up a 6" long live bullet from a previously used land that they were farming! I was afraid for him to work that area after that! Do not give them more land to destroy! — PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. — BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). — BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. — PA-15, CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. — LU-1

2246

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. v mangum

[redacted]

2247

From: Defenders of Wildlife on behalf of Vivienne Lenk
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 4:19:32 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

We have the most capable military in the world and it is a military making great strides in alternatives: using solar rechargeable batteries, instead of having to haul around huge amounts of non-rechargeable batteries; using digital computer models, etc. etc. In other words, this military has the ways and means and the smarts to implement projects and train using more advanced methods that are less destructive to the environment/ As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

PA-6

BI-1

I know you can do this and I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

2247

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Vivienne Lenk
[redacted]

2248

From: Defenders of Wildlife on behalf of William Josephs
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 3:19:39 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Will the U.S. Air Force consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge?

BI-1

Fat chance given our administration and rule by fiat.

If the National Historic Preservation Act will even be considered, it will be dismissed, even if there is minimal basis to do so.

The Air Force has an alternative that will maintain the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations. But all numbskulls all the time most likely will thwart all attempts to protect wildlife.

Now look at yourself in the mirror.

Sincerely,

Dr. William Josephs

[redacted]

2249

From: Defenders of Wildlife on behalf of Yovonne Autrey-Schell
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 2:50:43 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Absolutely no to the use of our wildlife refuges as new bombing ranges! You've got the Tonopah bombing range and the Nellis AFB bombing range, you absolutely do not need to use ANY of our wildlife refuges! PA-1 PA-5

As a veteran and military retiree (US Army), I firmly support our military, but I am also vehemently opposed to any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose

2249

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Yovonne Autrey-Schell

[redacted]

2250

From: Defenders of Wildlife on behalf of Monica Koziol
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:20:48 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Advocating for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am highly concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be severely harmed by military training exercises. High volume noise, vibrations, smoke and fire all impact wildlife's ability to mate and cause numerous stressors to their ability to thrive. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). 800,000 acres should more than suffice for these maneuvers without extensions that become increasingly harmful. BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American Peoples. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-5, PA-40

Finally, the refuge provides hiking, camping and wildlife viewing, and research opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how specifically, the military intends to minimize this harm. PA-15

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use CU-3, LU-1

2250

of Desert Refuge, including changes to proposed wilderness or the transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Monica Koziol

[redacted]

2251

From: Defenders of Wildlife on behalf of DIANE KASTEL
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, February 26, 2018 1:03:42 PM

Feb 26, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As advocates for Defenders of Wildlife, OUR FAMILY STRONGLY, AND, VEHEMENTLY, OPPOSES ANY, AND, ALL, THREATS, TO OUR NATIONAL WILDLIFE REFUGES, THE MOST IMPORTANT SYSTEM OF PUBLIC LANDS, AND, WATERS, IN THE COUNTRY FOR CONSERVING FISH AND WILDLIFE! WE ARE ESPECIALLY CONCERNED ABOUT THE PROPOSED EXPANSION OF MILITARY USE OF DESERT NATIONAL WILDLIFE REFUGE IN NEVADA,WHICH IS ESSENTIAL HABITAT FOR SPECIES THAT WOULD BE HARMED BY MILITARY TRAINING EXERCISES! — BI-1

IF THIS PLAN MOVES FORWARD, A HUGE PORTION OF THE REFUGE WOULD BE USED FOR MILITARY TRAINING-- INCLUDING AERIAL BOMBING EXERCISES--INSTEAD OF BEING MANAGED TO BENEFIT WILDLIFE, LIKE DESERT BIG HORN SHEEP, AND, THREATENED DESERT TORTOISES! FENCES AND BARRIERS WOULD BE CONSTRUCTED THAT BLOCK WILDLIFE FROM IMPORTANT PARTS OF THE REFUGE, AND, EVEN PUBLIC ACCESS WOULD BE RESTRICTED! Our family and I are TELLING THE AIR FORCE THAT WE OPPOSE A MILITARY TAKEOVER OF DESERT NATIONAL WILDLIFE REFUGE! — PA-1; BI-5; LU-1

WE STRONGLY IMPLORE THE U.S. AIR FORCE TO FULLY CONSIDER THE IMPACTS TO WILDLIFE AND HABITAT AT DESERT REFUGE AS [ART OF THE PUBLIC PROCESS FOR RENEWING ITS OVERFLIGHT AND TRAINING ZONES IN THE REFUGE! A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and, maintain the current boundary of the Nevada Test and Training Range (NTTR)! — BI-1; NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge, or, minimize the impacts to a range of public resources, and, wildlife, on the refuge! DESERT REFUGE PROVIDES THE HIGHEST QUALITY INTACT HABITAT FOR DESERT BIGHORN SHEEP, MULE DEER, MOUNTAIN LIONS, AND, OTHER WILDLIFE, THAT DEPEND ON GREAT BASIN AND MOJAVE DESERT ECOSYSTEMS! THE REFUGE IS HABITAT FOR MORE THAN 300 SPECIES OF BIRDS, AND, IS ALMOST ENTIRELY PROPOSED WILDERNESS! This treasured landscape also lies within the ancestral homeland of area Native American tribes! The Air Force must address how expansion would affect cultural artifacts, and, tribal history, as required by the National Historic Preservation Act! — PA-15; CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities! It is imperative that the planning document fully explain to the public, and, to Congress, how an increase in military activity on Desert Refuge will affect all of these resources, and, — LU-1

2251

activities on the refuge, and, how the military intends to minimize this harm!

LU-1

THE NTTR ALREADY ENCOMPASSES NEARLY THREE MILLION ACRES; PROVIDING AMPLE OPPORTUNITY FOR MILITARY TESTING AND TRAINING! OUR FAMILY STRONGLY OPPOSES ANY PROPOSAL THAT EXPANDS THE EXISTING LAND WITHDRAWAL OR MILITARY USE OF DESERT REFUGE, INCLUDING CHANGES TO PROPOSED WILDERNESS OR TRANSFER OF ANY MANAGEMENT AUTHORITY FROM THE FWS!

WE ENCOURAGE THE AIR FORCE TO SELECT AN ALTERNATIVE THAT MAINTAINS THE STATUS QUO TO HELP ENSURE THAT DESERT REFUGE CAN CONTINUE TO MEET ITS LEGAL MANDATE TO CONSERVE WILDLIFE FOR PRESENT AND FUTURE GENERATIONS!

Sincerely,

Ms. DIANE KASTEL

2252

From: Defenders of Wildlife on behalf of Connie Ball
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 1:50:26 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Personally I believe there exists sufficient areas already in existence for the military to practice their art of war and killing especially when wildlife is destroyed in the process. PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose

2252

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Connie Ball
[redacted]

2253

From: Defenders of Wildlife on behalf of A Bigelow
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:58:03 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

As virtual reality tools for training are available -- and as the technology improves -- bombing precious natural resources to smithereens seems truly unnecessary and foolish. PA-6 PA-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose

2253

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. A Bigelow
[redacted]

2254

From: Defenders of Wildlife on behalf of Eva Scherb
To: nttrleis
Subject: EXTERNAL: The Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 2:20:41 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2254

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

We must protect this wildlife - not use it for target practice! PA-1

Sincerely,

Ms. Eva Scherb
[redacted]

2255

From: Defenders of Wildlife on behalf of Elizabeth Brown
To: nttrleis
Subject: ****SPAM**** EXTERNAL: No Military Takeover of the Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:00:40 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Please, please, do not allow increased military use of the Desert National Wildlife Refuge in Nevada. Our wild lands are precious, and increasingly threatened. I accept that the Air Force needs to conduct tests--let them do these in existing bomb ranges, or in absolutely necessary, let them take over areas suffering from post-industrial blight. Under no circumstances should unspoilt wilderness be permanently sacrificed for this short term gain. PA-1

As a supporter of Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this LU-1

2255

harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Dr. Elizabeth Brown

[redacted]

2256

From: Defenders of Wildlife on behalf of Marilynn Szydlowski
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:21:54 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

The whole idea of ATTACKING the wildlife is beyond what is needed for "NAtional Security". It is egregious, thoughtless, destructive and pointless. PA-1 BI-1

We are not paying thru taxes to have our wild areas BOMBED and Destroyed!!!! PA-1

I demand the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer

2256

of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Marilynn Szydlowski

[redacted]

2257

From: Defenders of Wildlife on behalf of Martha Wright
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 11:16:44 AM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2257

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.
Why isn't 3 million acres enough??? To expand beyond 3 million acres
Is ludicrous & hurts wildlife as noted above, destroys the beauty of nature for no good reason, &deprives the rest of Americansof places to camp,
Enjoy nature, & go to unwind. As the subject is Public lands, the People should vote & decide the fate of this refuge ! The current military take over is without legitimate merit.

PA-5

Sincerely,

Ms. Martha Wright

[redacted]

2258

From: Defenders of Wildlife on behalf of Mary Ley
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 1:44:14 PM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

We ask that you not use national wildlife refuges for any military training that utilizes weapons being fired! These refugee are supported by most Americans to preserve wildlife. Please train elsewhere!

PA-1
PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

CU-3

LU-1

The NTTR already encompasses nearly three million acres, providing

2258

ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Mary Ley

[redacted]

2259

From: Defenders of Wildlife on behalf of Melvin Herlin
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:23:48 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

The military has a poor record historically for protecting the environment and the various species that live there. Joint management at least restrains abuse. — BI-4

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. — BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). — BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. — PA-15

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. — CU-3

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose — LU-1

2259

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Melvin Herlin

[redacted]

2260

From: Defenders of Wildlife on behalf of Michael Fine
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:20:04 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. Where do you expect the wildlife to go? They are as, if not more important, than your inane takeover of the refuge. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of the expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and the Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explains to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to

2260

select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Michael Fine
[redacted]

2261

From: Defenders of Wildlife on behalf of Patricia Wolf
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 7:20:30 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2261

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

This is so wrong, this land belongs to the wildlife - and the people who are fighting to keep the Military out of OUR desert - Why after all these years does the militarty needs this land? Don 't destroy the wildlife who would not have a chance to survive -

PA-5

Sincerely,

Mrs. Patricia Wolf

[redacted]

2262

From: Defenders of Wildlife on behalf of Teresa Seamster
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:52:40 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

The desert is NOT an empty space of sand and rock and virtual targets for bombing practice. It teams with wildlife, the vast majority that burrows underground and beneath rocks to shelter from the heat, but all of it is extremely vulnerable to human bombs.

PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

CU-3

LU-1

The NTTR already encompasses nearly three million acres, providing

2262

ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Teresa Seamster

[redacted]

2263

From: Defenders of Wildlife on behalf of F and E Voltz
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 9:10:01 PM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As advocates for Defenders of Wildlife, we strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. We are especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

We are also concerned about opening up these lands to hunters who wish to destroy wildlife that is to be held in public trust, not for those who wish to kill. LU-14

We strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. We strongly

2263

oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. We encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. F and E Voltz

[redacted]

2264

From: Defenders of Wildlife on behalf of Frederick Jackson
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 3:10:17 PM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2264

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Find another country to bomb. Just throw a dart on a map of the world and go for it. That is all you have been doing the last 30 years just bombing the shit our of whomever TPTB decide are somehow an obstacle to their ends. Also to get rid of old ordnance. PA-1

Thanks amigos.

Sincerely,

Dr. Frederick Jackson

[redacted]

2265

From: Defenders of Wildlife on behalf of Herb Vandepol
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:20:44 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Surely there is a better place to practice bombing than an area full of wild life, birds and much more. Put some floating targets in the ocean and shoot there, there is a much lower chance of killing fish that there is with Desert Wildlife.
thank
Herb Vandepol

PA-1
PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

CU-3

LU-1

2265

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Herb Vandepol

[redacted]

2266

From: Defenders of Wildlife on behalf of Jackie Miller
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 6:20:18 AM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2266

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Plus, bombing the crap out of a nature reserve is not the mark of a genius. What real pieces of shit thought of this anyway? Really earning that paycheck! Satire, in case you missed it. PA-1

Sincerely,

Ms. Jackie Miller
[redacted]

2267

From: Defenders of Wildlife on behalf of Joan Paskewitz
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Tuesday, March 06, 2018 7:09:25 PM

Mar 6, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

It will be a dangerous situation for hikers and those who travel to see the beauties of the animals in situ, to have the military training occurring nearby. HS-3

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose

2267

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Joan Paskewitz

[redacted]

2268

From: Defenders of Wildlife on behalf of Karen Milanicz
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:28:24 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I was horrified to read about your proposed use of a wildlife refuge and desert lands for military use. Find an area of previous ecological devastation and use that. Abandoned factories, strip mining operations, lots of opportunities. PLEASE DO NOT destroy undamaged land. PA-5

I recently read an article about a bird that was trying to nest near a turbines on a wind farm that had all the physiological signs of post traumatic stress disorder. Leave some areas of nature to nature. Plants, animals, and ecosystems have existed for millennia without us. We have no right to destroy them. The noise, people, chemicals, building, pollution, water use, etc., may permanently scar theses lands. We can replant, but will never recreate the diversity of habitats and species now there.

The natural rights of man are the foundation of our Constitution. Have the animals, plants, and natural systems they occupy no similar rights, granted by God and the fact of their existence?And if that does not move you, consider the welfare of the human race, still tied to this small planet, with increasing numbers and diminished space. We rely on wild spaces to rebuild our souls, for new medicines, for recreation, for Native Americans who have been so misused. So many reasons to not abuse these lands. So don't.

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public PA-15

2268

resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Karen Milanicz

[redacted]

2269

From: Defenders of Wildlife on behalf of Lara Post
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Wednesday, March 07, 2018 3:12:05 PM

Mar 7, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2269

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Please conduct your military exercises somewhere where it will not have a negative impact on wildlife! PA-5

Sincerely,

Ms. Lara Post
[redacted]

2270

From: Defenders of Wildlife on behalf of Diane Dillabough
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 5:20:38 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

THIS IS RIDICULOUS - WHERE ARE THESE WILDLIFE ANIMALS SUPPOSED TO GO!!!!!!!! As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to

2270

select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Diane Dillabough
[redacted]

2271

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:54:04 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I'm a former Recon Marine and I sure hope the Air Force doesn't bomb wildlife when it is certainly not the right thing to do, ever. PA-1
As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer

2271

of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Craig Alberhasky

2272

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:49:28 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

This is insane to bomb this area. it is not all deserted desert. Hey, animals live there and should be allowed to exist! I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

PA-1

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to

2272

select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Carole Ehrhardt

[redacted]

2273

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:28:52 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

There are bombing ranges associated with Cannon AFB Use them. PA-5

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

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Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer

2273

of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Cliff Evans

[redacted]

2274

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:49:46 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

This is land preserved for animals and people--not a bomb site. I bitterly oppose use of this land in this manner. Remember that elections are not far away and soon the anti-environment regime will be gone, but you will still be dependent on tax dollars. With policies like this, I vow to renew my fight to reform or unfound Wildlife Services, because you have no interest in preserving wildlife or their environment. PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this CU-3 LU-1

2274

LU-1

harm.

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Carolyn Haines

2275

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:26:05 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Are you kidding me? You want to drop bombs where?? This is completely unacceptable. As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

PA-1

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to

2275

select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Cristy Murray

[redacted]

2276

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:02:33 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Bombing practice on a wildlife refuge? Isn't that an oxymoron? As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

PA-1

BI-1

Please consider fully the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing your overflight and training zones in the refuge. Please consider all stakeholders (including the four-footed and green ones). A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze the consequences of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. There is nowhere for these creatures to go if this habitat is damaged or destroyed.

PA-15

This landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2276

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Dr. Carol Steinhart

[redacted]

2277

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:26:06 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Please do not take over this vital habitat. Once bombed, changed forever. PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2277

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Cynthia Weller

[redacted]

2278

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:48:05 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2278

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.
The military needs target practice? Bomb a landfill, bomb an ore mining crater, bomb someplace that doesn't hold life and is protected for all Americans use for peace and enjoyment. Really, I thought the military had virtual reality games that mimicked the real time activity of bombing point X. I back our military, but I also back refuges.

PA-1

PA-6

Sincerely,

Ms. Patricia Anderson

[redacted]

2279

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:26:15 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2279

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.
Alternatively you have Yuma Proving Grounds which the Marine Corps and Army utilizes.

PA-5

Sincerely,

Mr. James Carpenter

[redacted]

2280

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:50:20 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2280

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.
It is called a refuge because it offers a safe haven for wildlife and the habitat that supports it. To allow a military incursion into the refuge means it can no longer be a refuge therefore I consider this to be ill advised. There are always other uses for any place on Earth but one of the best uses and one of increasing importance is the one that has already been designated for the Desert Refuge. It can't all be about destruction, some places need to be about the preservation of life in all its diversity and the more the better.

PA-4

Sincerely,

Mr. Jeff Cody

[redacted]

2281

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:59:30 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I cannot believe the air force would need to bomb the desert and all the wildlife that exists there. It is unconscionable. PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2281

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Jackie Collins
[redacted]

2282

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:28:45 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2282

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.
Do not bomb or destroy habitat. What is wrong with you people?

PA-1

Sincerely,

Mr. John Eder

[redacted]

2283

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:28:33 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2283

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

PROTECT THE DESERT REFUGE! DON'T BOMB RARE WILDLIFE! PA-1

Sincerely,

Mr. James Krist

[redacted]

2284

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:52:40 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I am a retired federal environmental scientist and have been a Nevada resident for more than 35 years.

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

As a former soil conservationist at Camp Pendleton Marine Corps Base at Oceanside, California, I witnessed firsthand the devastation and destruction of thousands of acres of prime native plant and wildlife ecosystems by extensive military training exercises.

CU-3

Every year thousands of acres of prime wildlife habitat and soil retaining native vegetation would be burned and destroyed through the indiscriminate use of tracer ammunition, bombs, flares and other incendiary weapons. Not to mention the further significant impact of large off- road military vehicles (tanks, armored personnel carriers,

2284

Humvees, etc.) on soil erosion and loss of valuable native plant communities and wildlife habitat.

The Desert Refuge provides hiking, camping and wildlife viewing opportunities for thousands of recreationists. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on this area will negatively affect all of these resources and activities on the refuge and how the military intends to minimize this harm. As occurs at Camp Pendleton, most military operations of this nature will cause significant and widespread negative environmental impacts (e.g. catastrophic wildfires, extensive soil erosion, etc.)which cannot be minimized or mitigated. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

As a more feasible and practical alternative, the Air Force should use the NAS Fallon bombing ranges and land at Frenchmen, Nevada, which for many years has been used for military operations. And leave the rest of our beautiful state alone! PA-5

Sincerely,

Mr. Joe Ratliff

[redacted]

2285

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:20:11 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

There are many considerations which would come into play with the bombing --all of them negative. PA-1

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2285

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Jack Wells

2286

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Thursday, March 08, 2018 1:06:45 PM

Mar 8, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2286

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

In reality, stop bombing our planet period. Can't you use computer simulations? PA-6

Sincerely,

Mrs. Andi Cline

[redacted]

2287

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:55:31 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As a military family we would like you not to do this bombing. It makes no sense. PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2287

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Anne Woodley

[redacted]

2288

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:52:32 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I am writing today to oppose the expansion of military use of the Desert National Wildlife Refuge in Nevada. The reason for wildlife refuges is just that as a refuge for wildlife. I am against the public and military use that has seemed to creap into the wildlife refuge system over the years. The military has some of the most prime real estate in the country now. Why does it need more? As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

PA-5

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing

2288

ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Rachel Elkins
[redacted]

2289

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:31:10 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

save the refuge and its animals no air force training

If this plan moves forward, a huge portion of the refuge would be used for military training including aerial bombing exercises instead of being managed to benefit wildlife like desert bighorn sheep and threatened desert tortoises. Fences and barriers would be constructed that block wildlife from important parts of the refuge, and even public access would be restricted.

PA-1
BI-4
BI-5
LU-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and

LU-1

2289

LU-1

activities on the refuge and how the military intends to minimize this harm.

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Dr. rob puc

2290

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:52:09 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2290

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations. I love and support our military but a bombing range at national wildlife refuge is wrong!

PA-1

Sincerely,

Ms. Terri Stewart

[redacted]

2291

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:30:47 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2291

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Is there something new about bombing that you need to practice it? Haven't we worked out the kinks of bombing yet? Isn't this a digital science now? Can't virtual reality serve the same purpose? Bombs are not more important than wildlife, outdoor adventures (on the ground, not in the air) and peace and quiet.

PA-1
PA-5
PA-6

Sincerely,

Ms. Toni Semple

[redacted]

2292

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:21:25 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). This means NOT uselessly bombing where currently planned. BI-1 NP-1 PA-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm by not doing it there. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to

2292

select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Daniel Laemmerhirt

[redacted]

2293

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:50:50 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

Since a refuge is defined as a place of safety...I can NOT imagine how bombing one of the few areas set aside for wildlife can possibly make sense ! This is absolutely the wrong thing to do...in the wrong place. PA-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing

2293

ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Please turn away from this 'plan' now !

Sincerely,

Ms. Victoria Smith

2294

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:32:23 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I feel especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The harmful effects of arms, chemicals, metals and more that remain on and in the grounds and soils must also be considered, as well as the toxic effects on near and far areas blown by the wind.

HZ-4

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose

2294

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I fervently encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Dr. Yvonne Hansen

[redacted]

2295

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:48:12 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2295

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Do your target practices on the computer. Stop destroying the planet and its inhabitants. PA-6

Sincerely,

Mrs. Marcia Migdal

[redacted]

2296

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:55:43 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. REFUGE people, this should count more then practicing BOMBING, which with today's technologies can be done just as accurately and cleanly electronically. If it couldn't, we wouldn't have airline pilots. This move is NOT necessary and our wildlife is already under attack for the most murderous species on the planet; Man.

BI-1
PA-1
PA-6

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose

2296

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Margaret Little

2297

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:53:29 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I find it hard to believe one has to drop bombs on innocent , harmless creatures disrupting USA land put aside to protect habitats and be enjoyed by tax paying, citizens and veterans of the Armed Forces! The results of dropping bombs is obvious. If one must practice then virtual reality should suffice rather than total destruction of land and all that rely on it! Our earth is sacred and should be treated with respect ! PA-1 PA-6

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this LU-1

2297

LU-1

harm.

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Miss mary King

[redacted]

2298

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:29:12 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

U.S. refuges are for animals NOT bombs!! PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer

2298

of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Melinda Stucker

2299

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 5:20:43 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2299

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.
We don't need to cede any more land for useless bombing. We get enough bombing practice in Afghanistan, Syria and Iraq and Yemen.
Besides, the future of warfare is cyber.

PA-1

Sincerely,

Ms. Melissa Berkshire
[redacted]

2300

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:55:18 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Goodness. You don't use wildlife as target practice. You don't practice bombing in a wildlife refuge -ug. PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2300

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mr. Michael Cohill

2301

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:52:13 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2301

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

I am certain that the AF can find more appropriate ranges that would not affect the endemic species! PA-5

Sincerely,

Mr. Gary Ranz

[redacted]

2302

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:55:37 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2302

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

USAF can find other places to train. PA-5

Sincerely,

Mr. Gerald Bowman

[redacted]

2303

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:20:07 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Do you understand the meaning of the word "refuge"? Leave this and all other refuges alone. Do not bomb them. PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use

2303

of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Dr. Elizabeth Duvert

[redacted]

2304

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 10:57:32 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

I ASK YOU -WHAT IS THE PURPOSE AND BENEFITS TO THIS? As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

PA-5

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2304

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Elaine Sparrow

[redacted]

2305

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:01:29 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Please stop activities that destroy our habitat for wildlife. Bombing would be devastating to everything including the land itself. Thank you. — PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. — BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). — BI-1, NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. — PA-15, CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. — LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose

2305

any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Eleanor Vogt

2306

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:24:46 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2306

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Please don't bomb our wildlife out of existence! PA-1

Sincerely,

Ms. Karen Blasius

[redacted]

2307

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 12:25:18 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

Please don't do this.We have enough bob test sites, don't use the land. PA-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm. LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to

2307

select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Mrs. Leslie Maxwell

2308

From: Defenders of Wildlife
To: nttrleis
Subject: ****SPAM**** EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 9:52:34 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

Dear all it concerns in the Air Force,

What are we doing? What is the point of having a military if there is nothing left for us to enjoy here when you are done with it. I for one do not want to live in a wasteland, and this is precisely what your new proposal will create. Isn't there enough to bomb in the areas already rife with unexploded ordinance -- why not make those your targets, not what is left of our natural resources, or national treasures? PA-1

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and LU-1

2308

activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Sincerely,

Ms. Lisa Wagner

[redacted]

2309

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 2:49:23 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises. BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR). BI-1 NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act. PA-15 CU-3

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

The desert is not a barren landscape. There is abundant wildlife there so please don't bomb them. PA-1

Sincerely,

2309

Ms. Lois Cheesman
[redacted]

2310

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 1:50:37 PM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2310

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

Please keep your bombs off our natural heritage. This is shameful! Use bombing simulators and save the fuel at the same time. The Air Force goes green! Now that's good PR.

PA-1
PA-6

Sincerely,

Ms. Luise Graff

[redacted]

2311

From: Defenders of Wildlife
To: nttrleis
Subject: EXTERNAL: Stop the Military Takeover of Desert National Wildlife Refuge
Date: Monday, March 05, 2018 11:01:06 AM

Mar 5, 2018

Nellis Air Force Base Planning Officer

Dear Planning Officer,

As an advocate for Defenders of Wildlife, I strongly oppose any and all threats to our national wildlife refuges, the most important system of public lands and waters in the country for conserving fish and wildlife. I am especially concerned about the proposed expansion of military use of Desert National Wildlife Refuge in Nevada, which is essential habitat for species that would be harmed by military training exercises.

BI-1

I strongly urge the U.S. Air Force to fully consider the impacts to wildlife and habitat at Desert Refuge as part of the public process for renewing its overflight and training zones in the refuge. A thorough analysis will reveal that the best option for balancing military training with the conservation of refuge resources is to continue the current management framework with the U.S. Fish and Wildlife Service (FWS) and maintain the current boundary of the Nevada Test and Training Range (NTTR).

BI-1
NP-1

None of the proposed alternatives evaluated in the Legislative Environmental Impact Statement (LEIS) fully analyze impacts of expanded military use of the refuge or minimize the impacts to a range of public resources and wildlife on the refuge. Desert Refuge provides the highest quality intact habitat for desert bighorn sheep, mule deer, mountain lions and other wildlife that depend on Great Basin and Mojave Desert ecosystems. The refuge is habitat for more than 300 species of birds and is almost entirely proposed wilderness. This treasured landscape also lies within the ancestral homeland of area Native American tribes. The Air Force must address how expansion would affect cultural artifacts and tribal history as required by the National Historic Preservation Act.

PA-15

CU-3

Finally, the refuge provides hiking, camping and wildlife viewing opportunities. It is imperative that the planning document fully explain to the public and to Congress how an increase in military activity on Desert Refuge will affect all of these resources and activities on the refuge and how the military intends to minimize this harm.

LU-1

The NTTR already encompasses nearly three million acres, providing ample opportunity for military testing and training. I strongly oppose any proposal that expands the existing land withdrawal or military use of Desert Refuge, including changes to proposed wilderness or transfer of any management authority from FWS. I encourage the Air Force to select an alternative that maintains the status quo to help ensure that

2311

Desert Refuge can continue to meet its legal mandate to conserve wildlife for present and future generations.

The Army and Air Force do not belong in a refuge. A refuge is a refuge from bombs. Stay out!! PA-1

Sincerely,

Ms. Shinann Earnshaw

[redacted]

2312

Dear .:

I am very concerned about the proposal by the Air Force, which will request that Congress give them "ready access" (ie, complete control over) to one half of the Desert National Wildlife Refuge. The Nellis Test and Training Range borders the refuge and covers 2.9 million acres of land. The Air Force currently has access to half of the Desert Refuge, while primary jurisdiction is maintained in the U.S. Fish and Wildlife Service.

PA-3

PA-40

I strongly oppose the Air Force's request to Congress to allow them primary jurisdiction over these 826,000 acres of the Desert Refuge, plus an additional 260,000 acres of the refuge.

Established in 1936, this refuge is largest block of intact desert bighorn sheep habitat in the Southwest. Numerous other species such as the endangered desert tortoise live at the refuge, which encompasses six mountain ranges.

The relationship between the Air Force and the U.S. Fish and Wildlife Service has enabled these desert species to flourish in this remote area, and we strongly urge you to maintain the status quo and deny the request of the Air Force ready access to these lands.

Sincerely,

2313

From: [redacted]
To: nttrleis
Subject: EXTERNAL: DOD - NTTR Military Land Withdrawal Legislative EIS
Date: Wednesday, March 07, 2018 4:08:51 PM

Dear .:

A wildlife refuge is no place for bombs! PA-1

As a board member for Friends of the Carr Refuge, I am very concerned about the proposal by the Air Force, which will request that Congress give them "ready access" to one half of the Desert National Wildlife Refuge in Nevada. The Nellis Test and Training Range borders the refuge and covers 2.9 million acres of land. The Air Force currently has access to half of the Desert Refuge, while primary jurisdiction is maintained in the U.S. Fish and Wildlife Service. PA-3 PA-40

I strongly oppose the Air Force's request to Congress to allow them primary jurisdiction over these 826,000 acres of the Desert Refuge, plus an additional 260,000 acres of the refuge. The Air Force has enough land to do its work on.

Established in 1936, the Desert National Wildlife Refuge is the largest block of intact desert bighorn sheep habitat in the Southwest. Numerous other species such as the endangered desert tortoise live at the refuge, which encompasses six mountain ranges. Once a national wildlife refuge is established it is a PROMISE to future generations of Americans that the land is protected for the wildlife. Please don't break the PROMISE.

The relationship between the Air Force and the U.S. Fish and Wildlife Service has enabled these desert species to flourish in this remote area, and we strongly urge you to maintain the status quo and deny the request of the Air Force ready access to these lands.

Sincerely,

Cathy Allen
[redacted]

2314

From: [redacted]
To: nttrleis
Subject: EXTERNAL: DOD - NTTR Military Land Withdrawal Legislative EIS
Date: Tuesday, March 06, 2018 12:51:56 AM

Dear .:

I am very concerned about the proposal by the Air Force, which will request that Congress give them "ready access" (ie, complete control over) to one half of the Desert National Wildlife Refuge. The Nellis Test and Training Range borders the refuge and covers 2.9 million acres of land. The Air Force currently has access to half of the Desert Refuge, while primary jurisdiction is maintained in the U.S. Fish and Wildlife Service. PA-3 PA-40

I strongly oppose the Air Force's request to Congress to allow them primary jurisdiction over these 826,000 acres of the Desert Refuge, plus an additional 260,000 acres of the refuge.

Established in 1936, this refuge is largest block of intact desert bighorn sheep habitat in the Southwest. Numerous other species such as the endangered desert tortoise live at the refuge, which encompasses six mountain ranges.

The relationship between the Air Force and the U.S. Fish and Wildlife Service has enabled these desert species to flourish in this remote area, and we strongly urge you to maintain the status quo and deny the request of the Air Force ready access to these lands. Their numbers are still to low and unstable to destroy vital habitat. Please do not destroy the progress we have made in their numbers. I still have not seen a big horn sheep in NV since I was a little girl. Please leave them to multiply in their natural habitat. BI-3

Sincerely,

Susannah Gelbart
[redacted]

2315

From: [redacted]
To: nttrleis
Subject: EXTERNAL: DOD - NTTR Military Land Withdrawal Legislative EIS
Date: Monday, March 05, 2018 7:26:40 PM

Dear .:

I am extremely concerned about the proposal by the U.S. Air Force, which will request Congress give them "ready access" (i.e., complete control over) to one half of the Desert National Wildlife Refuge. The Nellis Test and Training Range borders the refuge and covers 2.9 million acres of land. Isn't this acreage sufficient enough? While, the U.S. Air Force currently has access to half of the Desert Refuge (approximately 826,000 acres), primary jurisdiction is maintained in the U.S. Fish and Wildlife Service. Primarily jurisdiction should remain with the U.S. Fish and Wildlife Service. Therefore, I strongly oppose the U.S. Air Force's proposed request to Congress allowing them primary jurisdiction over this acreage, along with an additional 260,000 acres of the refuge.

PA-3
PA-5
PA-40

The Desert National Wildlife Refuge, established in 1936, is largest block of intact desert bighorn sheep habitat in the Southwest. Numerous other species such as the endangered desert tortoise live at the refuge, which encompasses six mountain ranges. This refuge needs to be just that - a refuge.

The relationship between the U.S. Air Force and the U.S. Fish and Wildlife Service has enabled these desert species to flourish in this remote area. Please maintain the status quo and deny the request of the U.S. Air Force ready access to these lands.

Thank you.

Sincerely,

Michelle Michaud
[redacted]

2316

From: [redacted]
To: nttrleis
Subject: EXTERNAL: DOD - NTTR Military Land Withdrawal Legislative EIS
Date: Monday, March 05, 2018 5:01:45 PM

Dear .:

Do not drop bombs on this sensitive wildlife habitat! PA-1

I am very concerned about the proposal by the Air Force, which will request that Congress give them "ready access" (ie, complete control over) to one half of the Desert National Wildlife Refuge. The Nellis Test and Training Range borders the refuge and covers 2.9 million acres of land. The Air Force currently has access to half of the Desert Refuge, while primary jurisdiction is maintained in the U.S. Fish and Wildlife Service. PA-3 PA-40

I strongly oppose the Air Force's request to Congress to allow them primary jurisdiction over these 826,000 acres of the Desert Refuge, plus an additional 260,000 acres of the refuge.

Established in 1936, this refuge is largest block of intact desert bighorn sheep habitat in the Southwest. Numerous other species such as the endangered desert tortoise live at the refuge, which encompasses six mountain ranges.

The relationship between the Air Force and the U.S. Fish and Wildlife Service has enabled these desert species to flourish in this remote area, and we strongly urge you to maintain the status quo and deny the request of the Air Force ready access to these lands.

Sincerely,

Janet Way
[redacted]

2317

From: [redacted]
To: nttrleis
Subject: EXTERNAL: DOD - NTTR Military Land Withdrawal Legislative EIS
Date: Monday, March 05, 2018 4:56:53 PM

Dear .:

I am very concerned about the proposal by the Air Force, which will request that Congress give them "ready access" (ie, complete control over) to one half of the Desert National Wildlife Refuge. The Nellis Test and Training Range borders the refuge and covers 2.9 million acres of land. The Air Force currently has access to half of the Desert Refuge, while primary jurisdiction is maintained in the U.S. Fish and Wildlife Service. PA-3 PA-40

I strongly oppose the Air Force's request to Congress to allow them primary jurisdiction over these 826,000 acres of the Desert Refuge, plus an additional 260,000 acres of the refuge.

Established in 1936, this refuge is largest block of intact desert bighorn sheep habitat in the Southwest. Numerous other species such as the endangered desert tortoise live at the refuge, which encompasses six mountain ranges.

The relationship between the Air Force and the U.S. Fish and Wildlife Service has enabled these desert species to flourish in this remote area, and we strongly urge you to maintain the status quo and deny the request of the Air Force ready access to these lands. Joint control is working just fine, and there is no need to turn over sole control to an agency with no mission to safeguard refuge space and species including rare and endangered one. BI-4

Sincerely,

Laura Haule
[redacted]

2318

From: [redacted]
To: nttrleis
Subject: EXTERNAL: DOD - NTTR Military Land Withdrawal Legislative EIS
Date: Thursday, March 08, 2018 5:09:32 PM

Dear .:

No bombing of our Refuges! PA-1

I am very concerned about the proposal by the Air Force, which will request that Congress give them "ready access" (ie, complete control over) to one half of the Desert National Wildlife Refuge. The Nellis Test and Training Range borders the refuge and covers 2.9 million acres of land. The Air Force currently has access to half of the Desert Refuge, while primary jurisdiction is maintained in the U.S. Fish and Wildlife Service. PA-3 PA-40

I strongly oppose the Air Force's request to Congress to allow them primary jurisdiction over these 826,000 acres of the Desert Refuge, plus an additional 260,000 acres of the refuge.

Established in 1936, this refuge is largest block of intact desert bighorn sheep habitat in the Southwest. Numerous other species such as the endangered desert tortoise live at the refuge, which encompasses six mountain ranges.

The relationship between the Air Force and the U.S. Fish and Wildlife Service has enabled these desert species to flourish in this remote area, and we strongly urge you to maintain the status quo and deny the request of the Air Force ready access to these lands.

Sincerely,

Elizabeth Sheppard
[redacted]

2319

Dear Nellis Air Force Base:

Designated in 1936 to provide habitat and protection for desert bighorn sheep, the Desert National Wildlife Refuge is the largest refuge in the contiguous United States. Encompassing six major mountain ranges and nearly 1.6 million acres in Nevada, it provides the highest quality, intact habitat for desert bighorn sheep and other wildlife that depend on the Great Basin and Mojave Desert ecosystems. Also, 70% of the Desert Refuge is labeled as proposed for Wilderness by the U.S. Fish and Wildlife Service.

I am signing to express my concerns on the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would irreparably destroy 850,000 acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, and shut out the public from areas that have historically been used for outdoor recreation. **I am in favor of Alternative 1 of the Legislative Environmental Impact Statement which would allow our armed forces to train on the range as it is today.** I am not in favor of Alternative 2 which would transfer primary jurisdiction from the US Fish & Wildlife Service or Alternative 3 or any of its sub-alternates which would result in a net expansion of the NTTR. **In addition, I would like to see that all of the proposed Wilderness outside of the current NTTR boundaries be designated as Wilderness and to continue to provide for public access.**

WI-1
BI-1
LU-1

WI-2
LU-1

Thank you.

cc: Nevada Congressional Delegation

Name	Signature	Address (Street, City, State, Zip)	Email

A.4.2.3 Public Hearing Oral Comments (CINs 3000-3068)

NEVADA TEST AND TRAINING RANGE
LAND WITHDRAWAL DRAFT LEGISLATIVE
ENVIRONMENTAL IMPACT STATEMENT

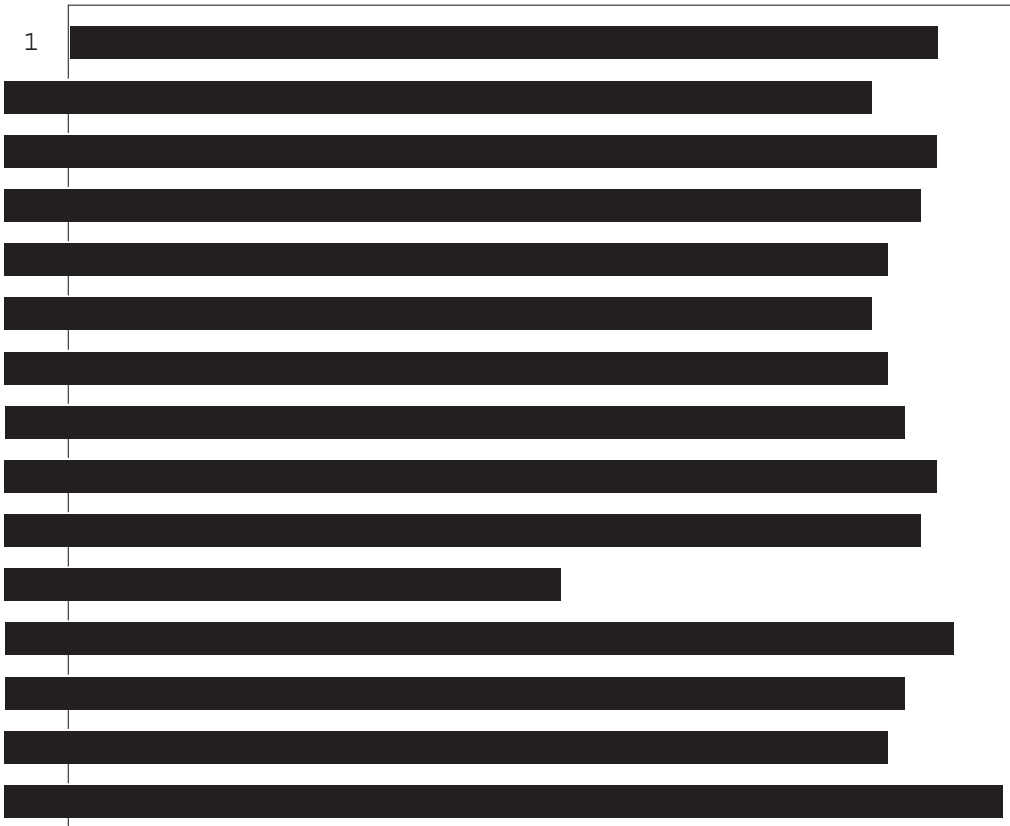
REPORTER'S TRANSCRIPT OF PROCEEDINGS

On Wednesday, January 17, 2018
At 5:30 p.m.

Held at the Caliente Elementary School
289 Lincoln Street
Caliente, Nevada

Reported by: Deborah Ann Hines, CCR #473, RPR

INTEGRITY COURT REPORTING, LLC 702-509-3121
7835 S. RAINBOW BLVD., SUITE 4-25, LAS VEGAS, NV 89139



GEORGE ROWE: My name is George T. Rowe. My friends call me Tommy. I'm here before you tonight as the Mayor of the City of Caliente, but not only as the Mayor of Caliente, I'm also past Chairman of the Lincoln County Commission. I'm also a licensed hunter in Nevada. I'm also a licensed trapper. You have to excuse my dress tonight. I just got through spending ten hours on a four-wheeler on our public lands in Lincoln County.

I'd like to state I am also a veteran of the

United States Army. And I would like to say that our county has the veteran's memorial in every community, including the City of Caliente.

We are all very supportive of our military, but how well we remember the Groom Mountain withdrawal that they had back in the '70s and '80s. Some of you older folks, 50 or more, will remember the whole withdrawal that they had in that area, and the over, or almost a million acres that they just, the government just took away from Lincoln County alone and put in the wilderness and then stopped us from attending or going to the activities that we usually do in the wilderness area before it was wilderness. They closed off our roads. They fenced and they restricted us from going there.

We are good supporters of the military, though. We love to hear them flying above us. But I'm here to say that we think that this is just another government land grab, and we need to stop this. Lincoln County, as well as the State of Nevada, has too much government land, too much restriction. So I am here to give my opposition to any more land withdrawal. Thank you.

[redacted]

[redacted]

ROBERT GAUDET: Good evening. My name is Robert Gaudet, G-a-u-d-e-t. I'm president of the Nevada Wildlife Federation. I'm speaking today on behalf of our thousand plus members and supporters and on behalf of the National Wildlife Federation, it's 50 state affiliates, and their 6 million members and supporters. We are extremely concerned about the proposed withdrawal of approximately 300,000 more acres of the Desert National Wildlife Refuge for military use. While it is essential for our U.S. military to have access to resources, this should not come at the detriment of one of the most wild and important public spaces in our country.

The 1.6 million acres of the DNWR is home to Nevada's largest population of bighorn sheep. It protects countless other wildlife species, and safeguards ancient archeological sites. Located just 25 short miles from Las Vegas, the DNWR provides world-class recreation opportunities throughout the diverse environments that range from dry lakes to forested mountain peaks. The Department of Defense has already withdrawn 2.9 million acres of land for the Nevada Test Site and Testing Range.

Previous expansions of the range have resulted in joint jurisdiction of 826,000 acres of refuge between the Air Force and the U.S. Fish and Wildlife Service, 112,000 acres of which are under primary jurisdiction of the military and off limits to the public.

We support the first alternative of the DOD that would maintain the status quo, and we strongly recommend including language that would increase cooperation between the Fish and Wildlife Service to improve the habitat management over the entire 1.6 million DNWR, including lands where the DOD has primary jurisdiction. Withdrawing an additional 300,000 acres from the public land and the DNWR will threaten its wildlife, its wildness character, its archeological sites and risk their destruction, and prevent public access to the significant portion of the remaining publicly accessible part of the refuge.

BI-1
WI-1
CU-2
LU-1

We vehemently oppose this request to withdraw 300,000 acres from the DNWR, and urge the DOD to leave the refuge under the sole jurisdiction of the U.S. Fish and Wildlife Service. Thank you.

HEARING OFFICER LIEUTENANT COLONEL MATT TALCOTT: Mr. Gaudet, I couldn't help but notice you had comments that are written. Would you like those

written comments to also be included?

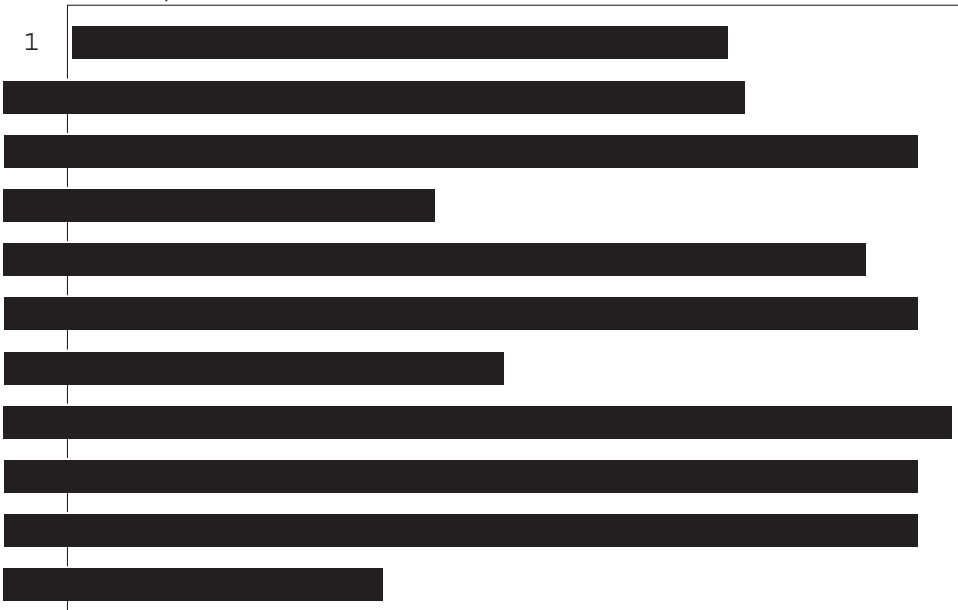
ROBERT GAUDET: She has them.

HEARING OFFICER LIEUTENANT COLONEL MATT TALCOTT: Thank you.

ROBERT GAUDET: It's the same thing.

HEARING OFFICER LIEUTENANT COLONEL MATT TALCOTT: Appreciate it.

[redacted]



ALLEN CAMPBELL: Yes. My name is Allen, A-l-l-e-n, Campbell like the soup. I'm here representing myself. And as a native Nevadan, I feel that we've given up enough land to the federal government. The Desert National Wildlife Refuge was set up in May of 1936 to protect the desert bighorn sheep. Since that time, different conservation organizations have gotten together. There was less than a thousand sheep at that time, and now there's over 10,000 sheep in the state of Nevada. I feel that any more acquisition by DOD impacts the U.S. Fish and Wildlife Service to do their job.

If you take into account the Nellis bombing range NTTR, the Nevada Test Site, the Hawthorn army

depot, the Fallon naval range, I believe Nevadans have given up plenty of land to the military. And it's totally beyond belief that you can't get along with DOE to negotiate something with them to move to the west instead of trying to take land that goes clear to the top of the sheep range. That makes no sense to me why government entities can't get along together. PA-11

Nobody will ever set foot on the Nevada Test Site. And if you need a buffer zone to do something for the military, then you should go west and not to the east. It just doesn't make sense to me. Thank you. PA-5

[redacted]

LOUIS BENEZET: I'm Louis Benezet, L-o-u-i-s, B-e-n-e-z-e-t. I'm a fairly longtime resident of Lincoln County, having first visited here in about 1953 when I was about six years old, moved here in 1980. In 1980, when I moved here from San Francisco, I was facing major changes to the area that I loved because the Air Force needed to -- believed that they needed to respond to an immediate threat from the Soviet Union.

You take the first strike and wipe out all our nuclear weapons, and they decided that what we needed to do was to turn a large part of Nevada, western Utah, southern Idaho into the MX missile complex basing area where they were going to build, I don't remember the figure, but it might have been 20 silos for each missile. But then there would be trucks or trains moving around in each of these valleys in the Great Basin constantly stopping at the silo and then leaving and going to another silo. The idea being the Russians looking down from the air couldn't see which of the silos actually had a live missile, and this hopefully was going to protect us against the first strike.

That fall, 1980, President Ronald Reagan was elected. And I voted for him, though I usually voted democratic, but he said he was going to take a second look at this plan, which had sprung up during the Carter administration. And sure enough, after his inauguration, he scrapped it. No MX missile for Nevada, which was pretty nice.

Later on, of course, it was a big deal for the Groom Mountain takeover, the expansion of the Nellis Air Force range, to protect -- they built some buffer zone around area 51, which doesn't exit.

Today I'm here to speak in opposition to any of the alternatives for expansion of the Nellis range in the south area, where it already overlaps the Desert Wildlife range. In fact, I would be inclined to say that there should be a different no alternative, a no action alternative just for the south range of the NTTR because apparently, according to your own figures, you can't conduct military operations there anyway.

PA-55

These diagrams, which I found in your document showing a potential warfare zone, it's an actual place but it doesn't show the plan number because that's a secret. This is that same warfare zone laid out over the NTTR. And as you can see, the NTTR is a little area in the middle of this huge area that basically represents a threat that the Air Force is dealing with, and to me it's just the MX missile all over again.

[redacted]

NEVADA TEST AND TRAINING RANGE
LAND WITHDRAWAL DRAFT LEGISLATIVE
ENVIRONMENTAL IMPACT STATEMENT

REPORTER'S TRANSCRIPT OF PROCEEDINGS

On Thursday, January 18, 2018
At 5:30 p.m.

Held at the Pahranagat Valley High School
151 S. Main Street
Alamo, Nevada

Reported by: Deborah Ann Hines, CCR #473, RPR

INTEGRITY COURT REPORTING, LLC 702-509-3121
7835 S. RAINBOW BLVD., SUITE 4-25, LAS VEGAS, NV 89139

[redacted]

MALLISSA VINCENT: Hi. My name is Mallissa Vincent, M-a-l-l-i-s-s-a, V-i-n-c-e-n-t. I have little knowledge of this. I just came to the meeting tonight as a resident.

Just as looking at this, my concern is that I think we're looking at growth here in Lincoln County, especially down towards Coyote Springs. And I'm not so sure that this military zone is not going to affect the growth that we're looking for down there. I was just talking to my neighbor, and I said, "If you think of the military zones when you drive to Reno from Las Vegas, it's very hard for businesses to maintain." So that would be my comment.

SO-5

HEARING OFFICER LIEUTENANT COLONEL MATT TALCOTT: Thank you.

[redacted]

[redacted]

The second speaker this evening is Mr. Robert Gaudet.

ROBERT GAUDET: Thank you. For the record, Robert Gaudet, G-a-u-d-e-t. I'm president of the Nevada Wildlife Federation, and I'm speaking today on behalf of our thousand plus members and supporters statewide and on behalf of the National Wildlife Federation, its 50 state affiliates and their 6 million members and supporters. We are extremely concerned about the proposal to withdraw approximately 300,000 acres from the Desert National Wildlife Refuge for military use. While it is essential that our U.S. military have access to

adequate resources, this should not come at the detriment of one of the most wild and important public spaces in our country.

The DNWR is a hidden gem sprawled across 1,600,000 acres of Southern Nevada landscape. Further encroachment is something many Southern Nevada residents adamantly oppose. We also vehemently oppose, by the Nevada Wildlife Federation, WHIN, Friends of Nevada Wilderness, Las Vegas Chapter of the Mule Deer Foundation, and many other conservation groups.

Five reasons to save the DNWR:

Protecting the wilderness. Only five percent of American land can be labeled as wilderness habitat that remains largely untouched by human influence. Unfortunately these areas are some of the few left in the entire planet.

Preserving the desert bighorn. DNWR was first protected in 1936 to provide habitat for the bighorn sheep. In 1973, Nevada designated the desert bighorn sheep as the official state animal. It is believed that the DNWR is the largest concentration of bighorn sheep. It will be a shame if hikers and photographers or researchers lose access to this magnificent creature.

Number three, half of the DNWR is already inaccessible. While we fully support the nation's troops, we also understand that wildlife cannot see imaginary lines called borders that we create. We don't need any more.

Number four, historically significant. The area has a rich history spanning a millennium as land sustained by both native tribesmen and 19th century settlers. Today they leave behind a story in the desert's time capsule that echoes memories of a simpler time.

And number five, exclusive recreation opportunities. There are many secret treasures discovered by visiting the DNWR. Thank you.

HEARING OFFICER LIEUTENANT COLONEL MATT TALCOTT: Mr. Gaudet, it's my understanding that the full transcript of your written remarks you've already provided to the court reporter to be included?

ROBERT GAUDET: I did.

HEARING OFFICER LIEUTENANT COLONEL MATT TALCOTT: Okay. Thank you, sir.

ROBERT GAUDET: Thank you.

[redacted]

[redacted]

DIANA WILLIAMS: It's Diana Williams, D-i-a-n-a, Williams, W-i-l-l-i-a-m-s. I would like to echo the concerns of Mr. Gaudet and Mallissa. Not only is this going to hurt economic impact for a county that has very little economic development the way it is, this is going to impact that. It's going to impact our ability to actually use areas within Lincoln County that we currently have access to. SO-1 LU-1

One other issue that I do have with this is the noise and how that currently impacts us as people who live in this area, the damage that it can and has caused different homeowners with just the sonic booms. My concern is with this possibly increased noise and activity, it's going to be a further detriment to us as homeowners and effect our resale value on our properties when, and if, we choose to sell our properties. And that's all I have to say. NO-5

HEARING OFFICER LIEUTENANT COLONEL MATT TALCOTT: Thank you.

[redacted]

[redacted]

VERN HOLADAY: My name is Vern Holaday, spelled V-e-r-n, last name is Holaday, H-o-l-a-d-a-y. I'm basically here representative myself, but I am a

member of the Alamo Town Board, the Alamo Sewer and Water Board, the Lincoln County Recreation Board, and I've been a staff member for Best in the Desert Racing Association for the last 18 years.

I, like most people, I think this is inevitable, that this is going to happen. We truly appreciate you guys putting the time in and the effort to get our input. We can see where it does the most good, you know, by you letting us submit our comments like this, you know. And we can already see some of the changes that have been made from the scoping project to get to here.

Just quickly the things to think about. I think alternative number 1 wouldn't help anybody. Alternative number 2, I really like the idea of taking the -- so the Air Force has the initial jurisdiction over the southern half of the range. You know, it takes that away from the Fish and Wildlife Department, because it seems to me like if it's public land that we can't get into, there's no reason for Fish and Wildlife Service should be in charge of it. The military should be in charge of it if it's inaccessible to the general public.

Alternative 3, I can see the benefits, you know, from the different things. You know, there's

four or five different alternatives in 3. You know, I can see benefits in things from all of them. There will be one area that's impacted with the racing that I do that I'll be submitting in writing, you know, with the GPS coordinates and all that kind of stuff to show where it would impact that.

And the other one is just the area south of here, you know, just for legacy type of stuff that I enjoy, you know, and use that area. My great grandfather come to this valley in 1881 and we've been here ever since. And, you know, I've enjoyed taking my children down the road, show them this is the way you used to have to get to Las Vegas, you know. And I'd like to be able to show my grandkids that someday, but we'll see what happens.

As far as alternative number 4 goes, I think that we need to look at doing the 50 year deal instead of the 20 year deal, because I can't imagine what all this is costing, you know, for everybody, all of you people employed that have done all this and put all this work into this. You know, so if we can make that only happen once every 50 years or so, that would be good. I don't like the inevitable thing because, you know, maybe someday we won't have to have a military reservation so, you know, I know

it expires sometime but not make it go forever.

Thank you very much. And, again, sure appreciate all your hard work and all your time, and good luck.

HEARING OFFICER LIEUTENANT COLONEL MATT TALCOTT: Thank you, sir.

[redacted]

[redacted]

DOUGLAS LAMOREAUX: Douglas Lamoreaux, D-o-u-g-l-a-s, L-a-m-o-r-e-a-u-x. First off, I'd like to start out, I would like to address the proposal alternate 3C. The two proposals, number 1 and number 2, I have no problem. With alternate 3C, I do have a problem with. I am opposed to it. I'm opposed to alternate 3C. Alternate 1 and 2 I have no problem with. I don't see that alternate 3C benefits anyone.

There are plenty of lands where the military is using now for runways and military exercising. For an example, Texas Slate, as we call it -- my brain went dead. Jumbo. Jumbo Lake out there. They've used that all the time for training. So there's plenty of areas that they can land and do their exercises with training the individuals. I am

PA-5

not against that. I know the military needs the training. I laud our military forces, more particularly the Air Force. I worked hand-in-hand with them for 23 years.

I just want to make the comment, in looking at this, that I am opposed to alternative 3C because it takes in an area that can be used for other things other than what is being proposed. Thank you.

HEARING OFFICER LIEUTENANT COLONEL MATT TALCOTT: Thank you, sir.

JOE BARKER: My name is Joe Barker. It's J-o-e, B-a-r-k-e-r. What I would like to do is, I attended the first public meeting here in Alamo. I did submit comments, both on the withdrawal to the land, and we had a lot of people address that, and I

think it's been adequately covered.

But I want to -- I'll go through briefly the comment I made on the noise that I made last time. And I'm also going to review what the response in the LEIS was. And what I'm concerned about is the current noise issues in our area and the additional noise that would be generated by any proposed expansion. I'm not talking about minor noise. Rather, significant noise from sonic booms, dogfights with afterburners on, and very low flying aircraft. These events occur both day and night and frequently. The sonic booms have caused property damage and terrorize our animals. Neighbors said they have had to tranquilize their animals during these events. NO-1

I do not know if any study has been done on the impact of wildlife, but I expect this negative needs to be addressed. I can assure you that the impacts to humans is negative, and it would not be tolerated anywhere else here in the United States. BI-1

Calls to the Nellis Public Affairs office have been extremely unproductive. I've asked for the flight rules for the aircraft and only received a draft for flights near Ellis Air Force Base. When I again requested flight rules for the local area near our area, Hiko, Nevada, there was no response.

I've asked if there's any monitoring of the noise so an objective assessment of the impact could be made. I was told that it would be too difficult. When I said that the planes were flying extremely low, I was told they do not. However, I can wave to the pilots and they wave back.

We have requested a contact to file for damages. We've only been here 13 years, only last year did we get a response that says, "Here's where you can file for damages."

I won't go into the next, but here are my recommendations: Prior to any extension of expansion of the current NTTR, area monitoring and noise by an independent agency, not the Air Force, is needed. Without objective data, an informed decision cannot be made. NO-6

The assessment of impact of the noise to people and wildlife. In my opinion, the impact to the citizens of Lincoln County has been ignored, and the quality of life has seriously been impacted. There needs to be agreed to flight rules and reduce the noise impact. These rules must be public and documented. NO-11

And there also has to be independent monitoring with defined penalties for the Air Force NO-12

to encourage them to minimize the impact of flight noise.

The Air Force's response in the LEIS, it's very, very short, but I can do it within 30 seconds. "For alternative 1, operational tempo is expected to remain at the baseline levels, which at this time is considered to result in no adverse impacts." "There would be no adverse impacts from the noise associated with aircraft operations under 2, 3A, 3A-1 and 3C." In essence, in my view, when I shared my concern, is the Air Force is nonresponsive to the concerns. They don't listen to the concern and nonresponsive. Thank you.

HEARING OFFICER LIEUTENANT COLONEL MATT TALCOTT: Thank you.

[redacted]

NO-12

[redacted]

BARBARA MICHEL: Oh, thank you. Hello, everybody. I'm Barbara Michel. That's B-a-r-b-a-r-a, last name M-i-c-h-e-l. And I'm for proposed alternative 1, keeping the boundaries where they are at. I live and work at Pahranagat National Wildlife Refuge. I've been there for about a year now, and I think that it's a really special area, especially the Alamo Road. And any future expansion might impact that in a negative way. I'm strongly for keeping that open so that it can be used for everybody that wants to use it. Thank you.

[redacted]

NEVADA TEST AND TRAINING RANGE
LAND WITHDRAWAL DRAFT LEGISLATIVE
ENVIRONMENTAL IMPACT STATEMENT

REPORTER'S TRANSCRIPT OF PROCEEDINGS

On Tuesday, January 23, 2018
At 5:30 p.m.

Held at the Aliante Hotel
7300 Aliante Parkway
North Las Vegas, Nevada

Reported by: Deborah Ann Hines, CCR #473, RPR

INTEGRITY COURT REPORTING, LLC 702-509-3121
7835 S. RAINBOW BLVD., SUITE 4-25, LAS VEGAS, NV 89139

[redacted]

VARLIN HIGBEE: Thank you. Thank you for having this hearing. I apologize for not being at the hearing in Lincoln County. Let me introduce myself. Varlin Higbee, Lincoln County Commissioner, fifth generation rancher in Lincoln County and Alamo area. My forefather is one that come to this area that they were talking about, the Sheep Mountain dry lake, the mountain range there, and settled it. We've raised cattle there until the late 1950s when it was purchased by the Air Force, along with the water and the springs that went with it. We were moved off of it. At that point in time it became Air Force land.

At the time the sheep, they talk about the sheep on the range, at the time there was thousands of sheep. I remember as a small boy climbing the

windmill, we maintained two windmills and two springs for our livestock, but it also watered the sheep at that time. And I remember sitting on the windmill and watching 200 head of sheep come in and water at the water we provided for them. That no longer exists. And I think somehow those springs and the waters need to be developed to where the sheep will come back, or be planted there. BI-16

But on a social -- I'd like to speak a little bit to the socioeconomic end of this whole impact to Lincoln County and the inhabitants of Lincoln County, the history of the individuals in Alamo. And that area hasn't been a very good one with the Air Force. In the 1950s, when they started the atomic bombs, they told us how wonderful it was, and they sent mushroom clouds over the top of us and give us all goggles and told us to watch how wonderful this was. And by the time most people get into their seventies and eighties, that lived there in the valley, they were dying from kidney, liver and different cancers that come with the radiation.

Also, the socioeconomic impacts, our economy is based -- our tax base is based on our natural resource-based industries. It's not tourism. I think tourism is only two percent of our income. But

over the last 50 years, between the Test Site and the different federal agencies that have diminished our natural resources, our grazers, our grazers and the farmers that are there that actually -- the grazing that goes along with the ranching has been diminished a good 20 to 30 percent.

And I would just like the consideration with your PILT payments and the different things that impact our county, take that into consideration, because we're a struggling county. Our economy is a struggling economy in Lincoln County. It's extremely depressed, and so I would appreciate it if they would take that into consideration when they do these.

And also the recreational, the road down through there -- I'll wrap this up. I would really like to see that road left open for recreation. I mean, we have very little tourism, and if it can be left open for tourism and recreation, even if it's just partially closed, we could live with that. Thank you.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you, sir.

[redacted]

ROBERT GAUDET: Thank you. Robert, R-o-b-e-r-t, G-a-u-d-e-t. President Teddy Roosevelt once said, "Wildlife and its habitat cannot speak, so, we must, and we will." I'm speaking today on behalf of over 228,000 sportsmen and women statewide and over 6 million members nationwide unable to attend today. I'm president of the Nevada Wildlife Federation, founded in 1951. We are the oldest conservation, wildlife conservation education group in the state of Nevada. We're extremely concerned about the proposed land withdrawal by the U.S. military of the Desert National Wildlife Refuge.

The DNWR encompasses 1.6 million acres, that's over 2,200 square miles, of the diverse Mojave Desert of Southern Nevada. The refuge includes six mountain ranges. Of the six, the Sheep Range is the highest, most scenic, and supports the greatest diversity of wildlife and vegetation. Numerous species share the refuge with the bighorn sheep. Mule deer, coyotes, badgers, bobcats, foxes, and occasionally a mountain lion are the large mammals. Over 260 species of birds have been identified in the range. Example, the flycatcher, the roadrunner, pinyon jay, house finch, loggerhead shrike, red-tailed hawk, and the golden eagle.

One of the things that makes our nation the greatest and the envy of the world are our public lands and our national monuments. If we continually lose our public lands, sooner or later we will lose the right to go hiking, hunting, camping, picnicking, backpacking, horseback riding, and wildlife viewing. Although we vigorously support the U.S. military readiness, it should not come at the detriment of one of the most wild and important public spaces in our country.

We strongly oppose any action other than alternative 1, the status quo, and alternative 4, 4A. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you, sir.

[redacted]

HEATHER WITT: Heather Witt, H-e-a-t-h-e-r, W-i-t-t. As a local public school science teacher,

it was my great pleasure to take a group of my seventh grade students to visit Corn Creek in the Desert National Wildlife Refuge in February of last year. As part a lesson on evaluating solutions for maintaining biodiversity, I shared the proposals for the Nevada Test and Training Range based on the information I received at the last public scoping information meeting.

Having the opportunity to visit the Desert National Wildlife Refuge and analyze the Air Force proposals, my students were asked to write a letter in support of the option they believed best. I'd like to read an excerpt of one of those letters now.

"I recently went on a field trip to Desert National Wildlife Refuge. I loved the biodiversity. Biodiversity makes for beautiful scenery as well as helping the region stay strong biologically. One of the ecosystem services DNWR provides is the protection of local habitat. I enjoyed walking from one area to another and watching the scenery change.

"It is my understanding that the Nevada Test and Training Range would like to use more land to create more realistic training. I worry that such an expansion would affect the biodiversity that I love. I believe the best solution is to extend the existing

land withdrawal and management. This solution gives some space for the NTTR and the wildlife while protecting cultural resources, but it doesn't grant the NTTR the additional space they would like.

"There is always a trade-off, and in this case the trade-off is realistic training for biodiversity. If the wildlife gets pushed aside, and even one species becomes extent, then the entire ecosystem may collapse. By allowing the wildlife to keep their space, biodiversity can flourish."

I just wanted to share that because I completely agree with that student, and many of my students had similar views, so I just wanted to share their views. Thank you.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

(Applause.)

[redacted]

[redacted]

JAMES SWITALLA: James Switalla, S-w-i-t-a-l-l-a. I put in a written comment but a few things I'd like to add is the more trucks intrusion into this land, the more invasive species are going to show up. It can't be avoided. It just cannot be avoided, at least it will be hard to get

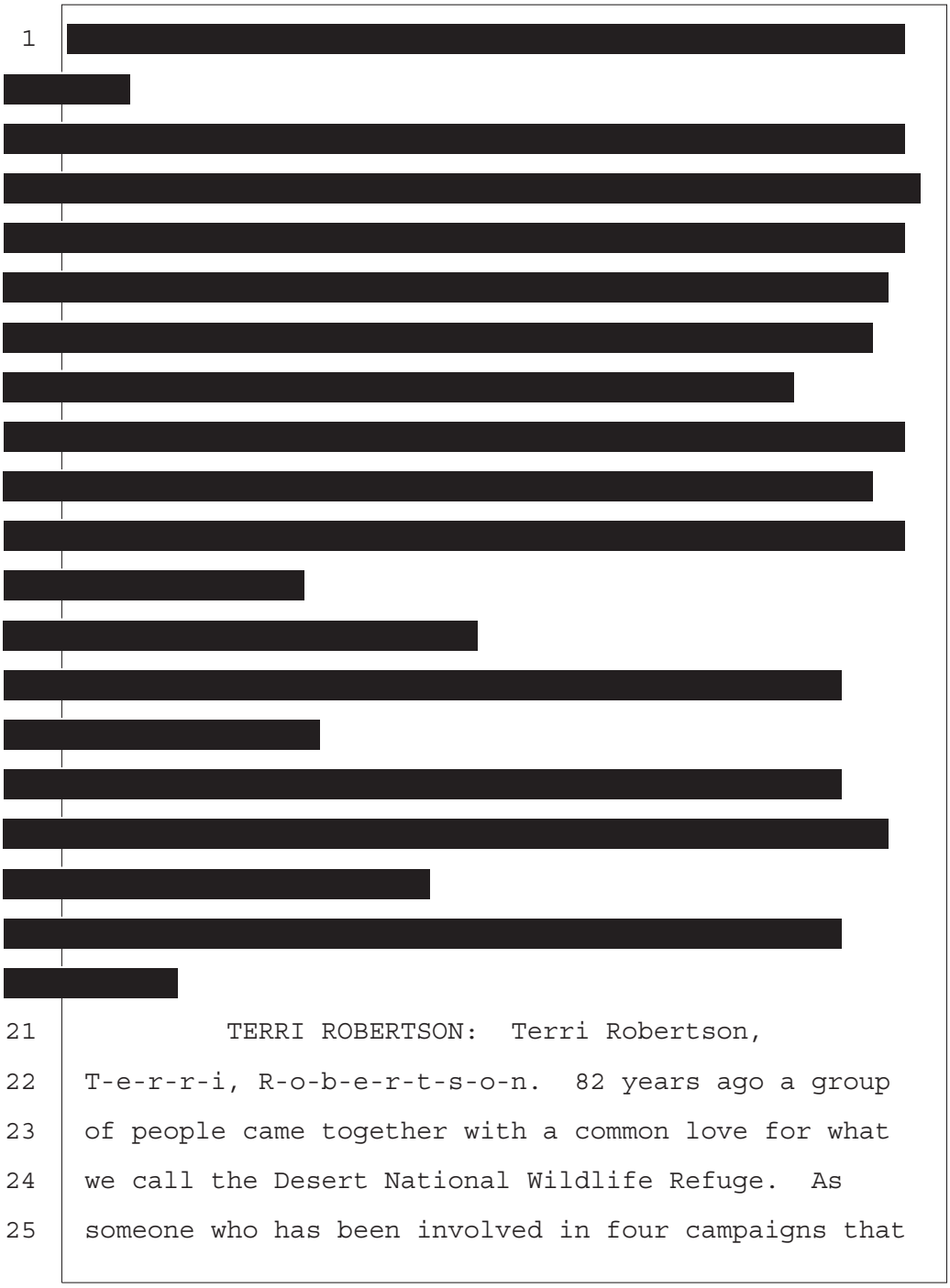
rid of. The puncture vines and the list goes on and on.

Number two, raising our grand kid, took him up there. His science project was a desert pavement, they gave him an assignment of desert pavement where they actually, this ground was formed over hundreds of years. The rocks are actually raised up by the dust that blows. Instead of dust blowing and exposing the rocks, it actually blows into rocks and raises the rocks that form the desert pavement, so that was his science project. That's what I want to add right now.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you, sir.

[redacted]



TERRI ROBERTSON: Terri Robertson, T-e-r-r-i, R-o-b-e-r-t-s-o-n. 82 years ago a group of people came together with a common love for what we call the Desert National Wildlife Refuge. As someone who has been involved in four campaigns that

required federal legislation to preserve land treasures in Southern Nevada, I know the time and effort that goes into such things. Right now one of those campaigns that I had worked on is under siege, and my heart breaks at the thought that Gold Butte's boundaries might be reduced.

When you visit the Desert National Wildlife Refuge, you see it almost exactly like that group of people who worked so hard for the special land designation saw it. Is that not a miracle in itself? All the beauty and treasures there are still available to anyone wanting to visit and to explore this wonderful place. They would be proud that the antique Ford truck is still where it was left all those years ago, that the springs still flow, and the bighorn sheep and all the wildlife within are still there.

While I am asking for myself today that the military land withdrawal be stopped in its tracks, I'm also asking on behalf of the wonderful group of citizens, 82 years ago, who knew the importance of preserving the refuge and worked to make it so. This request is a travesty that has to be stopped. Our community will not allow it to happen. We stand as strong today as those citizens did in 1936. Not now,

not in another 82 years, not ever.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN:

Thank you.

[redacted]

[redacted]

GEORGE EARLY: I'm George Early, like early in the morning. I represent NORA, Nevada Outdoor Recreation, which is probably the oldest environmental organization in this state, founded by Charles Watson, Jr. We fought this same thing in 1985. This is it all over again. We won, and by God we're going to win again.

Removing public from public lands is a travesty. And I support the military a hundred percent, but there's other ways they can operate. They don't have to continue, the Air Force, the Navy or anybody else, encroaching on public lands or diminishing them. It's horrible. That's all I have to say. I'll give some more detailed comments later.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you, sir.

[redacted]

[redacted]

JENNIFER PARKER: Okay. Jennifer, J-e-n-n-i-f-e-r, Parker, P-a-r-k-e-r. I would just like to ask, I understand the land is a huge concern, and the environment on the ground, but what effect does it have above us? Because recently studies have been done on the effect that decibels have on the human brain. The pineal gland, which has been calcified by fluoride that the American government has put into our water, this has caused plaques to build up in this very important gland in our brains.

Decibels have been found to actually break those plaques. It also has been found that it can also help Alzheimer's, patients with all kinds of brain dysfunction. Decibels are very important to the human body. So I'd like to know what studies has the DOD done on what the effects of one whole huge decibel. Don't let them fool you into thinking that's not important, because it is. It's huge. NO-7

So please, anybody out there with anybody who's ever suffered of a brain condition, please look into any kind of studies that might be done and what effect this might have on the human body, because it's not what everybody might think. It's very, very

important. So please, understand that one decibel, any of it, is really affecting all of us.

And then can you tell me what money they have set aside for any of us that have effects by your decibels going up higher around us? And we all know energy booms. It keeps going. It doesn't stop. It's going to affect generations of people. So can you please ask everybody to look, at least look harder into what it can actually do to the human body, because it's not okay. If you really don't understand, please look. And ask them before they do this to any of us. Please, for our sake and yours, everybody's. Thank you.

NO-1

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

[redacted]

TINA BOND-KUGLIN: It's Tina Bond, as in Double 07.

HEARING OFFICER COLONEL CHRIS SCHUMANN: I apologize. It's my ability to read, not your name. Thank you. Go ahead.

TINA BOND-KUGLIN: It's B-o-n-d hyphen

K-u-g-l-i-n. I'm a leader of a local four-by-four club out here. I ride with five other four-by-four folks. I also own a horse, so I'm on most of these trails that are through Nevada. You guys talk about Alamo, and you mentioned the trails, but you lost about five of them when you were naming them. So you never talked about the four-by-four community, what impact it will have on us when you take away all the trails that are around Alamo.

LU-19

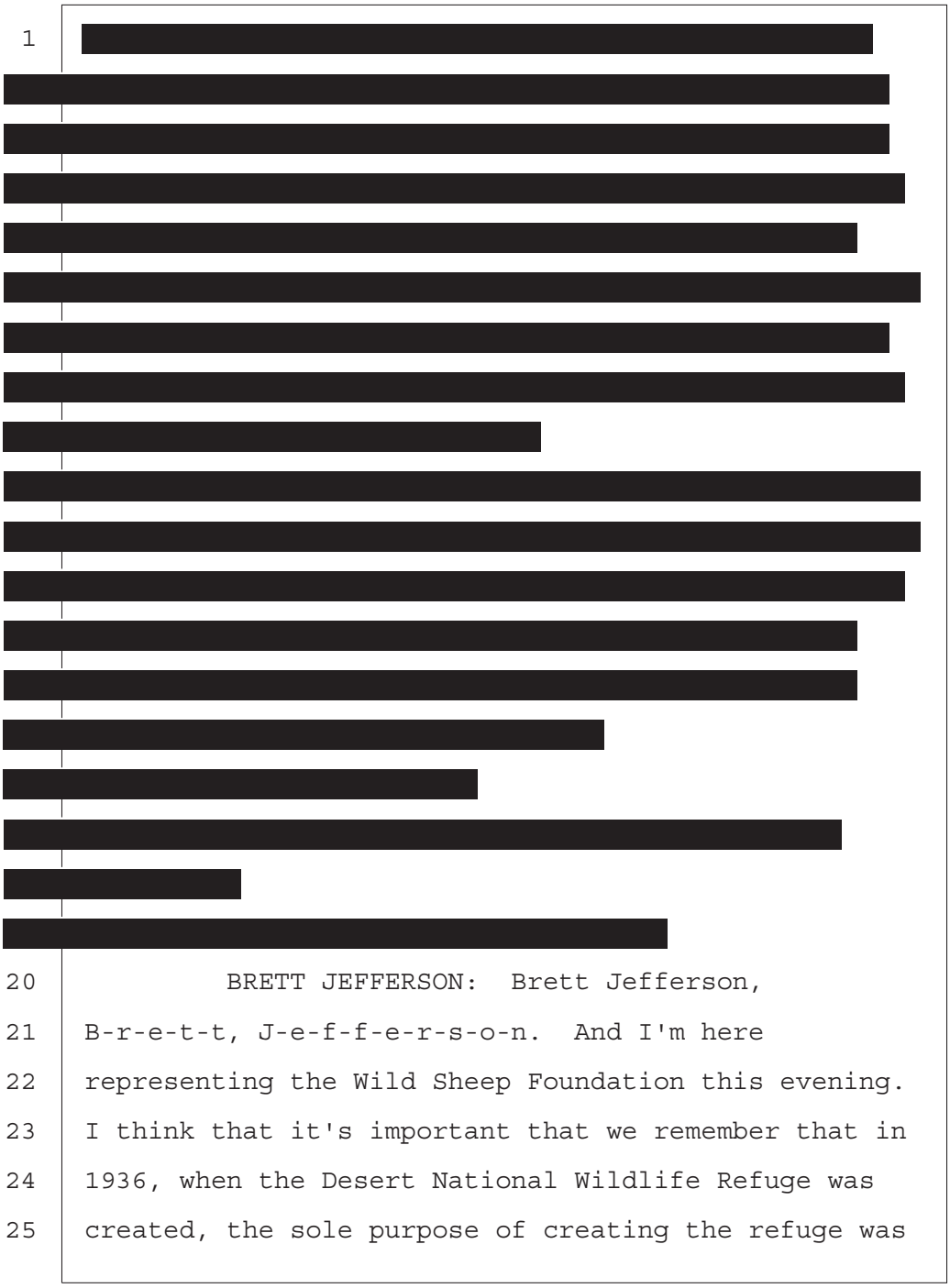
I've been looking at your map, and it's more of a question that I know can't be answered here, but you have this huge center area that we know that you use that you don't have blacked out on here. Why can't you just take up that space, fill it in and leave the rest alone? Thank you.

PA-11

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]



BRETT JEFFERSON: Brett Jefferson, B-r-e-t-t, J-e-f-f-e-r-s-o-n. And I'm here representing the Wild Sheep Foundation this evening. I think that it's important that we remember that in 1936, when the Desert National Wildlife Refuge was created, the sole purpose of creating the refuge was

to protect and enhance bighorn sheep. And in that process, it's very unfortunate that our gem of the Mojave Desert, the largest refuge in the lower 48, just happened to occur between two military bases, the Air Force bases.

And we've since seen the NTTR expand over the top of half of the existing refuge, and now the proposals are to expand to some of the most critical bighorn sheep habitat in the world in the Sheep Range. So, you know, the Wild Sheep Foundation's primary concern is the bighorn sheep and the wildlife that exists on the refuge and the impact of the various alternatives on the future of those bighorn sheep herds. It's a major consideration. BI-1 BI-3

You know, putting sheep on the mountain, keeping them on the mountain, which is our motto, is always a challenge. And reducing the access to be able to manage those sheep on wildlife professionals just puts those sheep into even more detriment. So it's critical that we make sure that wildlife professionals have access to be able to get to the wildlife and the bighorn sheep to be able to manage them properly. LU-2

It's important that the water developments that have been constructed by the Fraternity of the LU-9

Desert Bighorn on the refuge continue to be able to be accessed and maintained, because one of those water developments equates to, you know, at least 30 bighorn sheep. And regardless of, you know -- what's, you know, what's difficult in this entire scenario is that regardless of which alternative is selected, the folks, the conservation folks at the Fraternity of the Desert Bighorn have to be able to coordinate and cooperate with the NTTR, the Air Force, and the folks at the Desert National Wildlife Refuge to be able to have access annually to fly helicopters into these water developments and maintain them and make sure that they're functional and that they continue to operate.

LU-9

LU-2

So with that, I just want to say thank you for having this meeting tonight, and we really appreciate your attention to the sheep. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you, sir.

[redacted]

[redacted]

LYNN BOLAND: I just want to say out of respect to the people here who are environmentalists, I like wildlife. I rarely get to Mount Charleston, but it's really important for me to know that the wild exists. I feel like it's a facet of psychological health. It's spiritual health.

And in that vain I'd like to say that this presentation, as detailed on certain levels as it's been, is vague in other aspects. And when you speak of the environment, you don't really deal with the psychological, spiritual, and ethical components of the environment. And you also don't deal with the true scope of the environment, meaning that, you know, when you're talking about radiation and bombs and drones, I mean, we know that the globe is a village now, but everything kind of impacts everything else.

And also, kind of piggie backing on that, not really dealing with the true scope of what an environmental impact is. I mean, you have these words: Impact, irregular warfare, decontamination, all these things that are really loaded and really

important impacts, really parenthetically means mortality. It's mortality of species, it's mortality of people here and across the globe. If you -- I mean, I'm just going to be honest, I don't feel like the Air Force agenda is my agenda, as an American citizen. I don't feel like the Air Force --

(Applause.)

LYNN BOLAND: -- represents security and safety to me. I don't hate anyone in the Air Force, but I do not feel that the agenda of the Air Force represents security to me. And I just feel like, you know, in that respect I would like to know how -- why the Air Force -- the Air Force needs to establish a trust and to establish some compelling reason that they need to take up even more space. PA-7

I mean it's, you know, you guys have the entire airspace of the globe, you know, so why do you need more? I feel like, you know, in my own small way, I feel like there's this encroachment. And, yes, that is a psychological impact. It's a spiritual impact. And I'm not a native American. The bighorn sheep aren't sacred to me per se, but I feel like as a representative of the human race, as a women, this, the Air Force agenda is not my own. And I want that to be on record. PA-5

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you. Can I have you spell your name for us just so it's clear. Thank you.

LYNN BOLAND: Sure. It's L-y-n-n, B-o-l-a-n-d.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

[redacted]

JOERG ARAU: My name is Joerg Arau. It's spelled -- you did very well -- but it's spelled J-o-e-r-g, and the last name is A-r-a-u. I represent the Greenland resolve website that is very outspoken and speaks for the Air Force, presents the Air Force in a very good light. And I also represent the Rachel website, the website of a small town in Rachel, Nevada in Lincoln County.

I want to say that, probably most of the people here know this, but the Air Force already has an area of 2.9 million acres at their disposal for tests, for flight tests, for exercises and so forth. That is almost the size of the state of Connecticut. Why does the Air Force need an additional 300,000 acres, which is almost half the size of the state of Rhode Island? Where will it end?

PA-5

There's actually, as the young lady said just before me, I feel the same way. I am for the Air Force. I'm not opposed to the Air Force, but I need, and I would like to have the opportunity to use the recreational areas around Las Vegas, and I'm seeing them go away one by one. I'm seeing them be decreased.

I don't think that the solution to keep our country safe is withdrawing more and more land, but to manage the existing resources better and to train our pilots with the existing resources. I think the current solution with the land as it is being used right now works very well. We in Rachel have learned to live with it. We appreciate the Air Force. We appreciate the Air Force as being a very good neighbor, but we think that enough is enough and it should be -- it should remain the way it is right now.

I don't understand why the land needs to be -- I'm talking about the land around Alamo Road, why that land needs to be withdrawn. The Air Force already uses it for flight exercises, for search and rescue missions and so forth. While it is public land, why can't we leave it as it is: The Air Force using the air space, and the public, which is us,

PA-5

using it for recreation.

For people in Las Vegas, there are only limited recreational areas that have climate that are high elevation where it's cool enough to go in the summer and go off-roading and so forth. I would like to keep those few areas open to the public. And also for us in Lincoln County, it is nice to have these areas to go to and to go off-roading.

I would like to keep the solution as it is right now. I'm advocating the status quo, and I hope that the Air Force will consider doing that. Thank you very much.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

KIMBERLY ESTRADA: Kimberly Estrada, K-i-m-b-e-r-l-y, E-s-t-r-a-d-a. I'm here representing the Progressive Leadership Alliance of Nevada. I'm the Southern Nevada environmental justice fellow for this nonprofit. Through this fellowship, I've had the brief opportunity to learn more about the environment of Southern Nevada and the way that -- how we impact the environment impacts the people.

So through my research, I found -- I found out more about the impact that this is going to have on cultural resources and the economic impacts. And honestly, I just feel it's an over -- it's -- I feel like the Air Force is overstepping by, in like, in reflection of what it's asking. And I just feel like it's almost kind of like there's no point of having these hearings, if these proposed alternatives aren't even reflecting what the people are saying. We're saying to you we don't want this. We don't want the expansion. And, yeah, I don't see it reflected in these alternatives.

And I know in the end that it will be the legislators that decide, but I just feel like I would like my Air Force, that protects me as an American citizen, to take into account what its fellow citizens are saying to the Air Force, and we're saying to you we obviously do not want this expansion. It's going to have economic impacts. It's going into culturally significant land for people that have been here way longer than before America was even America.

And I just -- and just the fact of just how this report said that it's going to, you know, it's going to have avoidance for culturally important

areas or culturally significant areas, that entire area is culturally significant. And just really, again, I just want to say I don't -- I don't see a reflection of Nevada in your alternatives. I don't see a reflection of Americans in your alternatives.

And I think that's -- it's almost -- it's really disrespectful to me to sit here with these people, have these hearings, have you listen to our voices and not see that reflected in your alternatives. And that's all I'd like to say. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

MARGE KOLAR: Hi, my name is Marge Kolar, M-a-r-g-e, K-o-l-a-r. And I'm on the board of directors of the National Wildlife Refuge Association, which is a national nonprofit that focuses on protecting and enhancing national wildlife refuges. And so, therefore, we would strongly oppose any alternative or project that adversely effects the Desert Wildlife Refuge. Therefore, we would only be able to support alternative 1, which is the status quo. However, we'll be submitting comments in the

future, but I'd like to make a few comments specific on the DEIS right now.

First of all, as anyone can observe via Google Earth, there's a vast difference between the ground level disturbances between the north range and the south range. The south range has some level of protection because of it's refuge status as well as its proposed wilderness status. And we believe that alternative 2, which says ready access to south range, really means that you want to do activities similar to the north range, maybe not right now, but in the future, that's what it would allow to happen. And so we're very concerned about ready access. We don't believe it's only 11 acres that would be impacted. PA-3

Second, the Draft EIS doesn't really discuss the impacts on migrating large mammals, specifically desert bighorn sheep. In our draft, our final scoping comments that we submitted a year ago, we asked that that be included in the final, or the Draft EIS. We have seen studies that at least apparently show that there's a better gene flow between populations of bighorn sheep that are located on the refuge areas where the refuge can actually control it, and it's much greater than on those areas BI-3

that are potentially impacted by military activities or by military fencing, so we wish that the Final EIS includes that. BI-3

We're concerned about public access. Again, I know that the Draft EIS says that there will be periodic availability to the public for those areas, particularly in alternative 3C, but looking at the access right now on the south range, and how difficult it is to get there, for both agencies as well as the public for hunting, we can't expect that that similar level of difficulty for public access wouldn't occur in the expansion area. LU-2

And then, finally, concerning alternative 4, we couldn't support any alternative that would -- regarding the expansion of DOD's or any extension of DOD's public land withdrawals would be indefinite. We think it is in the public's right to know and the public's interest to have periodic reviews of any withdrawals. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

24 SCOTT CLEMSON: S-c-o-t-t, C-l-e-m-s-o-n.

25 Not just local, this case would have worldwide

implications. We Americans are the first ever with foresight to preserve land for its own sake for all citizens. Yosemite and Red Rock would long ago have been chopped up and chopped down, but wise past leaders established a trend to preserve land, now copied around the globe. However, many self-interested parties are drooling to see these refuge acres usurped for the precedent to then exploit any and all federal and state lands and waters. Each acre of this amazing refuge is still as valuable as ever for preservation.

Truly, thank you of the military for your service, but if military exercises in these mountains are deemed necessary for our safety, I, for one, would rather be unsafe by such standards. Thank you for willingness to go into harm's way, but do not, please, be agents of harm to beautiful places in your own country. The U.S. military already has massive practice acreage. Use it well while valuing and preserving the rest of the country you are sworn to protect, not sworn to destroy in the name of supposed protection. PA-5

We humans are so adaptable, a strength and a weakness. We are good at accepting accumulated small losses and moving on. While driving with my grandmom

in the 1960s, she often spoke of dismay about new development, once a farm with a beautiful swimming pond, or once a lovely woodlot. Too easily people say, "Oh, it's inevitable, that's the way humans are." This is false. We only have tendencies prolonged by such shortsighted attitudes.

Consider phonograph records. Recall listening to a perfect treasured record, but bit by bit it developed many scratches, not quite sure where any of them came from, but eventually the record is un-listenable. Once its beauty is gone, it's not coming back.

Los Angeles used to be surrounded by natural land, as Las Vegas still is. Vegas recently was more like Pahrump, and today's Pahrump was more like rural Beatty. Oh, a bit taken here, a bit there, but before you know it Vegas will become another city like L.A., endlessly surrounded by sprawl and no natural spaces.

So we, including those of us in the military, can again mutely acquiesce to the chipping away of treasured lands around us, or we can thoughtfully preserve our wild heritage. If we are smart enough, we can have all the benefits of modernity but without all the disadvantages.

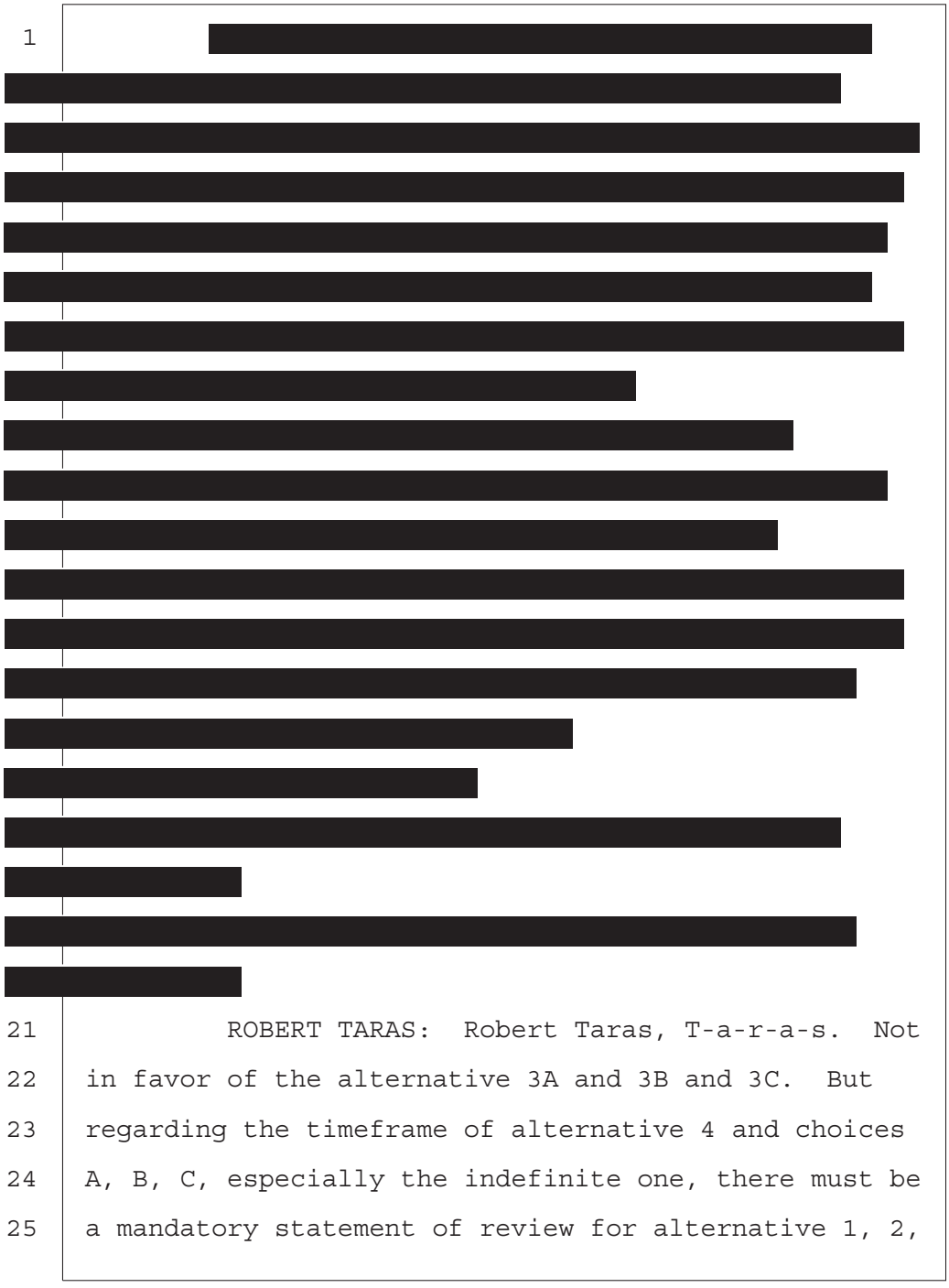
Therefore, I call on you to be thoughtful leaders, not just within your sphere of duty and short-term interests, but for all now and onward. We humans need to develop a healthier relationship with our necessary and beautiful planet. Your decisions here are not just local and can set the new trends based on intelligent foresight, instead of following old trends based on fear and greed.

Will your children and grandchildren consider you another myopic enabler of our planet's degradation for short-term interest or gain? Instead, by your decisions, be the heroes who enable your descendants to look proudly back and appreciate the healthy planet you thoughtfully cared for and bequeathed to them. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]



ROBERT TARAS: Robert Taras, T-a-r-a-s. Not in favor of the alternative 3A and 3B and 3C. But regarding the timeframe of alternative 4 and choices A, B, C, especially the indefinite one, there must be a mandatory statement of review for alternative 1, 2,

3, preferably every five years, even with the Air Force statement, for the following reasons: So we don't have another Area 51 land grab that nobody ever gets to revisit.

Number one. There's the hope that technology will improve so that the need for all this land withdrawal will no longer be needed for the safety buffers of bombing drops. PA-6

Number two. The removal of land from recreational opportunities, hiking, camping, et cetera, is an affront to the public who desire wilderness over development. Future generations must have these opportunities returned to them at some point.

Number three. Sounds travels all over the place. And any increase of decibel levels over baseline will be heard for many, many miles beyond the supposed land border buffers. Noise reduction technology hopefully will result in the need for returning the land that was taken back to wilderness.

Finally, much more importance of the agencies, such as Fish and Wildlife, must be acknowledged. They are only currently allowed approximately 20 hours paid by the Air Force for their studies. Seems to me it takes me longer to do BI-4

my checkbook all year than 20 hours a year. Also, public roads must remain open to the public. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

[redacted]

FAWN DOUGLAS: Fawn Douglas, F-a-w-n, D-o-u-g-l-a-s. I know you were going in order by titles and such, but you completely skipped the Chairman of the Moapa Band of Paiutes.

(Applause.)

FAWN DOUGLAS: And I'm here to support the Moapa Band of Paiutes. I'm a member of the Las Vegas Paiute tribe, and I think there's something completely missing in this whole equation, which is the government-to-government working relationship that the Air Force is supposed to have with the tribal nations, number one. CU-5

(Applause.)

FAWN DOUGLAS: So you should be speaking directly with the tribal council of the Las Vegas CU-5

Paiute Tribe --

(Applause.)

FAWN DOUGLAS: -- and the tribal council of the Moapa Band of Paiutes. And I know and understand that you are speaking with a group of Nu-wav, Nu-wav meaning the Southern Paiute people, but these are members, just as I'm a member, but members aren't the voice of the tribe. We speak for ourselves. CU-5

(Applause.)

FAWN DOUGLAS: Just like I'm here speaking for myself, my family, and I speak for the lands and I speak for my ancestors and I speak for the animals that cannot speak. I speak for everything that is around that area. And I have walked around the Desert National Wildlife Refuge, and I have dug my feet into the sands there, and I know that that place is a place that is our ancestral Paiute land.

And when I look around there, I recognize that those are the areas in our Salt songs. All our Salt songs have been sung since time immemorial that sing about these areas, that tell our spirits where and how to get to the next life. The birds sing about these areas. And this place is very sacred, very special.

And I looked at the map of the area that is CU-5

going to be supposedly taken away, and that area, those are spring areas, there are petroglyphs all over those specific places. And for people, our people, our Southern Paiute people, and for all people, for that matter, to be cut off from these public lands is an atrocity, it is disrespectful, and it is awful. CU-2 CU-1

(Applause.)

FAWN DOUGLAS: So what I'm asking you is to respect sovereignty, respect the government-to-government working relationship between the Air Force and the Las Vegas Paiute Tribe and the Moapa Band of Paiute Tribe. Thank you. CU-5

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

RATA ELMORE: Good evening. My name is Rata Elmore, R-a-t-a, Elmore, E-l-m-o-r-e. I'm a cultural epitaph, an educator, I stand on multiple boards for the Red Spring Youth Group cultural centers auditing them. I'm indigenous. The most important role I play is I'm a mom, and that affects me. What do I leave my children? Where will our children go?

Like I speak, we stand on Paiute land, which

isn't even acknowledged here. As an indigenous person, we are connected to our land. Where I stand on my land, I stand on the Earth. We are caretakers of the Earth. And even though the Air Force is the coolest, you have someone to work with.

Historically in America you're good at taking, but not so good at giving back, and that concerns me. And again, as a mom, what do I leave my children? Are we on the right side of history? So I stand here as a mom saying that if my son wants to see the mountains, will they be there? When they want to see the ecosystem, will it be there? I don't think it will.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

ARAMOANA ELMORE: Hello. My name is Aramoana Elmore, A-r-a-m-o-a-n-a, Elmore, E-l-m-o-r-e. I'm here to represent, like, my mom. And I would like to see like the mountains, and I haven't seen them yet. And I want to watch what she said. So if I don't see them, that's just wrong. Like, if I want to see them, then I could if I wanted to, but I can't because you're going to take all of

them. So if I want to see the mountain, if I want to see the bighorn sheep then they're gone, I can't see them.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

[redacted]

NANCY OLDS: I'm Nancy Olds, N-a-n-c-y, O-l-d-s. I'm a member of the Sierra Club, and I originally joined the Sierra Club when I lived in Virginia. And I enjoyed getting away from the stress of that area by going to our local parks and our national parks and de-stressing by enjoying the environment there. It's very stressful there.

My husband and I retired, and we bought a home in Henderson recently, just in the fall, and moved in in November. And we've been out here on occasion enjoying the wildlife in this area thinking it's beautiful. The Desert National Wildlife Refuge is so large, the only larger place is in Alaska. That's amazing. And I just started to enjoy it so much, and now, through the Sierra Club here, I'm finding out that there are issues.

And these are public lands. And I definitely respect the U.S. Air Force. My husband

served there. But the thing is are we going to have these public lands remaining for us to enjoy? We retired here. There are other people from other parts of the country who want to retire here and enjoy these lands, and now we're hearing that there might be grave impacts on the bighorn sheep and the other wildlife in the area. We might be deprived of using the hiking areas, biking areas, the roads. Now I'm getting stressed again. BI-1 BI-3 LU-1

So I appeal to you all to use good common sense and try to think about the future of these public lands that Franklin Delano Roosevelt gave to us in 1936. Thank you so much.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

ERIC ROBERTS: Good evening. My name is Eric Robert, E-r-i-c, R-o-b-e-r-t-s. I am a business owner here in Southern Nevada. And one of the things that -- a couple of the stats that I'd like to talk about from the LEIS that I was able to glean out of it is $2.5 billion and 18 years just to clean up what has been done so far on the north and south ranges were we to stop today.

To ask to take more land when we know that the damage done to the existing land seems a little bit farcical to me. It would be like my teenage daughter coming home after wrecking the car and saying, "That car doesn't work for me any more, can I get another one?" I don't think that's going to happen.

But I'd also like to talk about, as a business owner, one of the important things that we find in a professional industry is we need to draw professionals to Southern Nevada to do work so that my company can run. Now, professionals, young professionals today want areas where they can recreate, where they can go outdoors, that is a place where they can raise a family. They're attracted for a weekend stay to come to casinos, but they are attracted to come here to make families because of the outdoor environment and the things that they have and the ability to recreate.

To take the land, just to move into the Alamo range, is an impact of $2.2 million. That's just recreation dollars. No one has taken into account the effect that that's going to have on my business and the loss of jobs that I will have because we don't have the natural resources any

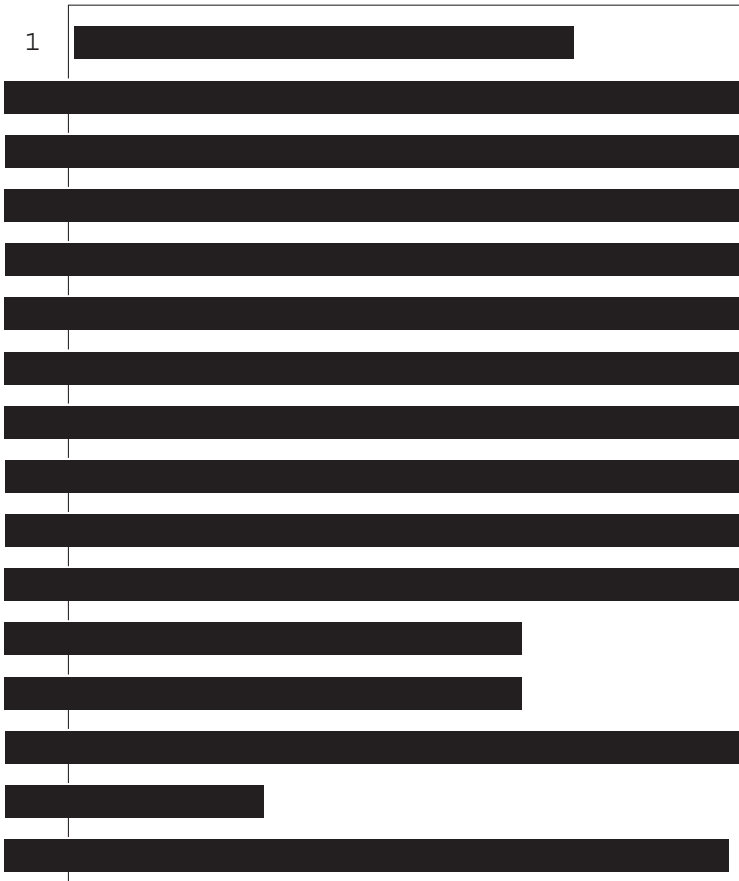
longer that we used to have.

Now, I am in support of the military. I know that they are a financial support to our valley, they're a financial boon to what we do here in Southern Nevada. I support alternative 1 and 4A. I think those are -- they can do well on the land they've been given. As an architect it's often the restraint and the restrictions that cause the most creative solutions to come out, and I'm sure the military is very smart and they can be very creative in the land that they've got and I look forward to seeing them do just that.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]



MICHELLE NAPOLI: Michelle, M-i-c-h-e-l-l-e, Napoli, N-a-p-o-l-i. I will be submitting more specific, more extensive written comments, but tonight I just wanted to take one minute to let you know that, you know, I realize our military needs to be able to defend our country. I appreciate that. I appreciate your service, and I really mean that sincerely.

But I also believe that our community and

our country has other needs. They're different, but they're no less important, and those include conservation and protecting our public lands heritage. We need to strike a balance here. Doing that will allow the Air Force to continue to do its important work. It will allow Fish and Wildlife Service to continue its important work. And it will allow the public to continue to benefit from both.

Alternative 1 doesn't just maintain the status quo, I believe it maintains that necessary balance, and for that reason I support alternative 1. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

GREG ANDERSON SR.: Hello. My name is Greg Anderson, G-r-e-g, A-n-d-e-r-s-o-n, Sr., S-r. I'm from the Moapa Band of Paiutes. I'm the Tribal Chairman of the Moapa Band of Paiutes. I'll tell you a little bit of our history a little bit. We had 2.3 million acres, that's all of our tribal land, used to be our ancestral tribal land. In 1874 they

took our land away and they reduced us down to a thousand acres. And in 1976 I think, or '77, they give us an additional 70,000 acres, plus they took away our hunting rights and our fishing rights.

So when I'm saying I'm speaking on behalf of the bighorn sheep, the bighorn sheep are considered Paiute people in our ways. And our legends talk about the sheep that came from the Mormon Mountains, that people that live around here, the Mormon Mountains, they know where those are. Actually where our legends talk about where the sheep were born at, and that's where Mother Earth gave birth to the sheep. And when the sheep came up to the Paiute people, they sacrificed their life to our people, because we were down and out starving. And then our people turned and returned with them with song and dance. So we honored that sheep with song and dance.

So these mountains are very sacred, all the mountains: Mount Charleston, the Sheep Mountain Range, the Muddy Mountain Range, Sunrise Mountain Range, Bunkerville, Mormon Mountain. All the mountains that surround this valley has once been our ancestral lands.

So we're here to talk on behalf of the bighorn sheep because we consider them our people.

And our legends talk about it, and the petroglyphs that you see on the wall are talking about when we go to certain places that we go there for our (Paiute word) and that means "power," and that's where we go get those powers at. Some of the petroglyphs have power, when we go in there as humans and come out of there as sheep.

So I'm not against all this stuff on the banding or the collaring the sheep. To the people, you know, it goes all the way back as one -- we were tooken off this land and put on reservations. It's basically the same thing what they're doing right now with the sheep. Right now in Clark County, a lot of people ain't knowing, but they're catching them sheep out of the muddies to Zion's National Park and other areas in this area. The sheep on the Sheep Mountain Range have been diseased because of the domestic sheep. And whose fault is that? That's all of our fault, you know what I mean?

So I was just here to say that we need to stand up, all the people, not just our Indian people, but we've been pushed around and pushed around and never accomplish anything for us. So, you know, I can probably take up three minutes of the other lady's time too, but I'll slow down since she wasn't

here. But that's why we're here. We're here to support that, because the bighorn sheep is our people, and that's what we're here for.

So I'm talking on behalf of our tribe and many tribal people that are here and the other natives and non-natives that are here on the sheep, so thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you, sir.

[redacted]

DR. A.B. WILKINSON: Dr. A.B., it's just my first initials, A and B, W-i-l-k-i-n-s-o-n. So I am definitely for alternative 1, there's no further movement. And then 4A, a twenty-year withdrawal period, I think that that's a good compromise.

I just, you know, I also teach -- I guess I should say I teach history at UNLV. And though I don't speak for UNLV, I speak for myself here, but I'm with -- the people have already spoken on how we affect the environment someone said impacts the people. And the environment is more than just the physical environment, it's also spiritual, as people have said.

And I'm here to say that, you know, in

teaching history, I teach my students that we're supposed to have a democracy. And it seems like the people here have spoken together on the same page. We have ranchers, we have environmentalists who are trying to conserve the lands, outdoors people talking about recreational uses for these lands, campers, hikers, bikers, off-road community, four-by-four, people who would like to hunt on these lands. And most importantly I think the Moapa Band of Paiutes and the other peoples of Southern Nevada who have thousands of years connection to these lands.

So if this is democracy, I'm just not sure how the Air Force, who is supposed to be for the people in these United States of America, is supposed -- is going to make what I think a different decision about what the people are asking for.

(Applause.)

DR. A.B. WILKINSON: Now, I know that we need military for our safety and defense around the world. I have a cousin who served in the Navy, my stepbrother served in the Air Force, and I'm not against the men and women who serve our nation. But I do question where this war on terror is taking us.

(Applause.)

DR. A.B. WILKINSON: And I know I'm supposed

to keep it to whatever the environment means, but, like people said, the spiritual environment, I just don't understand why we need more bombs, to be bombing the land, why we're studying steadily when we have the technology to run these things in flight simulators. I'm asking the questions here back of the people that can't give me straight answers. You know, these encroachment on our lands need to stop. PA-1 PA-6

And I know I'm running short on time here, but I'll just close by saying it's not just the bighorn sheep, or the bighorn sheep as just been stated, there's a larger environmental, spiritual significance there, but countless other animals: Birds, bugs on the ground, all of these things, you know, where are they up on the screen? I just don't understand. BI-1

And I'll close just by saying Martin Luther King spoke about the war in Vietnam and said that we need to study war no more. Study war no more. I'm done.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

CHRISTIAN GERLACH: My name is Christian Gerlach spelled C-h-r-i-s-t-i-a-n, Gerlach, G-e-r-l-a-c-h. I'm with the Sierra Club, here officially with them in that capacity. We'd like to echo what much of the public has said here to keep things as they currently are, the relationship between the Nevada Test and Training Range and the Desert National Wildlife Refuge.

We definitely want to ensure that future generations are able to enjoy these lands. We don't feel any withdrawal should be at any point ever permanent. Having regular reviews is a good public process, as part of our democratic system.

In specific regards to the Desert National Wildlife Refuge and the expansion, we worry significantly about things that could be kicked up by expanded roads or new roads, pads for threat emitters. The emitters, also we worry about any potential adverse effects on pollinators. The state of Nevada is known for over a thousand species of bee, many of which haven't totally been fully studied or understood, so there's a lot of adverse effects that need to be further studied if any expansion is to take place, which, again, we hope that the Air Force will take heed of the public and keep the

BI-36

current Test and Training Range as it is.

To kind of delve into myself personally, my sister's in the Air Force. I'm very proud of her service. And we definitely understand there's a necessity to balance national security, but the reality is the air space is currently used without any limits, and that can continue. Much of what is proposed within the activities within the expansion are activities that couldn't take place or be mitigated with working with U.S. Fish and Wildlife Service within existing boundaries. So we appreciate the service of the Air Force.

AS-1

PA-5

And in clear line with Sierra Club policy, to close, if there is any closure of public lands, it is our national policy that's been hashed out in a democratic process by members across the country that we want to see other lands opened up in lieu of those types of closures. That is not something we may see for a long time, given so much of the Test and Training Range is contaminated, but we would like the Air Force to perhaps start considering some of those alternatives. But thank you so much for your time, and thank you so much for allowing us to speak here publically.

PA-32

(Applause.)

[redacted]

CHRISTOPHER GEIS: Hello. My name is Christopher Geis, G-e-i-s. I'm an honorably served U.S. Marine veteran. I guess I'd be more speaking to the Colonel. We've got potential here, all of us. We just got to stick together, you know.

I'm here to request the U.S. Government to honor its half of existing treaties we have with indigenous sovereign nations. Article 6 of the U.S. Constitution clearly states, if I may quote, "The Constitution, and the laws of the United States which shall be made in pursuance thereof; and all treaties made, or which shall be made, under the authority of the United States, shall be the supreme law of the land; and the judges in every states shall be bound thereby, any thing in the Constitution or laws of any state to the contrary notwithstanding," correct? CU-9

It's funny, all these people here talking, with respect to the ones who actually do have a right to speak on this land, it's funny we're all talking about land that's not even ours to talk about. The end of the current contract for the Air Force I believe is coming up. It's time to give the land

back, honestly. It's time that we realize -- it's funny -- I apologize, everyone -- by the time we realize it, it may be too late. Noting the Treaty of Ruby Valley, dated 1863, with the Western Shoshone Nation, and you have the Paiutes here also, it's their land, it's not ours. Please research that treaty, and the treaty that we have with the Paiutes. CU-9

I'm here representing the United States citizens because it's up to us to ensure that our country does what we say that we're going to do, and what our government is supposed to do is represent us. That's why I'm here, to represent the citizens of the United States. I challenge the citizens of the United States and all citizens -- oh, my goodness -- I move that all right-of-way federal land claims from treaty territory be challenged. It's the right thing to do. It's time to move on. Thank you for your time.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

[redacted]

JIM BOONE: Thank you for the opportunity to speak. Although I have to start by saying I'm disappointed. It seems like we're doing the same thing we did the last time we were here, and I don't see any significant changes in the alternatives or any of the other things in respect to some important issues I brought up. And it goes back to this notion of democracy. We're Americans, and we have the right to run the country the way we want to. And we've asked you to do things in the EIS and we don't see them. So I request that you go back to the old comments and review those and incorporate things that you left out. NP-8

I'm the author of birandhike.com. It's an influential website about what to do in the wildlands around Las Vegas. I get about 30,000 individuals per month visiting the website. And for me, and for a lot of those people, the desert is a really special place. I get more questions and more comments about people on desert than I get on any other of the places. Virtually nobody asks me questions about Red

Rock or Lake Mead. Even new places like Gold Butte get a fair number of questions, but the desert is the place that people like to go, they have the most interest in. This is the place that people think of as our Arctic National Wildlife Refuge. It is the place that is so wild and so far out, a lot of people are afraid to go there.

I get really heartwarming comments that people talk about they thought they wanted to go out there but it was really scary and the wife said that the coyotes were going to eat their kids, yet they went out there anyways and they had a wonderful time. And it was just a fabulous, life-changing experience for them.

And people also often ask me where is my favorite place to camp, where do I like to go. And, you know, I don't tell them, but here in public tonight, because it's so special, my favorites place to camp is a place overlooking desert dry lake, an area that will be closed to me and to everybody else if you take over Desert National Wildlife Refuge. And my favorite place to go hiking, maybe I will keep that secret, but it's also in the area that's closed.

Another issue with respect to the website is that is my business. The website has advertising on

it, and everybody who visits the page gets an impression and I get some tiny amount of money. If you close off those areas, and I have to take that down because people can't go there anymore, that's part of that $1.9 million we talked about is coming straight out of my pocket, and I resent that.

Another thing I do a lot of is I do a lot of citizen science. One of our special surveys is, it takes place in the spring every year, it requires a full moon, cloudless night, and calm winds. I can't abide by somebody's schedule and writing in six months in advance of when I think is going to be a moonlit, cloudless night and calm winds. It's just not going to work. That's research that's not going to be done.

Another objection is that removing the areas from the refuge, your slides say it will remove 24 acres of disturbed land. That's an obvious error and I request that you go back and recalculate your acreage. Thank you. PA-54

HEARING OFFICER COLONEL CHRIS SCHUMANN: Sir, before you leave, can you spell your name please for the court reporter.

JIM BOONE: I'm sorry, Jim Boone, J-i-m, B-o-o-n-e. Thank you.

[redacted]

PATRICK DONNELLY: Hello. My name is Patrick Donnelly, P-a-t-r-i-c-k, D-o-n-n-e-l-l-y. I'm the Nevada State Director with the Center for Biological Diversity. In President Eisenhower's farewell address he said, "We must guard against the acquisition of unwarranted influence by the military-industrial complex. Only an alert and knowledgeable citizenry," like the 250 people here tonight, "can compel the proper meshing of the huge industrial and military machinery of defense with our peaceful methods and goals, so that security and liberty may prosper together."

Security and liberty. Currently NTTR has 2.9 million acres of our state devoted to security. Combined with the NTS, this takes up over five percent of Nevada. That is more than enough for security. But what about liberty? What about our sacred spaces, our public lands, which are the basis of our liberty? Desert National Wildlife Refuge is one of the most important reserves for native desert wildlife in the country. Harboring the most significant population of desert bighorn sheep in the

Mojave Desert, it is an area of critical and irreplaceable importance to the ecological integrity of Nevada.

Moreover, it is already protected. Indeed, the value of this remarkable landscape has been known for almost a hundred years, far longer than most protected areas in Nevada. Of what use is protection if it is ephemeral? What value does the conservation of natural resources have if it can be tossed away as soon as the political winds blow the right way? We have seen attacks recently on many of our national wildlife refuges. A servile Congress recently authorized oil drilling in the Arctic National Wildlife Refuge. Just yesterday the corrupt Secretary of Interior unlawfully authorized a land swap to bulldoze a road through Izembek National Wildlife Refuge in Alaska. Well, here tonight we say no. In fact, we say hell no.

(Applause.)

PATRICK DONNELLY: No more attacks on our wildlife refuges. No more chipping away at our public domain. No more sacrificing our precious native wildlife at the alter of development and industrialization. We will not sit by while an enormous part of our protected public lands, an area

the size of Delaware, is seized by the military. We will not roll over. We will fight in the courts. We will fight in the halls of Congress. We will not rest until we are sure that we are heard loud and clear. Don't bomb the bighorn. Don't bomb the bighorn. Don't bomb the bighorn. Don't bomb the bighorn. Don't bomb the bighorn.

(Applause.)

[redacted]

PA-1

JAINA MOAN: Good evening. My name is Jaina Moan, it's J-a-i-n-a, M-o-a-n. I'm an avid hiker and a lover of wilderness, and I'm here to state that I prefer alternative 1 out of the options you have presented. The DNWR has incredible archeological resources, spectacular wildlife habitat, and biological diversity and offers wonderful recreational opportunities.

Most importantly, though, is the most expansive area of un-trampled wilderness that we have left in our country. It is the biggest refuge area in the lower 48. Any alternative besides alternative 1 would begin a negative trajectory for the preservation of wilderness qualities of that land. And if we continue down this path, we will lose them.

I'm opposed to any additional land withdrawals. I'm worried that we will lose the wilderness characteristics of the refuge. I'm worried about the loss of public access. I'm worried about the negative effects to irreplaceable archeological and cultural resources in the refuge. I'm worried about the increased noise and its effect on the wildlife. WI-1 LU-1 CU-2 BI-1

I don't think that the Air Force has adequately addressed these concerns in the LEIS. And I think we need to ask, for what purpose is the Air Force withdrawing this land? So that additional fences and roads and threat emitters can be installed? So that more loud planes can fly over their range? These technologies will likely be obsolete in the future, some of them as soon as 2021. It's really not worth it. Thank you for hearing my comment. PA-5

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

[redacted]

KEVIN PANET: All right. Master Sergeant Kevin R. Panet, United States Air Force veteran, retired. That's K-e-v-i-n, P-a-n-e-t. I love the Air Force. It was the best part of my life. They helped me to make me the man who I am today. I'm fiercely proud of my 12 years of active duty, including two tours overseas, and an additional nine years in the active reserve that allowed me to retire after 21 years of faithful service.

I also understand that today's technology, our precision-guided munitions are more precise than ever before, not to mention we've had 16 years of actual warfare to test them out on our foreign enemies in Iraq and Afghanistan with conditions very similar to the Nevada landscape. And because our weapons are so precise, it confounds me that the Air Force would now need more space to test those weapons.

PA-5

With our outstanding technology it defies logic that the Air Force would actually need more space to practice bombing, given that the days of General Curtis LeMay's World War II carpet bombing strategy ended in Vietnam with Operation Linebacker II in December of 1972. That's just not the way the world works anymore.

PA-1
PA-5

And yet as high-tech as our society has become, as humans we still need to connect with nature and the great outdoors. We have a need to understand and appreciate those who came before us and to be respectful of sacred sites and protect the many unique animals that survive unhindered by having to help them by the U.S. Air Force.

The President of the United States has recently reduced the boundaries of and the protection for millions of acres of public lands in the Bears Ears National Monument in Utah. At some point we need to stop taking from our citizens.

As another President and fellow veteran Theodore Roosevelt once said, "I recognize the right and duty of this generation to develop and use natural resources of our land, but I do not recognize the right to waste them or to rob them by wasteful use from the generations that come after us." He

also said, "It is vandalism wantonly to destroy or permit the destruction of what is beautiful in nature, whether it be a cliff, a forest, or a species of mammal or bird."

And so, as a veteran, as an outdoorsman, as a father who wants his children to grow up to be able to enjoy our public lands, I encourage you not to move forward with your plans to expand the bombing range. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

[redacted]

VINNY SPOTLESON: Hello. My name is Vinny Spotleson. I'm commenting tonight on behalf of the Nevada Conservation League where I serve as program director. That's V-i-n-n-y, S-p-o-t-l-e-s-o-n.

The Nevada Conservation League recognizes that the Nellis Test and Training Range plays a vital role in our national security; however, for decades it has been able to provide that vital role while maintaining secondary jurisdiction over a large swath of important habitat in the Desert National Wildlife Refuge.

PA-40

The Nevada Conservation League opposes any expansion into the pristine lands that provide habitat to bighorn sheep, desert tortoise, over 500 species of plants, and rare gila monster habitat.

We are also concerned about the further restrictions to recreation access within the refuge. Nevadans and our members love to hike and hunt inside the refuge, and any reductions in this activity would either hurt our tourism economy or drive locals into other more crowded areas.

LU-1

SO-3

Due to the critical national security role of the NTTR, the No Action Alternative is not acceptable. On behalf of our supporters and members, we are urging the Department of Defense to adopt alternative 1 and make no changes to the status quo management of the wildlife refuge.

And I just want to say as a quick personal note on the purpose and need in the EIS and the alternative 4 that we're talking, I wish I could come up here and say that there is no need now for further testing or training since we have been, as the gentleman before me referenced, at war for 17 years now, but I do hope that some day that is the case, that there is no purpose and need, that the seemingly endless wars are over.

And I hope that that day there's no further need for the Nellis Test and Training Range, and thus I oppose the alternative 4 of the indefinite withdrawal because I hope some day, you know, as far fetched as it sounds, that we do have world peace and that we're living in a world that doesn't need these weapons. Thank you so much.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

DAN ALVEY: Yes, I'll keep this simple. My name is Dan Alvey. Last name is spelled A-l-v-e-y. So, yes, so the Las Vegas population is growing. The need for recreation is expanding every day. More people are interested in getting outside and recreating. The open spaces that we have here in Las Vegas is shrinking. And with that, biodiversity is getting put under pressure.

An increase in the size of the NTTR will make all these issues worse. Let's keep the quality of life high and volume of biodiversity high, and let's not expand the Test and Training Range. That's all I have to say.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN:

Thank you.

[redacted]

[redacted]

JOSE WITT: Good evening. And thank you for this time. We really appreciate it. My name is Jose Witt, J-o-s-e, W-i-t-t, and I am representing Friends of Nevada Wilderness. Friends of Nevada Wilderness is deeply concerned about the scope and size the U.S. Air Force is proposing in expanding the nearly three million acre Nevada Test and Training Range into the Desert National Wildlife Refuge, which was established in 1936 to protect Nevada's most iconic animal, the desert bighorn sheep. As a matter of fact, obviously we all know that is our state animal.

The refuge is the largest in the lower 48 states and easily the most pristine intact habitat in Nevada due to the lack of mining interests and being protected for so long. Those reasons were exactly why in the 1970s the U.S. Fish and Wildlife Service inventoried the refuge for wilderness qualities and determined that 88 percent of the refuge qualified for wilderness protection, the highest level of protected status our nation has for public lands.

The refuge is unique because of how it contrasts so starkly to urban Las Vegas, which is

only 25 miles away. The refuge not only serves as a refuge for animals, but also for people wanting to escape the noise and speed of our modern civilization. Hundreds of miles of roads provide the backcountry traveler a peek into what the Mojave looked like before the expansive road to Las Vegas. In fact, the 72 mile Alamo Road was the traditional route between the town of Alamo and Las Vegas.

In addition, the refuge is a wonderful place to camp, hike, view wildlife, hunt, shoot photography, and most importantly be an outdoor classroom that provides environmental education and interpretation to kids around the valley. Because the refuge is so pristine, we are very concerned about the Air Force's plans and impact on the ground. Proposals include building runways, roads, installing fencing, cross-country motorized travel, digging trenches which will all heavily impact this very pristine place.

There's also a concern with closing public access. Places like Red Rock and Mount Charleston are inundated with visitors to the point where they often have to shut down due to overcapacity. Meanwhile, Clark County's growth is only expected to increase. Locking away valuable lands to hike, hunt,

Jeep are exactly the opposite of what we need.

Regarding the various alternatives, we can live with alternative 1, which would maintain the status quo. We are disappointed that the LEIS did not address designating any of the 1.4 million acres of wilderness in the refuge. We are extremely opposed to any transferring of primary jurisdiction from the U.S. Fish and Wildlife Service to the Air Force due to the amounts of infrastructure, construction, and damage that the LEIS proposes. WI-2 PA-3

We are also vehemently opposed to any of the expansions proposed in alternative 3 which encroaches upon the largest intact wilderness area in Nevada and closes access to the public. It was President Franklin Roosevelt who had the vision to protect the refuge so long ago. Let's keep the promise he made to four generations of Americans and continue to protect the Desert National Wildlife Refuge. Thank you again for your time.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

LAURA CUNNINGHAM: L-a-u-r-a, C-u-n-n-i-n-g-h-a-h-m. I'm a resident of Beatty, and

in 2004 I actually was a civilian contractor on the south range as a target working biologist, and my job was to move desert tortoises out of harm's way for one of the targets. So I actually got to see firsthand how the Air Force manages natural resources, and they did a really good. I was actually really impressed.

But I do have to support alternative 1 because I worry with ready access, will there be tortoise monitors helping to avoid tortoises getting crushed? BI-2

And I'm also concerned with the bighorn sheep, the management of bighorn sheep no longer being as transparent as it is today. I mean, there's bighorn sheep populations are crashing all over the desert because mostly from domestic sheep and goats transferring diseases to them. One feral goat running loose into a mountain range that has bighorn sheep can transfer a disease and crash that population. BI-3

So the Desert National Wildlife Refuge is this amazing place and I'm concerned that we need to have much greater public transparency, and also access for refuge staff and friends group to maintain the bighorn sheep populations. LU-2

And then, being a resident of Beatty, I have to say that I'm really concerned with alternative 3, closing access to the mountain bike trails, the backcountry roads, which I use every week. Every week for my recreation, I take my mountain bike out there, I ride a horse, I hike, and I have a four-by-four, and my husband and I like to do touring. LU-4

And, interestingly, about every day we're seeing mountain bike tourists come, they stay in the motels in Beatty, they go by our house, and they go to those mountain bike trails. So there's actually an increase in what I call sort of soft tourism in Beatty, which, as a dying mining town, we really appreciate that and need it. But thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

NICHOLAS SCRITCHFIELD: Hello. I'm Nicholas Scritchfield, N-i-c-h-o-l-a-s, S-c-r-i-t-c-h-f-i-e-l-d. So I moved to Nevada last year. I've been visiting for years, specifically most of my time has been spent in wild environments. Last year I began to explore the Desert National

Wildlife Refuge in depth. Its vast expanse of untamed wildlands truly make it a treasure of Southern Nevada and to the nation. I quickly learned of its large array of biodiversity and witnessed the wild beauty of the landscape, shimmering dunes, snowcapped peaks, the old forests where mountain lions hunt in the shadows. The Desert National Wildlife Refuge is one of the last great wilderness areas, of wilderness quality areas in the U.S. and a stronghold for biodiversity in Nevada.

After reading the proposed changes to this landscape, I'm overwhelmingly concerned to fragment and reduce the quality of key wildlife habitat, increased development, and industrial activity in the sensitive landscape, and further expose the biodiversity to habitat lose, which is its number one threat for extinction would be catastrophic. BI-1

According to the most recent Living Planet report, biodiversity abundance levels around the world reveal that populations of fish, birds, mammals, amphibians, reptiles declined by 58 percent between 1970 and 2012. To stop this downward trend, we must work to demonstrate sustainable values that will allow all forms of life to flourish. We must sustain the natural processes that create and shape

life's diversity by further protecting and connecting this precious wildland, not contributing to its degradation.

I believe there's an ethical obligation to share the world with other species, and in this case that would be the nearly thousand species that make a living in this landscape. It is my hope that the natural wonders of this extraordinary place will remain a bastion of wild nature held in trust by the American people for future generations, and especially for the creatures that call this landscape home.

To end my comment, I believe the words of Freeman Tilman point us in the right direction regarding wildland protection. Whether protected by government, trusts, or individuals, natural lands offer the last resort for other species, as well as for our own species, who created contact with wildlife. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

[redacted]

ED UEHLING: My name is Ed Uehling, U-e-h-l-i-n-g. And I just wanted to clarify some of the terms that are being bandied about here like "protection" and "security" and other things, but first let me give you a little bit of history. I moved here with my family in 1943, and my father came to work on the dam that was facilitated by the federal government. The federal government didn't pay for it but they facilitated it.

And I want to contrast that and subsequent actions by the military in Clark County with what's going on today that instead of building something that people can use, here, you bureaucrats are here, you're going to overrule the citizens, take away land, totally contrary to what we want done here, and all in the name of things like "security" and "protection" that are just total lies.

Since World War II, the military has killed

about 20 million foreigners. That is not creating -- that has not created security for those people. It's created tens of millions of refugees. It's created -- today we're bombing seven different countries from right here, from this land that was illegally taken, unconstitutionally taken by the federal government, putting a by line all over the world of Las Vegas, Nevada when our economy is based on tourism and bringing people here and making friends with the rest of the world, the military is creating enemies all over the world.

And fortunately the world is wising up to that. Economies all over the world are booming. The military, thanks to all these wars, has not just destroyed 20 million lives and created -- destroyed cultures and countries and cities and people, but you have bankrupted the country. We're now $20 trillion in debt paying for all this, and we don't have security. We don't have protection. We have destruction and really negative things. And unfortunately some people still want to do that sort of thing. Fortunately the rest of the world doesn't agree with it and is going to go ahead and develop their economies, develop wealth, and have a different world than we have today. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN:

Thank you.

[redacted]

[redacted]

JIM STANGER: That's me. My name is Jim Stanger, J-i-m, S-t-a-n-g-e-r. I'm on the board of the Friends of Sloan Canyon here today to say we support alternative 1, the status quo. The NTTR, they're excellent, they an excellent service for the Air Force. They're excellent members of the community of Southern Nevada, but as those of who live here know, you know, there's too many people here now. And the quality of life is an issue.

The quality of life involves getting out, finding places to recreate and have fun, ensure that, you know, critters are protected, the cultural resources are protected. Other folks here have spoken to those points far better than I can today.

What I wanted to put forth was this: That, you know, although it doesn't seem like it, the big desert expanse, we're in a space crunch here in some significant ways because you're saying that with this process, if you are developing weapon systems that are going to require larger safety zones, maybe, even though this seems like an attractive place, maybe

PA-5

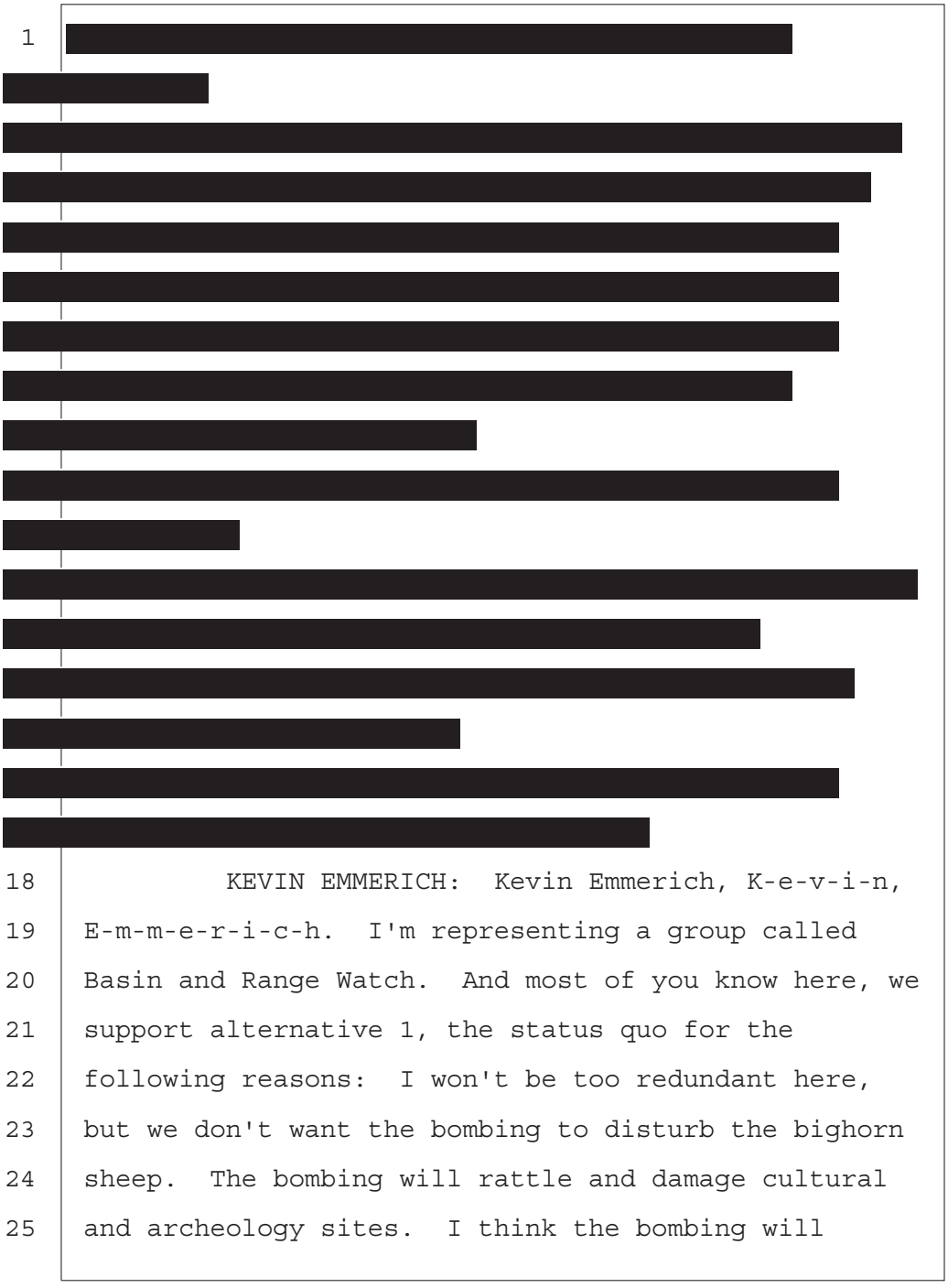
this isn't the best place to be testing those systems. PA-5

Again, the NTTR provides, you know, they do excellent work, but maybe not all the TNT needs to happen here. I encourage the Air Force to maybe re-approach the idea of maybe doing more of this testing virtually in the future or offshore, you know, pretty much anyplace but here. Thanks. PA-5 PA-6

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]



KEVIN EMMERICH: Kevin Emmerich, K-e-v-i-n, E-m-m-e-r-i-c-h. I'm representing a group called Basin and Range Watch. And most of you know here, we support alternative 1, the status quo for the following reasons: I won't be too redundant here, but we don't want the bombing to disturb the bighorn sheep. The bombing will rattle and damage cultural and archeology sites. I think the bombing will

PA-1
BI-3
CU-2
BI-1

negatively impact the avian wildlife of the region. BI-1

We would like to have the Fish and Wildlife Service continue to have their access so they can do their wonderful work that they've been doing in monitoring these populations. LU-2

On a personal level, I've only seen about a third of the Desert Wildlife Refuge, so I'd hate to see it taken away now. I'm just getting started. Las Vegas, when the Desert Wildlife Refuge was establish in 1936, was a dot on the map. Look at it now. The urban sprawl is coming up to the boundaries of the refuge practically.

People in that community like their outdoors. I'm actually really glad to see everyone tonight. I didn't expect this many people in support.

I'm also from north of Beatty, and we're worried about the mountain bike trails being taken away, but I want to point something out. A lot of people might know that Beatty's taken a lot for the team, and the expansion up there of the 18,000 acres will affect the headwaters of the Amargosa River. WA-2

And as some you probably know, there were a lot of nuclear tests that contaminated that water. It's only a matter of time before the contaminated

water actually leaves the military refuge and comes off. And I'm told that this fence that will get put around here, there's only like .001 chance that any debris will come out of this 18,000 acres, but if it does, think about wildfires. There were wildfires in Beatty in those areas of Bullfrog Hill after intense rains in 2005, 2006. HS-1

And also if there are some explosions or some accidents, I'm worried that some contaminants from those explosions will get into the headwaters and will get into the waters and that becomes a public health issue. It contaminates the water. It also damages the toad that we have out there, endemic Amargosa toad. WA-1 WA-2

So, again, let's maintain the status quo and don't take our land away. We want our access. We want our desert refuge. We want our public lands. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

IAN ZABARTE: Good evening. Is this on? Good evening. My name is Ian Zabarte. I'm the principle man for the Western Bands of Shoshone Nation of Indians. I-a-n, last name is Zabarte, Z as in zebra, a, b as in boy, a-r-t-e.

These are our comments on the U.S. Air Force Desert National Wildlife Refuge expansion. The Western Bands of the Shoshone Nation of Indians do not consent to the inclusion of any part of Shoshone country to be included into the boundaries of jurisdiction of any state or territory. According to federal statute, it created the territory of Nevada in 1861.

We never were conquered by the United States, or any government. We won the peace. We are not supposed to be always at war. That is an Americana achievement. We seek peace. We seek our

CU-9

homeland. We seek implementation of Article 6 of the Treaty of Ruby Valley to create the Shoshone homeland. Until creation of the reservation under Article 6, we seek a moratorium on expansion into the Desert National Wildlife Refuge.

The Air Force is not using a culturally appropriate context for determining potential impact upon Native Americans that include lifestyle differences: Diet, mobility, and shelter. We also require water necessary to meet the needs of the Article 6 of reservation.

Western Shoshone title is unextinguished, and its a significant encumbrance upon the Department of Energy, the Bureau of Land Management, and the Air Force efforts to site a high level nuclear waste repository and a military spent fuel facility at Yucca Mountain, because the Department of Energy cannot prove ownership. The nuclear regulatory commission has confirmed this. We are opposed to any defense waste repository for military spent fuel in Shoshone country that may at some time in the future be made out at the Desert National Wildlife Refuge under national security. CU-9

Until the Western Shoshone need on a treaty reservation is met, the military can and only be

viewed by the Shoshone people as destabilizing the Shoshone Nation. Thank you.

CU-9

[redacted]

CHARLES WILLIAMS: Actually, it's Charles Williams, C-h-a-r-l-e-s, W-i-l-l-i-a-m-s. Very poor handwriting.

So you wanted the environment stuff. Below the dam, Willow Beach, motorized boats are restricted during a good number of months out of the year. I don't know the decibels of an outboard motor going through the canyon, but I can guarantee it pales in comparison to what flies over my house, which is about a mile south of here, on a daily basis.

So if the scientists that are in charge of that group of -- well, the reason that motor boats are restricted is because it disturbs the animals that can't come down and get the water, such like that. So somehow the Air Force thinks that the bighorn down there, who can't tolerate an outboard motor, can somehow tolerate -- the ones in the Desert National Wildlife Refuge can tolerate a jet flying over.

BI-3

Having a master's degree, I took some courses in public policy, and I learned that public policy, such as what you see in this written document and heard up there, is an acceptable reality. In other words, they're not based on science, not based on economics, not based on anything except the wishes that people hope to come true.

To that point, page six says the decibel levels won't go above 65, and one to five sonic booms a day are expected. You can't land a Cessna without going over 65 decibels. That's normal speech. So that's just blatantly false. If that one point, which I happened to find when I was going through here, is blatantly false, I guarantee you the rest of this stuff is just garbage. And I have the education to back that up. NO-2

I grew up in Moose Creek -- well, I grew up in North Pole, Alaska. I lived a lot of time in Moose Creek, which is right outside Eielson Air Force Base. Anybody in the Air Force knows Eielson Air Force Base. Just outside that base, across the highway, is a very large bombing range. I don't know, but I imagine it's larger than this one in Nevada.

What happens up there? Again, I grew up BI-46

there so I know what happens on that bombing range. A-10s chase down moose and blow them up with the .50 millimeter cannons on the front, or I might have that size wrong, but it's very large cannons on the front of those. The fighter jets chase packs of wolves and kill them, and all the people think that's great.

BI-46

Just outside Eielson there's a large complex that pumps air into the ground, along with some bugs, to help decontaminate the fuel that's been dumped, because when you have a landing strip, you have to dump fuel sometimes. That whole area is contaminated. I worked hazardous waste on the nearby Fort Wainwright. The environmental impact will be substantial.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

SEAN SCRUGGS: (Speaking native language). My name is Sean, S-e-a-n, Scruggs, S-c-r-u-g-g-s. I do not speak for all of the tribes represented in this room. They are all sovereign nation tribes. They have a right to speak and give their own opinion. I am a Fort Independence Paiute from California, and I have been involved in the

consolidated group and tribal organization, which has also been -- it's an eight member representation panel, and we have been doing legislative impact survey studies and we've been involved in this process for about a year and a half.

I've worked closely with many of the military officials in here tonight. They're good friends. They're good people. They're doing their due diligence. There has been 106 consultation, maybe not with all of the tribes, so that's why I cannot speak for any of the tribes necessarily. I only speak as one person who's been on the panel to conduct studies.

For anybody who missed it tonight, this is Appendix K. This is about 56 pages, and it's a bunch of work that our group or organization has done out on the range and in consultation with many of the Native Americans, 17 different tribes within Nevada, California, Arizona, and we've come together to put our thoughts in this document.

There are many of them. We discuss in this document that we all follow the legislative impacts to Congress. This is comments that they will have to see and read. They talk about holy land violations. They talk about the Ruby Treaty violations. There's

many things in here that we've considered, from the very insects, to the birds, to the air quality, and how this land withdrawal affects all cultural resources. And it's a big impact.

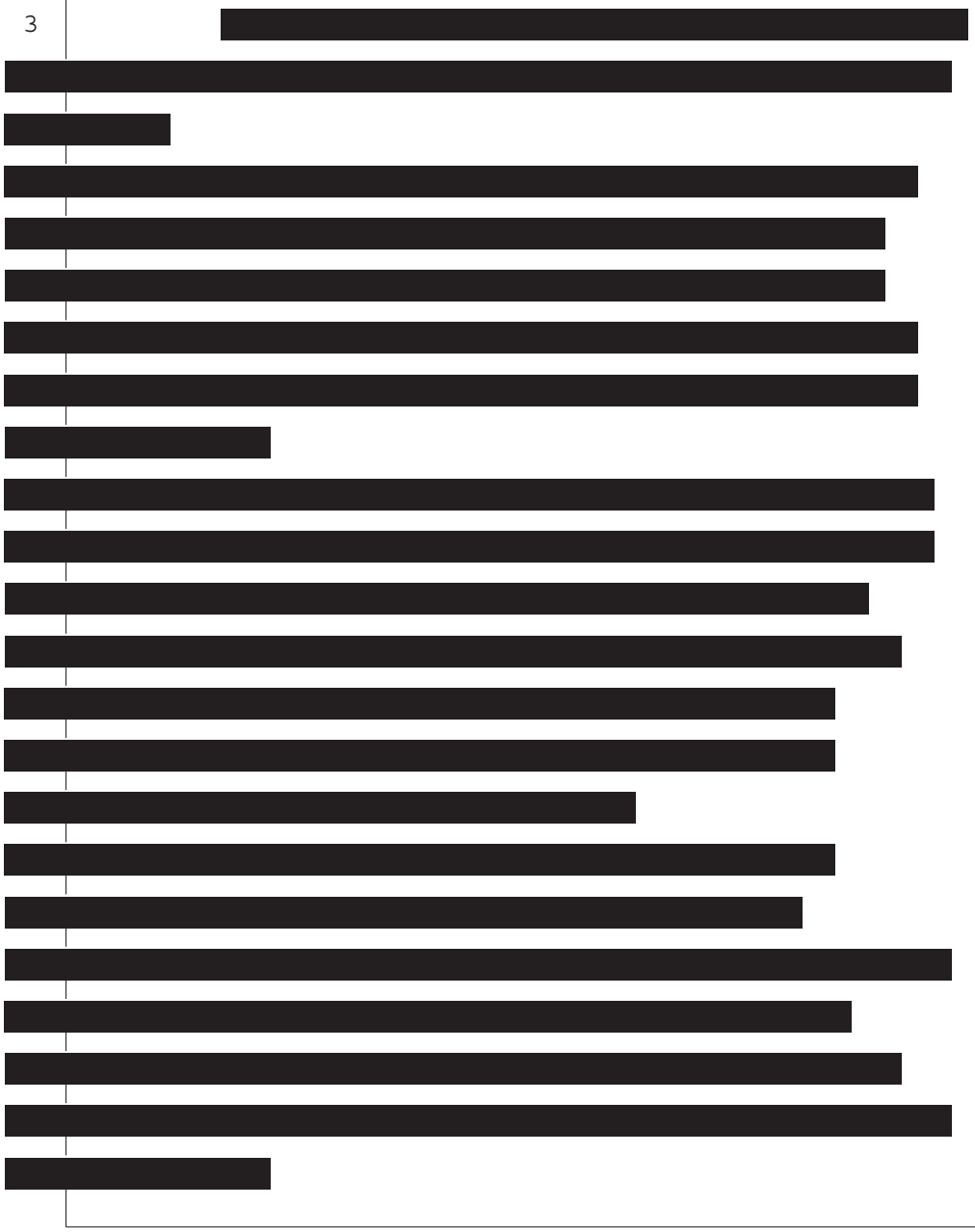
I challenge anybody to look at this tonight to let them know, I'm letting you know that Native Americans do have a voice. It may not be the voice that all of the tribes want, that's why, again, I cannot speak for them, or their, maybe how they missed their opportunity to express, but they do need to know that we have had some kind of voice.

Why it's important for me to tell you this is I'm also a retired captain from the United States Air Force. And it's difficult for me at times to hear those in this room be beaten up, because it's not their personal view necessarily, but this is the option they want. They are fulfilling the role, their mission, as they're tasked to do. They have taken time, officials on base, and I'll state one of them specifically, Colonel Murray. He's the air base commander. He has done his due diligence. He's gone above and beyond many circumstances to make sure that natives do have a voice. There are Air Force officials who are concerned. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN:

Thank you.



[redacted]

PALOMA MAITE: Hello. It's Paloma Maite, P-a-l-o-m-a, M-a-i-t-e. I'm a member, executive board member of the UNLV Native American Student Association, and I just want to express my opinion for alternative 1, for no further expansion of the NTTR range.

Just, if you've seen the amount of concern from the public, and a lot of us actually feel, and myself included, feel like I have -- I'm barely finding out about a lot of this information, so I think these types of things need to have more transparency for the public. And I really do appreciate these public hearings. NP-1

And I also just want to say that not expanding would give an opportunity for the government to show respect to the indigenous nations here in Southern Nevada and keep a very strong government-to-government relationship between the native people, the Nu-wav of Southern Nevada and the government.

And I'm indigenous. I'm a Oglala Lakota but I've lived in Nevada. I've lived in Las Vegas my whole life. I was born here. And being able to go into these public lands has really shaped who I am as a person. And people are always telling me like, "Oh, how did you grow up in Vegas? It's so harsh. It's so harsh." But these lands, these areas are really special. They give us an opportunity to really feel connected to where we are. And I think that needs to be protected for all future generations. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

MAURICE FRIEDMAN: It's Maurice, M-a-u-r-i-c-e, Friedman, F-r-i-e-d-m-a-n. I'm also a performer, known as Mortimer. People have pretty well covered the technicalities of it. More military action on wildlife land will result in the death of more animals. Paving it over will result in the usual construction consequence of pollution to water. And as one gentleman mentioned, if you dig up land or if you do construction on land where there is fallout that's landed there from multiple nuclear tests,

you're going to stir up old fallout and we'll breathe it.

But I'm not here completely to deal with the technicalities which happen, because I'm also a singer-songwriter, and I'd rather deal with the emotional consequences of it.

(Singing.)

So I say please, please don't bomb, please don't bomb bighorn sheep. I said please, please don't bomb, oh, don't bomb our bighorn sheep. I said please, please don't bomb, please don't bomb our bighorn sheep. Oh, why don't you leave them for the future to see.

PA-1

And I said please, please don't pave, don't pave our desert. Oh, please, I said please, please don't pave, don't pave our desert, oh, please. I said please, please don't pave out in our desert, oh, please. That's where the range seeps to the wells that we need.

And I said please, please don't dig, don't dig that fallout for me. I said please don't dig up that old fallout, oh, please. I said please don't dig up that old fallout, oh, please. Because it ain't nothing nobody needs to breathe.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN:

Thank you.

[redacted]

[redacted]

ANNE BELOVICH: My name is Anne Belovich, A-n-n-e, B-e-l-o-v-i-c-h, and I volunteer at wildlife refuges. I oppose any expansion. In fact, I support the No Action Alternative. In your brochure, you listed the cost of removal of your facilities and decontamination of the land to be somewhere in the neighborhood of $2.7 billion and it would be a delay of opening of the NTTR land of up to 18 years.

If you are allowed to expand, how much more money will it cost us taxpayers to mitigate what you have destroyed? Save our money. Just leave, like you did in the Florida Keys, and I will volunteer, like I did in the Florida Keys, to help clean up the mess. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

CATHERINE BUCHANAN: C-a-t-h-e-r-i-n-e, B as in boy, u-c-h-a-n-a-n. I'm an environmental engineer, and after going through this document, it

looks like that some people actually use the categorical exclusion process to do their NEPA evaluations, and that is completely irresponsible. NEPA, the National Environmental Policy Act, it declares that you must address all impacts to lands, to the animals, to the people, socioeconomic instances, everything, all concerns from the public. And I'm hearing tonight that pretty much a lot of that has not been done. NP-7

I don't see anything addressing the Endangered Species Act at all, and there are lots of endangered species here in Nevada. So you guys have a big job to do at doing a proper EIS. BI-24

And also you're supposed to declare where the money is going to come from for cleanup, how all the impacts are going to effect groundwater, surface water, air pollution, et cetera and so on. That's all I have to say. GE-3 WA-1 AQ-1

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

RUGER OSTRANDER: R-u-g-e-r, O-s-t-r-a-n-d-e-r. A Southern Nevada citizen, volunteer for the Sierra Club and Nevada state parks.

I'm a college student, and I speak for conservation for the flora and fauna and cultural history sites, as well as paleo fossil sites that the jet bombings will kill a lot of the bighorn, among other things, Nevada wildlife, such as the burros and mustangs, and damage the cultural heritage sites, such as the petroglyphs and buried artifacts.

PA-1
BI-1
BI-3
CU-2

It would be such a tremendous loss to our state treasures and outdoor tourism, as well as ecological damage from species as well. Thank you for your time. I hope the Air Force follows through with a conservation plan.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

CLINT BENTLEY: Clint Bentley, C-l-i-n-t, B-e-n-t-l-e-y, from the Fraternity of the Desert Bighorn. We have a written statement. I'm just going to go over a couple of the items in here for the public. Over half of the land area of the DNWR is incorporated in the Nevada Test and Training Range where public access is prohibited. Current boundaries of the NTTR includes the desert mountain ranges, all the desert bighorn sheep places as well

as other wildlife.

The Fraternity of the Desert Bighorn is interested in these lands in both in conservation of wild sheep and the safety of the United States national security, as well as ensuring placement of these interests as maximally efficient and effective. As advocates for multiple use on federal lands, we are well aware that not all of these uses can occur on all the same areas at the same time.

However, some overlaps are possible, and all our modern abilities in both conservation and training should be employed to avoid needless segregation of land. Our main concerns are with alternative 3C. They make one proposal to withdraw the removal of 300,000 acres of public land. This is an area roughly half the size of the state of Rhode Island.

Our second one is the proposal to withdraw that will close the primary access road commonly referred to as the Alamo Road, which is a historic travel route that predates European settlement to public traffic.

Our third one is the proposal to withdraw that will close down public access to six bighorn sheep guzzlers that were built with sportsmen's

LU-9

conservation dollars. This represents half of the improvements of over $225,000, plus the total cost that go -- it does not include the cost that include the ongoing costs associated with annual inspections, maintenance, and repair visits. LU-9

Fourth, the proposed withdrawal to remove public access to springs which have historically been maintained for desert bighorn sheep. LU-9

Fifth, closed wilderness will restrict access to five highly sought after hunting units. All five of these units are prized desert bighorn sheep hunt units that have historically produced large trophy animals. LU-8

Six, the action will reduce the number of acres open to public for camping, hiking, backpacking, horseback riding, game bird hunting, trapping, and other forms of recreation associated with public use lands. LU-1

In closing, I'd just like to remind everyone that this is a legislative item, and make sure that you contact your legislative personnel. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

CYNTHIA SHROBA: C-y-n-t-h-i-a, S-h-r-o-b-a. I'm speaking as a taxpaying citizen, although I hold multiple roles, I'm an educator, I'm a trained geologist, I hold a Ph.D. in geology. I teach at the College of Southern Nevada, although I'm expressing my own views and not theirs.

I would also like to indicate that I'm an outdoor enthusiast, that I am an off-road enthusiast, a birder, amateur photographer, et cetera. So I have developed my career and much of my recreational opportunities in my adult life on public lands and having access to public lands. I think that the public land access that we have here in Nevada is unique in a variety of ways.

The Basin and Range is a unique geological environment. It is world renowned for the exposures of our rocks of a variety of ages, some of which are global reference sections that scientists from around the world need access to in order to understand Earth's ancient history.

For example, in the Arrow Canyon Range, which is already protected within the national wildlife refuge, there is a global boundary strata type for a portion of geological time that is very significant. Scientists from around the world visit

that site. And the fact that it is accessible to scientists around the world is critical.

Also, within another part of the sedimentary sequence there is preserved the only example that I am currently aware of in the world of a marine meteorite impact deposit, which is called the Alamo Breccia. We have only really understood the significance of the Alamo Breccia for about ten years. Although it had been mapped previously, we don't know the extent of these deposits. If some of this land is withdrawn from public access, and the access of scientists, we risk not learning about a critical period of Earth's history.

So I would suggest to you to please limit your expansion and allow access to these lands. At some point we have to stand up and say, as so many have tonight, no further. We need access to these lands to protect the species and the other resources that are critical and limited. LU-2 BI-4

So thank you for your time, your attention, and please listen to the voices that people have brought to you this evening. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

VICKIE SIMMONS: My name is Vickie Simmons, V-i-c-k-i-e, S-i-m-m-o-n-s. I'm coming -- well, I can't let these fine people speak -- I'm from a small tribe, and our Chairman was here earlier, so I wanted to say that I appreciate him speaking for us, and I just can't let my other fellow tribe people, you know, speak without me speaking. But I'm on the environmental committee, I'm on the Tribal Council, and I just want you guys to not forget that we're still here. There's not a lot of us. There's a little bit of us left.

And my mom, thanks to the Air Force, she married my dad, but she came back to the reservation and she spent her last years traveling all around this whole area. She was at the Alamo Wildlife Refuge and she worked with all the natives. And it was really nice to see the Indian people come back together and they spoke their language and they visited all the sites, because that's where we were, all over. Wherever there's water, that's where we're at. There's food, there's traces of us.

And, you know, I'm so thankful for those people, because we didn't have access to those lands, but thanks to the Fish and Wildlife, they did

these -- a lot of archeological studies and surveys, and we regained a lot of our history. And we were all over. There's a small amount, and I'm really -- I'm proud that we're still here.

And I don't trust the Air Force, just the way I don't trust all the people that come onto our land and they want to come over there and they want to say they're going to do everything right, they do the environmental impact statements, they do all that, and guess what? All those people go and they leave with a different set of people to come through. They said they were going to do that, but all those guys take off. And I think that's what the Air Force will do. You're here today, but you guys all switch and change. Our Tribal Council will switch and change, and guess what? The environment suffers.

And what's going to happen if there's a war? You know, it will go crazy, and then we'll all -- everything will be pushed aside. I think I'm the last speaker, so all right. Thank you.

(Applause.)

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

3059-3065

NEVADA TEST AND TRAINING RANGE
LAND WITHDRAWAL DRAFT LEGISLATIVE
ENVIRONMENTAL IMPACT STATEMENT

REPORTER'S TRANSCRIPT OF PROCEEDINGS

On Wednesday, January 24, 2018
At 5:30 p.m.

Held at the Beatty Community Center
100 A Avenue South
Beatty, Nevada

Reported by: Deborah Ann Hines, CCR #473, RPR

INTEGRITY COURT REPORTING, LLC 702-509-3121
7835 S. RAINBOW BLVD., SUITE 4-25, LAS VEGAS, NV 89139

KEVIN GUADALUPE: My greetings. Thank you for giving the presentation. I'm Kevin Guadalupe with the Nevada Department of Wildlife, and I primarily have been surveying for the Amargosa toad here since about 2010, which is a continuation of the surveys which Nevada Department of Wildlife has done since 1998, in cooperation for the most part with Fish and Wildlife Service, the Nature Conservancy,

and last but not least with the corporation of local landowners here. I'm also the son of Lieutenant Colonel Ron Guadalupe, and I was born in an Air Force base in Germany, so another fun fact.

The one main thing that I wanted to get to the point of, and from our surveys of this year, and I also wanted to come and address this on my own because sometimes the foot soldiers on the ground, the generals don't always hear, you know, so filter to the top. So I'm the one in the field doing the surveys. I know where a lot of these toads are, and it looks like a lot of the data didn't quite reach there yet, but I'm going to make sure that it does.

I'm going to forward all the GIS layers that I have, which I don't know if they made it or not, but one of the specific ones I wanted to mention today were we were allowed, for the first time ever, on the Coffer ranch during June surveys. And I noticed in particularly in the LEIS that it said the next closest Amargosa toad was two miles from the proposed alternative 3A area, but we surveyed right at the Colson Pond, which is the very upper end, and we found Amargosa toads there. And I have this document. I have all these recorded. BI-11

So since 1998 we've been putting a passive

integrated transmitter on each toad and we go out and we do population estimates. And it's been petitioned twice. And due to the local landowners, you know, allowing us on their land, doing surveys there, improving habitat there, we've been able to stop them being listed as an endangered species twice.

So it's kind of an amazing thing because it's the upper headwaters of the Amargosa River, and anyone who's familiar with this entire drainage system, it ends in Death Valley and there's a multitude of endangered species, probably most notable is the Devil's Hole pupfish, one of the rarest species on the planet.

So to do that similarly in a county, in Nye County where you have all these endangered fish species and others, Springsnails, there are Oasis Valley Speckled Dace, it's a really positive story that a lot of people locally know about. I just wanted to make it be known that this data needs to get to you guys. So that's about it. And I have all these. Come talk to me.

HEARING OFFICER COLONEL CHRIS SCHUMANN: I'm sorry, could you just spell your last name for the record please.

KEVIN GUADALUPE: G-u-a-d-a-l-u-p-e,

Guadalupe.

HEARING OFFICER COLONEL CHRIS SCHUMANN: And if you would like to provide that written document to the court reporter, she can include that in the record.

KEVIN GUADALUPE: Yes.

HEARING OFFICER COLONEL CHRIS SCHUMANN: If you wanted to.

KEVIN GUADALUPE: Yeah. And I'm most likely going to go through my channels to make sure you guys get the GIS layers, just so I don't get in trouble or, I don't know.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Understood. Thank you.

[redacted]

BRAD HUNT: I'm Brad Hunt. I am one of the founding partners of STORM-OV, which was the group instrumental in doing all the habitat restoration to keep the toad from being listed, and also TRAILS-OV that are in the process of putting in all mountain bike trails.

And one of the things that we had concerns about is our master plan current trails proposed, which you showed there, one of the tails is going through that area to come back around to Oasis

SO-4

Mountain where there is a historic mining area.

And also to reiterate what Kevin said about the toad, that we have spent a lot of time and money and effort to keep those from being listed to impact us. And at this point, the more withdrawal you have, you know, it's going to affect where we can go and having the property owners with us.

So, you know, we've got a bullet point here of things we put up. And also the last directive from the Secretary of the Interior, Order Number 3356 definitely states that continued department's effort to enhance conservation, stewardship, increase outdoor recreational opportunities for all Americans, which is in effect being where you're going will be effecting that. I appreciate it.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you, sir. Thank you.

[redacted]

SO-4

BI-11

KEVIN EMMERICH: Thanks. My name is Kevin Emmerich. It's E-m-m-e-r-i-c-h. And I'm speaking tonight as a resident here. And I wanted to ask you to support the alternative 1, that's the status quo alternative. And I'm worried about the mountain bike trails in the area behind there and the access that's going to be cut off there. It's a really beautiful

SO-4
LU-1

area. I think Dave Spicer and a lot of folks did a really good job building those trails, and they compliment the scenery really well.

And I notice, and I go out there and I hike on them a lot, and I notice that a lot of people are using those trails now. There's quite a number of people coming to this town, they're spending money. And looking at your economic analysis, I don't think that this community is going to get too much out of the expansion, but if you leave it alone, like in that status quo alternative, it will continue to grow and people will continue to appreciate that area.

The other thing is there's still an energy transmission corridor going through that area. And a lot of people here remember in 2005 or '06, there was a big rainy year, caused a lot of growth out there, even if it's in the desert, but still there was a lot of undergrowth. There were lightning strikes that summer and there were fires in the east and west. And if you start flying more planes and aircraft over there, and there's an accident and they hit a transmission corridor, think about wildfires and how that might come to private property and how expensive that might be.

If you're going to build fences around

BI-5

there, I'm worried about how that's going to impede wildlife connectivity. There's pronghorn antelope out there. You know that base, as it's existing, it's at the size of Delaware. It's like 2.9 million acres. I'm sure you can creatively find a way to use that existing land and not take more. I think this community has been affected by a lot of big military land grabs. I don't think people appreciate that. It's not that they don't appreciate the military, it's the public access being lost. And I agree with that, so please don't do it. Thanks.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

BI-5

PATTI BUTLER: Thank you. My name is Patti Butler, B-u-t-l-e-r. I'm mostly concerned with the Amargosa River. A lot of people don't realize it, but the headwaters to the Amargosa start at Paiute Mesa, which is the area that you already have under your control.

Now, it's my understanding that if you take area 3A to use that as a buffer to turn the current electronic, your electronic warfare area, you'll turn that into a live ordinance bombing area, you'll be going directly over the area where the Amargosa comes

down through -- it's an underground river, by the way, so you don't see it, and it's very close to the surface. And you would be coming down, you would be bombing the area where the river comes down, runs in, and it runs down through Rick Beatty. It's approximately 125 miles, and it goes through the Amargosa desert, makes another -- a big U-turn, and the mouth is at Bad Water in Death Valley.

If you were to damage the headwaters, or any of the area in your bombing areas, then you could conceivably dry up the Amargosa. And as we've already heard, the Amargosa is home to some endangered species with the Amargosa pupfish. It also dramatically increases the Amargosa toad.

And I would suggest that if you want to do that and turn range 77 into a bombing range, that you would have a NEPA study done for that, for the range 77 for bombing, that way you would eliminate any domino effect of wiping out the river basically.

I'm not a public speaker, please excuse me, and I wasn't prepared for this until talking to a couple of other people tonight.

HEARING OFFICER COLONEL CHRIS SCHUMANN: You're doing fine.

PATTI BUTLER: So I would just consider an

WA-2

BI-12

BI-11

PA-28

alternative of leaving the status quo, because the damage that can be done down the line is just, it's too dangerous to the environment.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you. Thank you very much.

[redacted]

[redacted]

DIANE MCGINNIS: Hi. My name is Diane McGinnis, M-c-G-i-n-n-i-s, and I am a property owner and a healthcare provider in the community. And I just want to ask that you consider all of my patients that have been my patients in the past here and will tell you that I always tell them to get out and walk, get out and move. And any time that there's less room for them to move, I get upset.

So I do ask that -- I wanted to talk on the alternative 4. The choices are 4A, B or C, it doesn't look like there's any other choices, and ask that -- I support 4A personally, because 20 years from now we don't know what will be here. That's one whole generation basically. 4B is two generations. And, you know, we have children that live in this town and things we don't know what they'll need 20, 30, 40, 50 years from now. Thank you.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you, ma'am. Thank you.

[redacted]

KARL OLSON: Good evening. My name is Karl Olson. And on the map over there, I'm the one that designed all the geological historical poker run trails. And, first of all, I want to thank, they did take them out. But 3A-1, I think it is, that took where the boundaries were and pushed it back and allowed all the existing roads, they did that on 3A-1, I do believe it was 3A-1.

And I can tell you how well we did this year with our historical geological runs. And every year it keeps growing. More and more people come to the area, and they've been using the roads responsibly. And a lot of people are returning, and it's become -- you know, Beatty doesn't have much going for it, right? I mean, there are some mines but they come and go.

But actually as far as -- I think tourism is the answer to this place, right? The more room you have and the more area you can include in the runs, and there's a lot of area we can still include, I think that's really important that that's been taken into consideration. SO-4

And the other thing that I talked about to one of the fine gentleman was when he said about, if you mark an area off, like they did at 29 Palms, the Marine Corps base, so certain times of the year when they're doing an operation down there, that's closed to the public. Other times of the year it's back open for activity. If that's true, and you can actually do that, there should be a guarantee that you can do that, that you can go into the areas when you're not using them for operational purposes. PA-10

And I guess that's all I have to say, except for one other thing. I think 2 is the right alternative. Thank you.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you, sir. And, sir, could you just spell your name for us for the record.

KARL OLSON: K-a-r-l, O-l-s-o-n. Karl is the first name, O-l-s-o-n.

HEARING OFFICER COLONEL CHRIS SCHUMANN:

Thank you, sir. Thank you.

[redacted]

RYAN TWENEY: I'm sorry, I thought I had signed up. My name is Ryan Tweney, T-w-e-n-e-y. I'm a resident of Beatty. I'm concerned about alternatives 3A and 3A-1, in part because I have not seen maps that allow me to understand exactly what's in the area that the Air Force wants to remove. What we really need is a large map of that area, superimposed on a topographic map which shows things like historical mines and old trails and things like that. Without that information, it's really hard to evaluate the impact that this will have. PA-30

It will have some impact, as you've heard from other commenters, and I would like to support those comments but also suggest that in the absence of a careful study of exactly what's in those areas, it's impossible, for me at least, to make an informed judgment about this alternative.

So I'd like to have that as a matter of record. If such a map can be delivered to the town office before the March 8th deadline, I think a lot of us would really appreciate it. Thank you. PA-30

HEARING OFFICER COLONEL CHRIS SCHUMANN:

Thank you, sir.

[redacted]

3066-3068

NEVADA TEST AND TRAINING RANGE
LAND WITHDRAWAL DRAFT LEGISLATIVE
ENVIRONMENTAL IMPACT STATEMENT

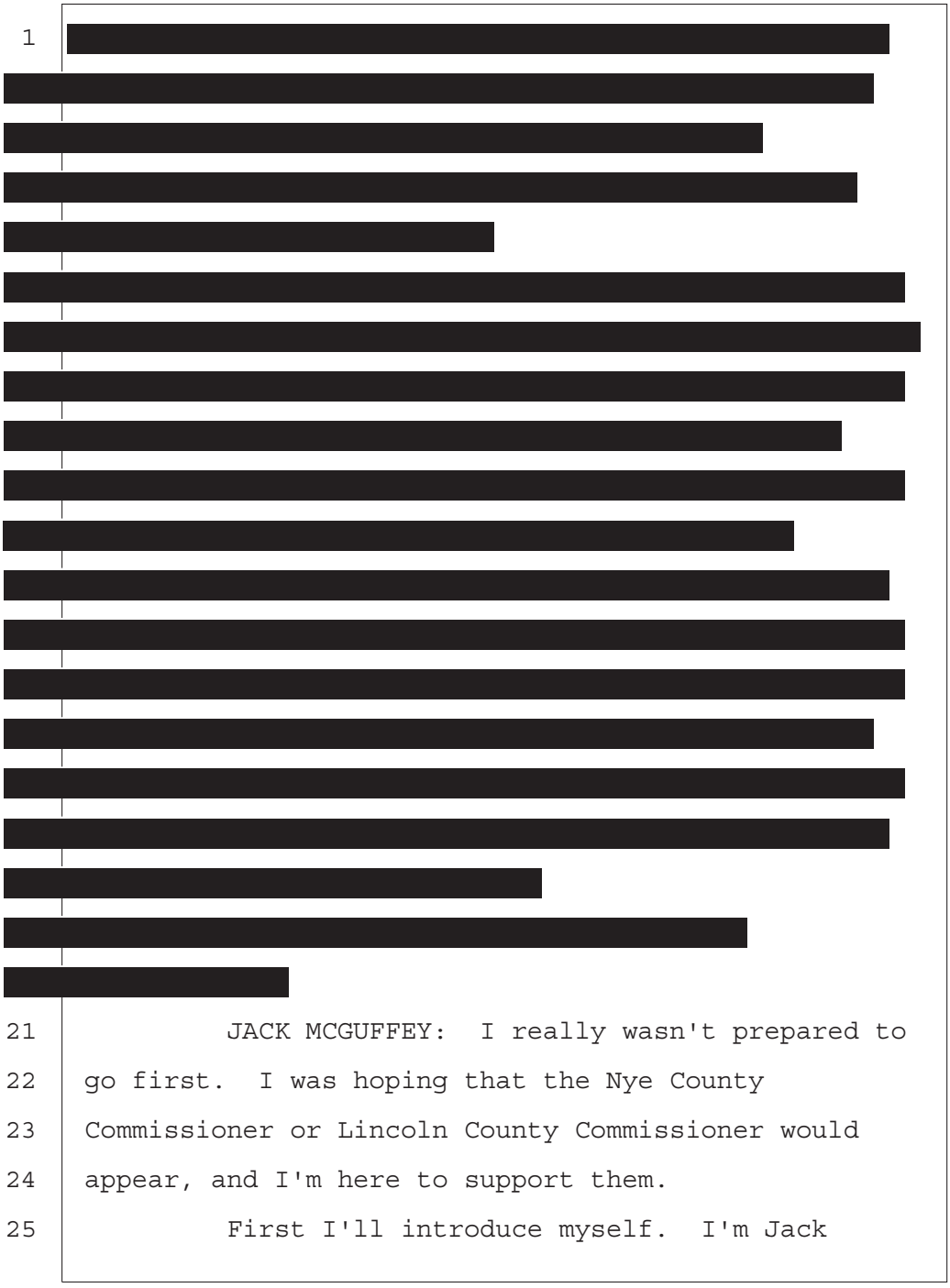
REPORTER'S TRANSCRIPT OF PROCEEDINGS

On Thursday, January 25, 2018
At 5:30 p.m.

Held at the Tonopah Convention Center
301 Brougher Avenue
Tonopah, Nevada

Reported by: Deborah Ann Hines, CCR #473, RPR

INTEGRITY COURT REPORTING, LLC 702-509-3121
7835 S. RAINBOW BLVD., SUITE 4-25, LAS VEGAS, NV 89139



JACK MCGUFFEY: I really wasn't prepared to go first. I was hoping that the Nye County Commissioner or Lincoln County Commissioner would appear, and I'm here to support them.

First I'll introduce myself. I'm Jack

McGuffey. I'm the County Commissioner from Storey County. I'm the vice chair there. I'm on the NACo board, which is the Nevada Association of County Officers or County Commissioners. So we work as a team. There's one county commissioner per county on the board. We meet monthly in Carson City.

We just met last week, that's how I know about this meeting tonight, so I came down to support the Nye County and Lincoln County Commissioners because this effects them the most. And we're going to have the same kind of scenario up north when the Fallon Air Base wants to do the same thing, expand their facility. So we all support each other as much as we can.

I'll make this quick. My personal concerns are that we're taking more Nevada land away from the citizens of Nevada. I grew up in Nevada. I've been all over this state four-wheeling, old car hunting kind of thing. There's all kinds of old stuff out there in the desert. And there's some really cool hot springs and stuff like that that I know that they're in the bull's eye up north.

So I'm concerned about public access. I understand why they need more space for the ordinance they have these days, but I think they need to be

friendlier with the residents of Nevada and need to maybe have seasons where the residents can go out there and go quad riding and hunting without a special permit for bighorn sheep. Just leave access open to us, you know. And then in wintertime, nobody wants to go out there. That's the bad time to even be out there, so you might consider doing something like that, just opening it up for a few months in the summer and then just close it off. I realize that creates logistics problems making sure the range is clear and stuff like that, but I think if you want to be friendly, you would help keep everything open as well. LU-2

The PILT money, I'd like to thank Mike here, Mike cleared it up, the PILT money, the 682,000 that was mentioned on the screen, is an additional. That sounds pretty good to me, but I can't speak for the Nye County Commission.

So I guess the other problem I have is, you know, it's not only the military needs more space, but then we have the presidents who are creating these monuments. The ridiculous size of these monuments is taking up more space. So I think I'm kind of trying to maybe put my foot down just like, enough is enough. Stop taking and give back. Thank

you.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Sir, can I -- thank you, sir. Can I ask you to spell your name for us for the record. Thank you, sir.

JACK MCGUFFEY: It's Jack McGuffey, and it's M-c-G-u-f-f-e-y.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you.

[redacted]

JOE FALLINI: My name is Joe Fallini. It's spelled F-a-l-l-i-n-i. I'm on Twin Springs Ranch. It's north of the restricted areas down there. And I fly a helicopter to gather my cattle. We have three springs that's in the EC east. We have to maintain those springs all the time. And we got one that's coming up, Sumner Spring on George's Water Bowl, which is going to have to be re-dug out. And I don't want to get in the position where I have to go to the Bureau of Land Management to do maintenance on that, because we have an agreement with the Air Force that we have access to that and we can use equipment to maintain that.

I just wanted to make sure that we keep that, that we don't get in the situation where we have to do an impact statement and have to wait

30 years to get something done. I've got stuff that I've got before the Bureau of Land Management, it's been over 30 years and I've got permission, even though we had court orders that they had to do it. So I don't want to get in the position where I have to go up there and fix those springs and I won't be able to do it, I'm held back by the Bureau of Land Management and not, you know.

One thing I'd like to say is you guys are withdrawing this under the Constitution of the United States. You can go to the state legislature. I don't know why you're going to the Bureau of Land Management, because that's where you're going to have to get your final decision. I just want to make sure that the people that's running cattle in there, such as Blackenbury, make sure that if they're wiped out of there that they have compensation for that. And that's my concern, that you take care of the ranchers. NP-10

And I'm also concerned a little bit about the miners, because down there out there by Beatty where you're taking that area, that's an awful good place where they probably do a lot of exploration. ER-3

So that's my comments. And my phone number is [redacted]. And I represent the Twin Springs

Ranch. I don't want that agreement messed with that we have an EC east that includes three places, George water, Cedar Spring, and Sumner Spring. And I don't want to be in a position where they shut me down, like the Bureau has, in some 30 years. I thank you, and I certainly appreciate the Air Force to keep this country safe. I've always respected them. Thank you.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you, sir. Thank you.

[redacted]

WYNNE BENTI: My name is Wynne Benti and I'm here from Bishop, California. And actually I also work with Public Lands Committee and the Toiyabe Chapter of the Sierra Club. And we are reviewing the LEIS now, and so we'll actually make formal comments before the deadline on March 8th.

But I just wanted to read a few things from an article about the Desert National Wildlife Refuge. I've been climbing there since for about the past 30 years, and just wanted to talk a little bit about the Sheep Range, which is really the heart of Desert

National Wildlife Refuge, which is where the Alamo withdrawal will take place, the 227,000 acres. And so I'll just read this real quickly.

"In the heart of the Desert National Wildlife Refuge, north of Las Vegas, the Sheep Range is home to one of the most isolated and biologically diverse communities in the Mojave Desert."

"The USGS report, Hydroclimate of the Spring Mountains and Sheep Range, Clark County, Nevada, describes the Sheep Range's high elevation communities as 'sky islands,' noting that the sky islands harbor more than 41 percent of the endemic species in the Mojave Desert Ecoregion. 550 million years in the making, and evolved from the Paleozoic Age, the extraordinary biological communities of Sheep Range have adapted both to the arid Mojave Desert and to the Basin and Range Physiographic Province.

"The Nevada Test and Training Range dates to World War II when environmental awareness and concern were quite different from the present. Because the range is off-limits to the public, we don't know the extent of the contamination inside. If California bases are an example, contaminants were buried, dumped or released on the ground, in the air, and in

HZ-1

the water."

Of the 98 EPA Superfund sites we have in California, 26 are operated by the military, their contractors, or the Department of Energy. Of those, nine are operated by the Air Force, and at those bases, soil and groundwater have been contaminated by volatile organic compounds, metals, et cetera, et cetera. So these would be in addition to arsenic and tungsten which already occur naturally in Nevada's groundwater and soils.

But we are leaning towards alternatives 1 and 4, and are fairly opposed to 3, which are large land withdrawals from Desert National Wildlife Refuge, which was created to protect the desert bighorn sheep and the Sheep Range, being the heart of that refuge.

So, anyway, I was saying, we're going to go, and we're still reviewing the LEIS and we'll make our comments more formally before the deadline. But thank you, and thank you for all the Air Force does for our country.

HEARING OFFICER COLONEL CHRIS SCHUMANN: Thank you. Ma'am, I'm sorry, can I ask you to just spell your name for us for the court reporter.

WYNNE BENTI: My first name is Wynne,

W-y-n-n-e, and the last name is Benti, B-e-n-t-i.

HEARING OFFICER COLONEL CHRIS SCHUMANN:

Thank you.

A.4.2.4 Native American Tribal Comments (CINs 4000-4016)

4000

By Hand
For the Record
I.Z.

Comments of Ian Zabarte, Principal Man

Western Bands of the Shoshone Nation of Indians

[redacted]

P.O. Box 46301, Las Vegas, NV 89114

January 23, 2018, Las Vegas, NV

On the United States Air Force DNWR Expansion

The Western Bands of the Shoshone Nation do not consent to the inclusion of any part of the Shoshone country to be included in the boundaries or jurisdiction of any state or territory (Nevada Territorial Act 1861).

We were never conquered. We won the peace by the 1863 Treaty of Ruby Valley that is in "full force and effect."

Western Shoshone title has not been extinguished as required.

We seek the implementation of Article 6 of the Treaty of Ruby Valley to create a Shoshone homeland.

Until creation of a reservation under Article 6, we seek a moratorium on expansion into the DNWR.

CU-9

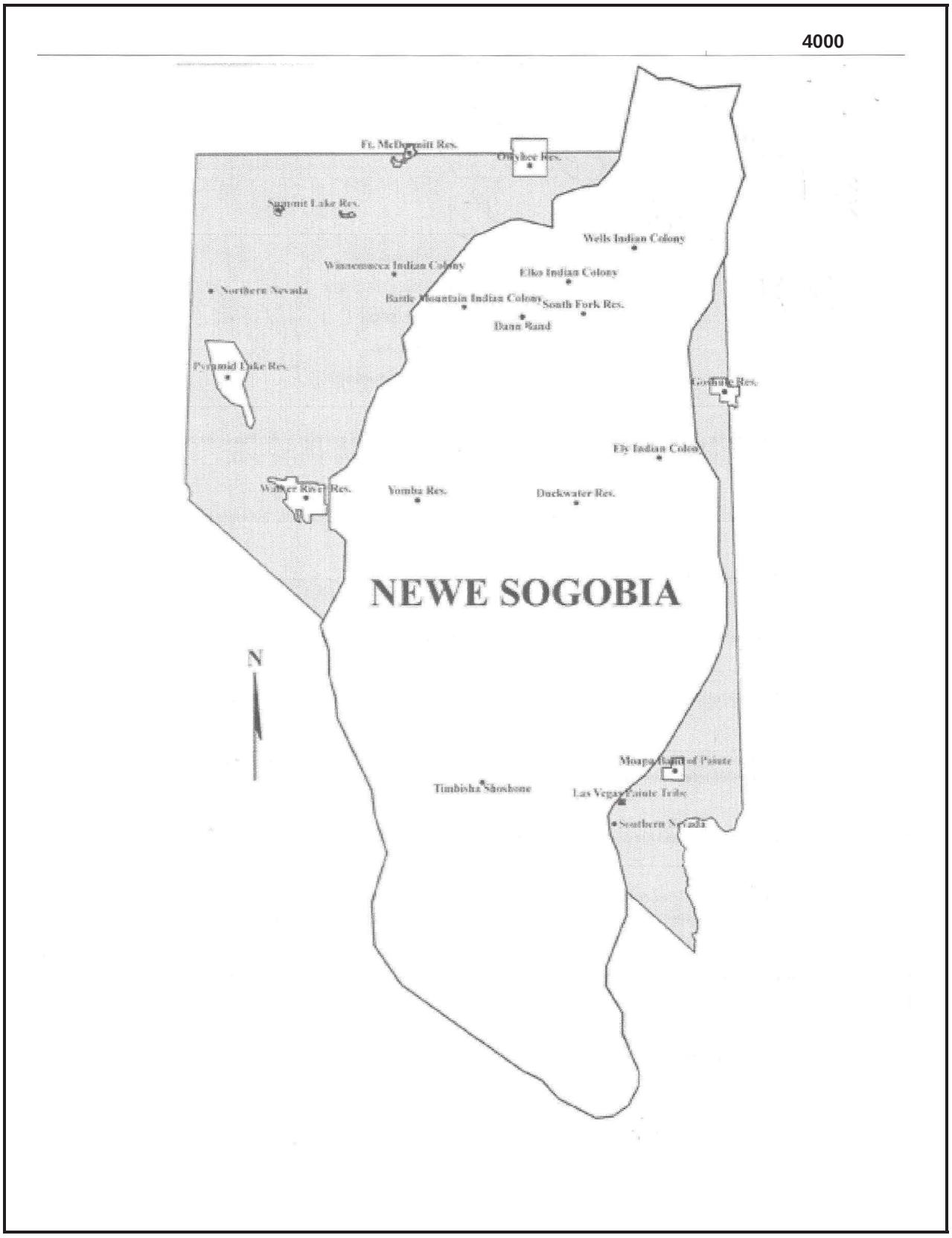
Air Force has not used a culturally appropriate context for determining potential impact upon Native Americans that include lifestyle differences—diet, mobility and shelter.

Water necessary to meet the needs of the Article 6 reservation are required.

Unextinguished Shoshone title is an encumbrance on DOE, BLM and AF efforts to site a high level nuclear waste repository/military spent fuel at Yucca Mountain because the DOE cannot prove ownership.

We are opposed for any Defense Waste Repository for military spent fuel in Shoshone country or the DNWR.

Until the Western Shoshone need of a treaty reservation is met, the military can only be viewed as destabilizing the Shoshone Nation.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Ft. McDermitt Res.
Summit Lake Res.
Wells Indian Colony
Elko Indian Colony
Northern Nevada
South Fork Res.
Pyramid Lake Res.
Ely Indian Colony
Yomba Res.
Duckwater Res.
NEWE SOGOBIA
N
Timbisha Shoshone
Las Vegas Paiute Tribe
Southern Nevada

4000

CONSOLIDATED TREATY SERIES

EDITED AND ANNOTATED BY

CLIVE PARRY, LL.D.

Volume 127

1863

92362

ARTICLE 8.

nuts acknowl- The said bands hereby acknowledge that they have received from said commissioners provisions and clothing amounting to five thousand dollars as presents at the conclusion of this treaty.

Done at Ruby Valley the day and year above written.

James W. Nye.
James Duane Doty.

Te-moak, his x mark.
Mo-ho-a.
Kirk-weedgwa, his x mark.
To-nag, his x mark.
To-so-wse-so-op, his x mark.
Sow-er-e-gah, his x mark.
Po-on-go-sah, his x mark.
Par-a-woat-se, his x mark.
Ga-ha-dier, his x mark.
Ko-ro-kout-se, his x mark.
Pon-ge-mah, his x mark.
Buck, his x mark.

Witnesses:

J. B. Moore, lieutenant-colonel Third Infantry California Volunteers.
Jacob T. Lockhart, Indian agent Nevada Territory.
Henry Butterfield, interpreter.

TREATY WITH THE WESTERN SHOSHONI, 1863.

Oct. 1, 1863.

13 Stats., 663, ratified June 26, proclaimed Oct. 21.

Treaty of Peace and Friendship made at Ruby Valley, in the Territory of Nevada, this first day of October, A. D. one thousand eight hundred and sixty-three, between the United States of America, represented by the undersigned commissioners, and the Western Bands of the Shoshonee Nation of Indians, represented by their Chiefs and Principal Men and Warriors, as follows:

ARTICLE 1.

ce established: dations to cease. Peace and friendship shall be hereafter established and maintained between the Western Bands of the Shoshonee nation and the people and Government of the United States; and the said bands stipulate and agree that hostilities and all depredations upon the emigrant trains, the mail and telegraph lines, and upon the citizens of the United States within their country, shall cease.

ARTICLE 2.

tes of travel; of- ne safety of trav- The several routes of travel through the Shoshonee country, now or hereafter used by white men, shall be forever free, and unobstructed by the said bands, for the use of the government of the United States, and of all emigrants and travellers under its authority and protection, without molestation or injury from them. And if depredations are at any time committed by bad men of their nation, the offenders shall be immediately taken and delivered up to the proper officers of the United States, to be punished as their offences shall deserve; and the safety of all travellers passing peaceably over either of said routes is hereby guarantied by said bands.

a part of the Shoshonee country, it is expressly agreed that the same may be continued without hindrance, molestation, or injury from the people of said bands, and that their property and the lives and property of passengers in the stages and of the employés of the respective companies, shall be protected by them. And further, it being understood that provision has been made by the government of the United States for the construction of a railway from the plains west to the Pacific ocean, it is stipulated by the said bands that the said railway or its branches may be located, constructed, and operated, and without molestation from them, through any portion of country claimed or occupied by them. Railway.

ARTICLE 4.

It is further agreed by the parties hereto, that the Shoshonee country may be explored and prospected for gold and silver, or other minerals; and when mines are discovered, they may be worked, and mining and agricultural settlements formed, and ranches established whenever they may be required. Mills may be erected and timber taken for their use, as also for building and other purposes in any part of the country claimed by said bands. Explorations, mines, settlements, use of timber.

ARTICLE 5.

It is understood that the boundaries of the country claimed and occupied by said bands are defined and described by them as follows: Boundaries of western lands of Shoshonee.

On the north by Wong-gogn-da Mountains and Shoshonee River Valley; on the west by Su-non-to-yah Mountains or Smith Creek Mountains; on the south by Wi-co-bah and the Colorado Desert; on the east by Po-ho-no-be Valley or Stepton Valley and Great Salt Lake Valley.

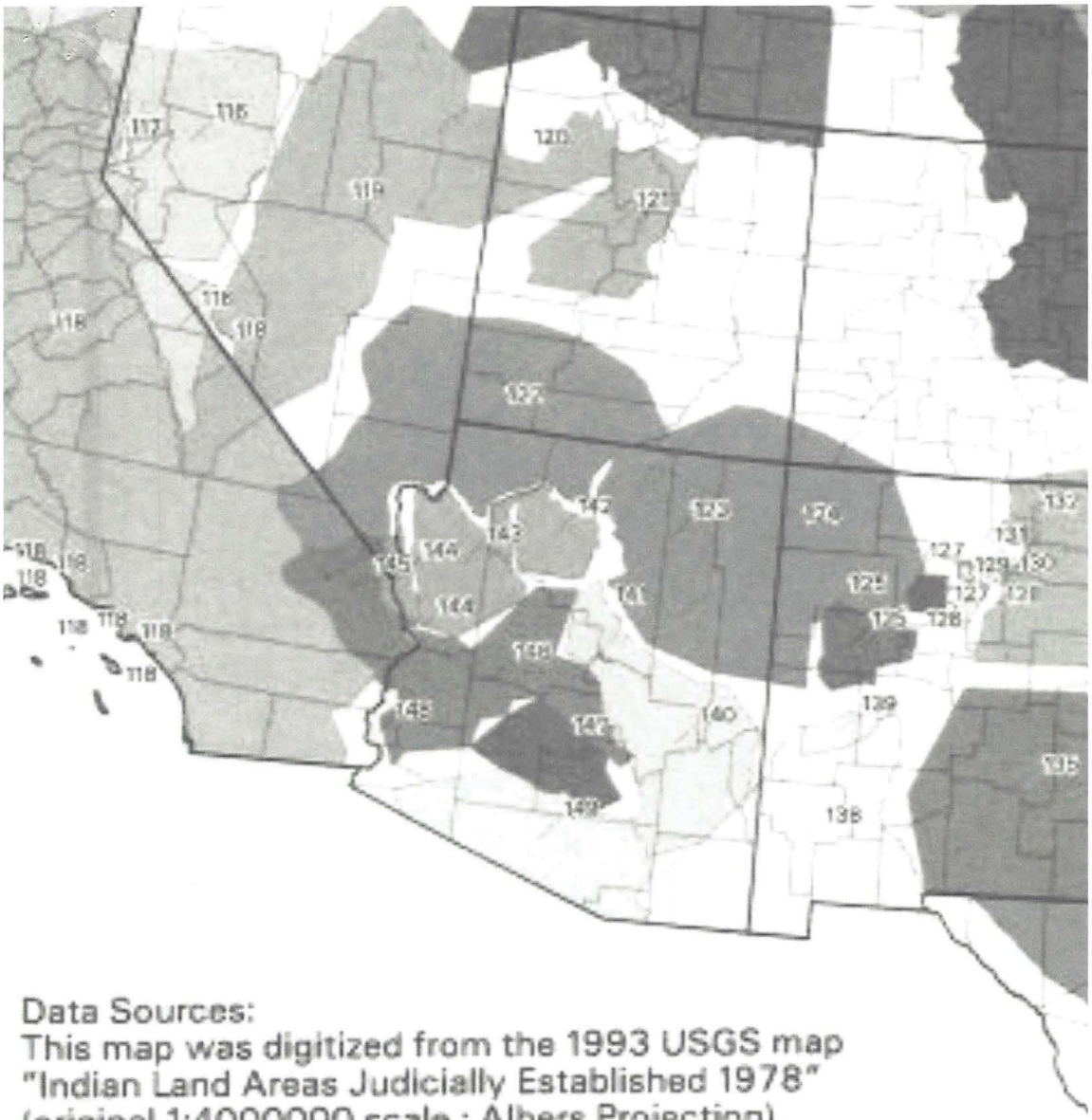
ARTICLE 6.

The said bands agree that whenever the President of the United States shall deem it expedient for them to abandon the roaming life, which, they now lead, and become herdsmen or agriculturalists, he is hereby authorized to make such reservations for their use as he may deem necessary within the country above described; and they do also hereby agree to remove their camps to such reservations as he may indicate, and to reside and remain therein. Reservations may be established.

ARTICLE 7.

The United States, being aware of the inconvenience resulting to the Indians in consequence of the driving away and destruction of game along the routes travelled by white men, and by the formation of agricultural and mining settlements, are willing to fairly compensate them for the same; therefore, and in consideration of the preceding stipulations, and of their faithful observance by the said bands, the United States promise and agree to pay to the said bands of the Shoshonee nation parties hereto, annually for the term of twenty years, the sum of five thousand dollars in such articles, including cattle for herding or other purposes, as the President of the United States shall deem suitable for their wants and condition, either as hunters or herdsmen Annuity, acceptance of, as compensation for loss of game.

4000



Data Sources:
This map was digitized from the 1993 USGS map "Indian Land Areas Judicially Established 1978" (original 1:4000000 scale ; Albers Projection).

Map Information:
Lambert Azimuthal Equal Area ; Scale 1:5845860
The numbers on the map represent the lands of original tribal occupancy that were judicially established through the U.S. Indian Claims Commission or the U.S. Court of Claims in 1978. Please reference these numbers with the accompanying sheets

Total Detonations

The United States of America and the United Kingdom have detonated 1,149 weapons of mass destruction (WMD). Source: US Nuclear Tests DOE/NV—209-REV 16 Sept. 2015

Of 1,149 US/UK atomic tests of WMD's 63 had simultaneous detonations.

100 atmospheric detonations of WMDs
921 underground detonations of WMDs

Trinity, NM	1
South Pacific	3
Bikini Atol	23
Enewetak Atoll	43
Johnson Island	12
Pacific	4
Alamogordo, NM	1
Farmington, NM	1
Amchitka Island, AK	3
Carlsbad, NM	1
Hot Creek, Newe Sogobia	1
Fallon, NV	1
Parachute, CO	1
Hattiesburg, MI	2
Tonopah Test Range, Newe Sogobia	5
Meeker, CO	3

Test name and year	*Radioactivity*
Platte, 1962	*1.9 million curies*
Eel, 1962	*1.9 million curies*
Des Moines, 1962	*1 1 million curies*
Baneberry, 1970	*6.7 million curies*
26 other tests	*3.8 million curies*

A total yield of U.S. underground tests of 37 megatons 2.8 million curies of strontium-90.4.4 million curies of cesium-137, and 110,000 curies of plutonium-239 remain in the environment.

Between 1957 and 1970, 253 million curies of radioactive fission products were released to the atmosphere from 30 underground test.

PUBLISHED RESEARCH

- The Assessment of Radiation Exposure in Native American Communities From Nuclear Weapons Testing In Nevada.
- Nuclear Risk Management For Native Communities Project Community-Based Fallout Exposure Assessment Program, GIS Data Layers.
- A Report on the Need and Feasibility of Further Study of Impacts of Nuclear Testing On Native Communities.
- Native American Risks From Nuclear Weapons Testing In Nevada Are Higher Than Risks To Euro Americans.

NCAC
P.O. Box 46301
Las Vegas, NV 89114
E-mail: nativecommunityactioncouncil@gmail.com

www.nativecommunityactioncouncil.org

Native Community Action Council

WMD's on the Battlefield of the Cold War

NEWE SOGOBIA is the most bombed nation in the world. The Western Shoshone perspective is that as survivors—downwinders in a "radioactive hot war." As victims, we struggle to endure, as human beings, we assert basic human rights to a world free from nuclear arms.

4000

4000

Indian Country Exposed to Radiation

US National Cancer Institute

In 1997, the National Cancer Institute released the long awaited (14 years to produce) report on fallout from US/UK testing on the mainland of the United States of America. While Idaho received higher doses that other parts of the continental USA, North Dakota has the most accurate fallout data used to create the milk exposure pathway. Radioactive fallout fell on the grass eaten by dairy cows that were milked and consumed regionally. Check your radiation risk assessment: *https://irep.nci.nih.gov/radrat/model/inputs/*

National Academy of Sciences Confirms Cancer Risk to USA

The Biological Effects of Ionizing Radiation (BEIR VII) thorough review of available biological and biophysical data supports a "linear, no-threshold" (LNT) risk model, which says that the smallest dose of low-level ionizing radiation has the potential to cause a small increase in health risks to humans. In the past, some researchers have argued that the LNT model exaggerates adverse health effects, while others have said that it underestimates the harm. The preponderance of evidence supports the LNT model, this new report says. "The health risks – particularly the development of solid cancers in organs – rise proportionally with exposure. At low doses of radiation, the risk of inducing solid cancers is very small. As the overall lifetime exposure increases, so does the risk."

For additional information from an indigenous perspective, follow the QR code below:

Native Community Action Council
Nuclear Risk Management for Native Communities
P.O. Box 46301

Email: nativecommunityactioncouncil@gmail.com

Website: www.nativecommunityactioncouncil.org

4000

Note: An additional 28 pages were submitted containing the "Listing of Western Shoshone Lands by State, Meridian, Township, and Range" in Nevada, California, Idaho and Utah. These additional pages are included in the Administrative Record.

4001

Comment:

150 years ago, an occupying Army told Native Americans here in Nevada that the land was still ours, but their people could do anything they wanted to on it.

...We all can see how that is turning out for us and the Environment. Moreover, all over the world, it's ***still*** happening.

Now, an occupying Air Force is telling us that we won't even be able to ***visit*** our Native Homelands. CU-1

…And they are telling us that they are doing this for our own protection.
What a ***lie***.

This is a land grab, just like before. Only this time we don't even get a chance to sign a treaty.

But; we do get to pay for it with out tax dollars.

Imagine that; we have to work to pay for the military occupation (and environmental destruction) of ***our*** land.

4001

And why? So that "our" Air Force can practice to go kill poor people on the other side of the world.

And why? Apparently because there are civilians in the world so desperately angry at America that they would take up arms against the most formidable military in history.

It would be ***so*** much cheaper to just treat the people of the world with respect. But that wouldn't be as profitable for your masters.

It's been 30 years, ***30 years*** since the last time America has had an actual military force to face off against. And the Iraq war was such a rout that it's not likely that anything like it will ***ever*** happen again. Anyone paying attention can see that the next big war will likely be fought with computer viruses and biologicals – and that jets are just a waste of money. But of course, military contractors are making billions preparing us for the last war, so what do they care?

This is a multi-trillion dollar ***racket***.

4001

And let's face it. You're only here so that you can put a check mark on some list that shows you "conferred" with local Tribes.

Nothing we say here will make any real difference. Because none of you have high enough rank to make a difference.

Sure, you might fence of an acre or two of "sacred" land to make it look like you give a damn. But when we tell you that ***all*** of our land is sacred, we might as well be talking to the wind.

This is not the way a ***real*** democracy functions. Americans didn't vote for this land grab. But... we'll be told it was our will – even though 32,000 negative comments point out that it isn't.

For the record; the taking of vast natural areas (owned by all Americans) so that you can play war games with non-existent enemies so that you can burn up some more American taxpayer dollars is not only pathologically insane – ***this is not our will!***

Rick Spilsbury
[redacted]

4002

03/13/18

COMMENT: Draft LEIS for the Military land withdrawal of the Nevada Test & Training Range (NTTR).

The Military has already made 2.9 million acres (most of Nye County and a Great Part of Clark County – "OFF LIMITS" to the general public. This dictate includes a huge part of the Newe (now called Western Shoshone) Tribal Homelands. We are prohibited access to our Traditional Hunting and Gathering Lands! Our traditional foods and medicines are now historical due to this Military land grab.

There should be NO ADDITIONAL LAND WITHDRAWAL!

If the Military can't run a test on 3 million acres, the Military shouldn't be testing in the Continental US!

Delaine Spilsbury, Ely Shoshone Tribal Elder

4003

MOAPA BAND OF PAIUTES

MOAPA RIVER INDIAN RESERVATION
BOX 340
MOAPA, NEVADA 89025
TELEPHONE (702) 865-2787
FAX (702) 865-2875

Via U.S. Mail
March 28, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

RE: Moapa Band of Paiutes- Comment Letter

Dear Colonel Murray,

The Moapa Band of Paiutes submits the following comment on the Nevada Test and Training Range Military Land Withdrawal draft legislative environmental impact statement. For at least the last 800 to 1000 years, the ancestors of Moapa Band members have lived, hunted, worshipped, and travelled in the areas that the Air Force now proposes to withdraw from public access and to subject to flight training, munitions testing, and simulated ground combat. The proposed withdrawal raises deep concerns with the Band and its members.

The Air Force's proposal continues the long and tragic history of the United States' expulsion of the Southern Paiute from their homelands. Prior to 1830, members of the Southern Paiute traveled widely in the region without impact from settlers. After increasing conflict, executive orders signed by President Grant in 1873 and 1874 created an approximately 2,000,000-acre reservation, including the entire Moapa and Lower Virgin watersheds and extensive lands along the Colorado River. *See* Kappler, Indian Affairs, Laws and Treaties 866-67 (2d.ed. 1904). The Reservation was diminished to a meager 1,000 acres, and then later restored to the still much reduced approximately 72,000 acres.

The creation of the Reservation removed the Band from its homelands. The current Reservation includes very little mountainous terrain and is separated from much of the Band's wildlife, cultural, and spiritual resources. Access to public land on off-reservation areas is therefore critical to preservation of our heritage and the ongoing health and well-being of our Band. The Mountains of Southern Nevada are sacred lands, where great legends began and ended, and where our hearts belong. Our stories are carved in the rocks, and the strength of our people is in our history and our connection to the earth. Band members rely heavily on access to surrounding public lands to stay connected to our culture, religion, and sense of belonging. The Air Force's proposed withdrawal and training exercises would restrict Band members from accessing critical cultural resources and wildlife, and would forever alter sacred landscapes.

The proposed use of sacred lands exacerbates the historical harm of removing the Band from its homelands. Few things could be more destructive to the Band's culture, which is based upon connection with and respect for earth, than the testing of jet planes, war games, and munitions.

4003

Moapa Band of Paiutes Comment Letter
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Training also damages life on the Reservation. Flyovers and munitions training occur night and day and severely impact quality of life on the Reservation, by damaging the quiet and peace that is critical to the Band's well-being. Increasing these impacts will further damage the Band.

As explained in the attached resolution, M-18-03-07, titled "Opposed Department of Defense Increased Use and Expansion of the Nevada Test and Training Range (NTTR) in the Desert National Wildlife Refuge," the Band opposes further impacts to cultural and wildlife resources, and supports adoption of Alternative 1 or a more protective alternative.

The Band further requests a thorough and open conversation between the Air Force and Band members, at times and locations such that Band members can understand what is happening to their sacred places without sifting through hundreds of pages of environmental impact statement, and that the Air Force can hear first-hand how the expansion will harm our way of life. These are concerns that cannot be adequately expressed or considered through bureaucratic documentation, but must be understood as they are felt, as deep harms to a people's culture and well-being. CU-10

The comments below set forth specific concerns raised by the proposed expansion and request further analysis of impacts to the Band, following the order of the draft EIS.

Purpose and Need

The purpose and need must include a short, plain statement of what is required to satisfy congressional direction. *See* 40 C.F.R. § 1502.13 (requiring a statement that "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action"). "The stated goal of a project necessarily dictates the range of 'reasonable' alternatives and an agency cannot define its objectives in unreasonably narrow terms." *City of Carmel-By-The-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997).

The purpose and need in the EIS focuses heavily on the Air Force's desire for expansion. The Band suggests that the purpose and need should reflect both the need for military preparedness and the Government's obligations to the general public and trust obligations to Native American groups such as the Band. For example, the purpose and need could state more broadly that the purpose and need is "to ensure military preparedness consistent with direction from Congress while causing the least practical impact to public lands and while honoring fiduciary obligations to Native American groups." PA-7

The purpose and need presented in the EIS is lengthy, but never adequately explains why that full enormous withdrawn area is necessary, or why further expansion is required. Instead, it discusses reducing scheduling conflicts and the need to prepare for peer adversaries, without discussion of why the amount of training activities proposed are necessary or what other obligations must be served. This leads to a generally one-sided analysis that presupposes expansion of the withdrawal. PA-5

Moapa Band of Paiutes Comment Letter
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The NTTR land withdrawal already encompasses 2.9 million acres of varied terrain that has provided training for decades. EIS at 1-1. The adjacent withdrawn "Nevada National Security Site" removes an additional 336,665 acres from public use. EIS at 1-5. The total withdrawn land area is roughly the size of Connecticut, and uses an airspace of 12,000 square nautical miles (approximately 10 million acres). For purposes of training, the area is connected to the large China Lake and Utah Test and Training Range. EIS at 2-2. In other words, the Air Force already has a massive training area at its disposal. While it is understandable that the Air Force would like to have more area, withdrawals come at a steep price for the public in general and for the Band in particular. The Band therefore suggests that purpose and need should more thoroughly consider and discuss obligations that persist in addition to the goal of preparing Air Force and other troops for combat. PA-71

Alternatives

NEPA requires federal agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(2)(E). To satisfy this requirement, an EIS must include a reasonable range of alternatives. The alternative section is "the heart of the environmental impact statement," 40 C.F.R. § 1502.14; hence, "the existence of a viable but unexamined alternative renders an environmental impact statement inadequate." *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1519 (9th Cir. 1992).

The EIS presents an inadequate range of alternatives because, in addition to the no-action alternative, it only considers three closely similar expansions. All alternatives share an assumption that impacts to wildlife and cultural resources must be at least as great as the status quo. Such a limited view is not "sufficient to permit a reasoned choice." *Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810, 815 (9th Cir. 1987). PA-61

The Band requests that the Air Force work collaboratively with the Band and other Native American groups, the United States Fish and Wildlife Service, local communities, environmental organizations, and other stakeholders to develop and consider a less impactful alternative. This development of a full spectrum of options will enable a truly reasoned selection. NP-3

The less impactful alternative could consider mitigation or reduction of impacts such as the following:

- Established and advertised "open access" periods of time throughout the year to enable access to critical areas identified by affected stakeholders. These access periods would be times when training in those areas is curtailed so that Band members and others could access important sites and partake in culturally significant activities, such as hunting desert bighorn sheep. The current advance application process, *see* EIS 2-13, is cumbersome, unpredictable, and resource intensive. LU-2

- Elimination or reduction in flyovers near and over heavily impacted communities, such as the Reservation. AS-2

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Moapa Band of Paiutes Comment Letter
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- Scheduling night trainings for certain times of the year or month, so that local residents can prepare accordingly. AS-2
- Elimination of impactful activities during critical seasons for vulnerable wildlife, such as desert tortoise and desert bighorn sheep. BI-37
- Greater funding for ongoing efforts to identify traditional cultural properties and to restore and maintain wildlife habitat. CU-2

Other options could be developed through thorough engagement with stakeholders. NP-1

Baseline

In NEPA analysis, the baseline is a useful index against which to compare alternatives. "The purpose of setting a baseline is because the 'no action' status quo alternative . . . is the standard by which the reader may compare the other alternatives' beneficial and adverse impacts related to the applicant doing nothing." *Kilroy v. Ruckelshaus*, 738 F.2d 1448, 1453 (9th Cir. 1984) (internal citation and quotation omitted). The selection of the baseline is therefore crucial to the impacts analysis and, as a result, the evaluation of alternatives.

The EIS presents the baseline as a continuation of the status quo into the future. EIS 2-20 to 2-21. This is correct until November 6, 2021, when the current withdrawal expires. From that point forward, the baseline should assume "no action," which means that Congress does not extend the withdrawal. Alternative 1 should reflect that change in 2021, rather than perpetual continuation of the status quo, which is based on the premise that Congress will extend the withdrawal. This change would help to bring about the impacts of the action alternatives into clearer focus. PA-56

Cultural Resources Identification, Access, and Impacts

Under the National Historic Preservation Act (NHPA), the Air Force must consider adverse impacts to the Band's cultural resources as part of its Section 106 consultation and consult with the Band. *See* 54 U.S.C. § 300101; 36 C.F.R. § 800.1; 36 C.F.R. § 800.2(c)(2)(ii). Impacts to such sites are also environmental impacts under NEPA.

The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. 36 C.F.R. § 800.1(a). Adverse effects include, but are not limited to: Physical destruction of or damage to all or part of the property; change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance; and introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features. 36 C.F.R. § 800.5(a)(2).

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The proposed withdrawal negatively impacts the Band and its members' use of culturally significant sites in every way: it restricts or eliminates access, risks destruction of known and unknown cultural sites, diminishes landscapes that are central to the Band's creation and history, and creates noise and visual impacts that diminish Band members' ability to enjoy cultural properties that may remain accessible.

The Band requests that the Air Force take three steps: first, facilitate the identification of cultural resources through a thorough survey and delineation, second, ensure access for Band members and members of other Native American groups, and third, ensure that training does not damage cultural resources. The Band agrees with the recommendation of the Consolidated Groups of Tribes and Organizations that the Air Force treat the Band and other Native American groups as co-managers of cultural resources. *See* EIS K-8; 36 C.F.R. 802.2(c)(ii). Given the large scope of the project and impacts to many sovereign governments, consultation with the Advisory Council for Historic Preservation may also be necessary. 36 C.F.R. § 802.2(b). CU-6

The EIS states that ethnographic study was conducted in areas 3A and 3B in the summer of 2017, and that the USFWS determined that archaeological surveys are unnecessary in area 3C. EIS at I-1. However, surveys coordinated with the Band and other local native groups should be conducted throughout the entire area proposed for withdrawal to comply with the NHPA's direction to identify and protect cultural resources, 36 C.F.R. § 800.1(a), and to fully understand the impacts to the environment. While in a typical project it might be possible to survey and identify while activities are ongoing, that is unlikely to be successful for military training exercises. As such, thorough identification in compliance with Air Force guidance must occur prior to withdrawal and authorization of training. *See* Air Force Instruction 32-7065 § 3.1. Band members are aware of many sites and can facilitate appropriately confidential identification of others. CU-7

It is important in the identification process for the Air Force to recognize that cultural resources include traditional cultural landscapes. Air Force guidance recognizes that traditional cultural properties include "1) locations where Native American or other groups traditionally gather wild foods or medicines; 2) ethnic neighborhoods whose cultural character is important to those who live in them; 3) rural landscapes reflecting traditional patterns of agriculture or social interaction; and 4) landforms associated with Native American traditions and religious practices." *See* Air Force Instruction 32-7065 at 38 (definitions). The Advisory Council for Historic Preservation provides helpful guidance on the treatment of traditional cultural landscapes. In 2012, the ACHP approved the "Native American Traditional Cultural Landscapes Action Plan," which calls for increased recognition of "large scale historic properties which have included multiple, linked features that form a cohesive landscape of significance to a tribe."[1] The Air Force should coordinate with the Band to identify such landscapes and landforms, which abound in the area proposed for withdrawal. The Band appreciates that Colonel Murray visited the Business Council to discuss this project, and encourages further and ongoing engagement with Band members. CU-1

[1] *See* http://www.achp.gov/docs/Tradtional%20CLs%20in%20Section%20106%20background.pdf

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Once cultural resources are identified, the Air Force should ensure access to those sites for Band members. Executive Order 13007 requires that executive agencies such as the Air Force "(1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites." Air Force guidance more broadly states that "[i]nstallation commanders shall provide Tribes and Native Hawaiian Organizations (NHOs) access to and use of sacred sites on Air Force controlled lands." *See* Air Force Instruction 32-7065 § 3.4.10.[2]

The Band recommends that the Air Force exclude highly significant cultural resources from any withdrawal, and where that is not possible, establish predictable and sufficient times when culturally significant areas are accessible to Band members. Recognizing that military training is inherently dangerous, the Air Force should schedule pauses in training in certain areas such that Band members can access culturally valuable areas to engage in the practices that keep the Band healthy, in balance, and connected to its religion and culture. These activities include visiting sacred landforms and hunting desert bighorn sheep. The Band requests to coordinate with the Air Force so that access for Band members occurs without burdensome and time-intensive application procedures.

CU-1

Finally, the Band requests that the Air Force coordinate with the Band to take all possible measures to protect identified sites. These measures may include removing certain areas from training or coordinating with Band members to carry out any soil disturbance in a culturally appropriate manner. See generally, EIS at K-9.

Coordination with the Band should include funding Band cultural preservation as necessary, as the Band should not bear the financial burden of facilitating an Air Force project, particularly one that it opposes.

CU-1
CU-2

Noise

The proposed training would be enormously loud and noisy. The EIS states that "[v]irtually 24 hours per day/7 days per week, multiple testing and training missions" occur at NTTR, and the proposed action alternative would increase that activity level by up to 30 percent. *See* EIS at 1-21. Those testing and training missions often generate sudden, loud, and disruptive sound that adversely impacts the Band and its members, both on and off the Reservation. The 2017 Compatible Use Zone Study predicts over one hundred thousand flight operations a year (including thousands of nighttime flights, see Table 4-2) originating from Nellis Air Force Base, and states that the Air Force's flying operations are often incompatible with residential and other land uses. While the Reservation appears to be outside the contours of the loudest areas, Figures 3.3 and 3.4 in the Compatible Use Zone Study predict frequent flights over the Moapa River Indian Reservation.

[2] "Sacred sites" include "[a]ny specific, discrete, narrowly delineated location on federal land that is identified by an Indian Tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the Tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site." EO 13007.

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The Band recognizes that the Air Force has carried out extensive modeling and analysis of "noise" levels generated by training activities in the EIS, Appendix C. However, that analysis construes current noise levels as the baseline, which functions to mask the current, deeply intrusive sound levels. The Band requests that the Air Force adjust its baseline as discussed *supra*, and acknowledge the ongoing impacts created by status quo use. NO-8

It is important to note that the concept of "noise" is inherently subjective and culturally relative. The Moapa Band has lived in a quiet, peaceful setting for approximately one thousand years, and undisturbed contemplation and appreciation of the earth is an integral aspect of Southern Paiute culture. The Air Force's methodology of measuring noise and annoyance is deficient in that it does not recognize that noise impacts different cultures differently. The Band requests that the Air Force evaluate the impacts of sound in the culturally appropriate context, which includes consideration of impacts on Band members. NO-9

Finally, the noise analysis focuses on annoyance and physiological effects, without adequate analysis of psychological impacts. Lack of study on such impacts is not sufficient reason not to include analysis, particularly where community members report harm and where the Air Force has decades of accessible data. *See* 40 C.F.R. § 1502.22. Exposing civilians and military veterans to the continued sounds of warfare is likely to create anxiety and other psychological harms, and those impacts require further analysis. NO-10

Wildlife

The areas proposed for withdrawal include diverse and rich ecosystems.

The Band values a healthy, intact, and diverse ecosystem. Desert bighorn sheep are particularly important to the Band. Band members value sheep and would like to continue to view healthy populations and to carry out culturally significant hunting rights. The Band and its members are deeply connected to the surrounding ecosystem, and the Band becomes out of balance when the surrounding world is harmed.

The Band requests further analysis of the impacts of noise to desert bighorn sheep and other wildlife. The current noise analysis focuses on human impacts. Sheep are skittish and easily disturbed, making it likely that overflights and munition training are likely to impair their normal breeding, foraging, and other behavior. BI-1 BI-3

Most of the current analysis focuses on the impacts of fencing on wildlife. *See* EIS at 3-1. The Band appreciates that the Air Force is planning on constructing fencing that allows sheep and other wildlife passage. However, as recognized in the EIS, the huge amount of fencing and the necessary maintenance it requires is still likely to cause myriad impacts. Given that a wire fence is unlikely to deter members of the public who seek to enter NTTR lands, the Band suggests that a less impactful approach would be to employ property boundary line markers without connecting fencing. This would serve to notify the public of the boundary, while significantly reducing maintenance costs and environmental impacts. BI-5

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March 29, 2018

The EIS references impacts to eagles and other birds, without detailed analysis. The Band requests analysis of how many strikes of eagles and other birds are likely, and what impacts noise and ground disturbance are likely to have on eagles and other birds. The Air Force should obtain necessary permits under the Migratory Bird Treaty Act, 16 U.S.C. §§ 703–712, and the Bald and Golden Eagle Protection Act, 16 U.S.C. §§ 668-668d. BI-34

Air Pollution/Greenhouse Gas Emissions

The appendix EIS describes the emissions anticipated from aircraft training, construction, and other activities associated with the proposed land withdrawal. *See, e.g.*, EIS at 3-36. The Band suggests that the Air Force consider the heightened climate change impacts caused by emissions of pollutants and water vapor at high altitude, where those emissions can reflect heat from the earth and cause disproportionate impacts both locally and globally.[3] AQ-2

Conclusion

The Band opposes a larger withdrawal of public lands for military training. The Band has already been removed from its homelands, with resulting deep damage to the Band's health, culture, and economy. The proposed withdrawal further excludes members and continues and amplifies historical harm.

As the Air Force proceeds, it should respect the Band's long presence in the region and its inherent sovereign rights. The Air Force must collaborate with the Band and its members to ensure that real, on-the-ground concerns of Band members are carefully considered and understood.

Sincerely,

MOAPA BAND OF PAIUTES

By: Gregory Anderson, Sr.
Gregory Anderson, Sr.
Chair, Moapa Business Council

cc: Ziontz Chestnut, Tribal Attorneys

[3] Please see discussion of climate impacts of aviation by the Intergovernmental Panel on Climate Change here: http://www.ipcc.ch/ipccreports/sres/aviation/index.php?idp=65. Emissions occurring at night are a particular concern because they can prevent night time cooling.

MOAPA BAND OF PAIUTES

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FAX (702) 865-2875

Tribal Resolution: M-18-03-07

RESOLUTION OF THE GOVERNING BODY OF THE MOAPA BAND OF PAIUTES

Subject: Oppose Department of Defense Increased Use and Expansion of the Nevada Test and Training Range (NTTR) in the Desert National Wildlife Refuge

WHEREAS, the Moapa Band of Paiutes are organized under the provisions of the Indian Reorganization Act of June 18, 1934, (Stat. 594), as amended to exercise certain rights of home rule and be responsible for the general welfare of its membership and is governed by its Business Council which manages its affairs under Articles III and V of its Constitution; and

WHEREAS, the Moapa Business Council is the governing body of the Moapa Band of Paiute Indians, by authority of the Tribe's Constitution and By-Laws; and

WHEREAS, the region encompassing the NTTR and the Desert National Wildlife Refuge remain central to the lives of Native American Tribes. These lands are known to contain traditional and ceremonial use along with traditional gathering and collection locations for Native American people. The region contains abundant ecological resources and special power places that are crucial in the continuity of Native American culture, religion and society; and

WHEREAS, the Mountains of Southern Nevada are considered sacred lands to the Southern Paiute Nuwu, where great legends were said to have begun and ended and where our hearts belong to this land. Since time immemorial, our people have lived and traveled across these lands. They carved their stories on the rocks, cooked their food in the now ancient roasting pits, and left artifacts that show how our people thrived in this beautiful desert and mountain environment. These are the objects of antiquity that tell the story of the Nuwu; of how we thrived on the land and of how our homelands were stolen by white colonizers. We cannot forget this history; and

WHEREAS, much of the Refuge has not been properly inventoried for cultural resources and 80% of the Sheep Range is designated as the Sheep Mountain Archaeological site on the National Register of Historic Places; and

WHEREAS, the bighorn sheep are sacred to the Moapa people. Creation stories say that the Paiute people enter the mountains and left as sheep. In essence the sheep are people. It is our duty to protect the mountain sheep for if they all die, then we die too. The Refuge was originally protected for the sheep and the mountains in the Desert Refuge/NTTR and are key habitat for desert bighorn sheep; and

WHEREAS, the Department of Defense wants to increase training operations in the Desert Refuge/NTTR and increase the size of the NTTR. Expansion would eliminate even more access to the Desert Refuge including denying access to half of the Sheep Range limiting access to cultural sites and

4003

potentially damaging them and negatively impacting sheep in the mountain ranges in the NTTR and the Sheep Range

NOW THEREFORE BE IT RESOLVED, that the Moapa Business Council strongly prefers the Department of Defense Alternative 1 which would maintain the status quo and does not increase the use or size of the NTTR

BE IT FURTHER RESOLVED that the Moapa Business Council urges the Department of Defense to increase coordination directly with the Moapa Tribe pertaining to any additional land withdrawal and change in use and provide more access to important cultural sites within the boundaries of the NTTR including, but not limited to, Pintwater Cave.

CERTIFICATION

We, the undersigned Chairman and Secretary of the Business Council of the Moapa Band of Paiute Indians, do hereby certify that the foregoing resolution was considered and passed at a duly called meeting of the Business Council of the Moapa Band of Paiute Indians, at which a quorum was present, held on the 12th day of March 2018, with (4) For (0) Against (0) Abstaining, and (1) Absent.

Chairman Gregory Anderson Sr.

Tribal Council Secretary Delaine Bow

4004

From: Ian Zabarte
To: nttrleis
Subject: EXTERNAL: United States Air Force Nevada Test and Training Range Land Withdrawal Draft Legislative EIS
Date: Thursday, March 08, 2018 11:58:35 PM

Comment on Behalf of the
Western Bands of the Shoshone Nation of Indians

Prepared by
Mr. Ian Zabarte, Principal Man
Western Bands of the Shoshone Nation of Indians
P.O. Box 46301, Las Vegas, NV 89114 [redacted]

On the United States Air Force
Nevada Test and Training Range
Land Withdrawal Draft Legislative EIS

March 8, 2018

Submitted: e-mail: nttrleis@leidos.com
http://www.nttrleis.com/comment.aspx
Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

It is Shoshone custom that only Newe, "the people," speak for ourselves and our government, as we are endowed by the Creator, with instructions and inherent right given to Newe, our custom and law of Newe Sogobia. We do not hire, employ or otherwise authorize non-Shoshone to speak for the Shoshone people.

The US formally recognized the Shoshone Nation of Indians in a series of five treaties that emanate from International Law and the Western Bands of the Shoshone Nation of Indians explicitly by Treaty of Ruby Valley (Consolidated Treaty Series Vol. 127 (1863). The Shoshone posses all land, rights title and interest in our treaty defined country. The US sought to purchase specific interests and agreed to pay the Shoshone (Treaty of Ruby Valley, Article 8). CU-9

The Western Bands of the Shoshone Nation of Indians do not seek to diminish our foreign sovereign personality by

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submitting to the religious discrimination enshrined in the US Federal "trust responsibility" employed to "recognize" Indians eligible for services under Title 25 USC and "approved" by, and used for superintendence over tribes listed in the Federal Register by the US Secretary of the Interior. US intent is clear in light of the US efforts to recognize and substitute incompetent tribes, federal protectorates, for the legitimate sovereign government of the Western Bands of the Shoshone Nation of Indians.

The Western Bands of the Shoshone Nation of Indians do not consent to the inclusion of any part of the Shoshone Nation of Indians as defined by treaty into the boundaries into the boundaries or jurisdiction of any state, territory or possession of the US. The country of the Western Bands of the Shoshone Nation of Indians is not part of the US, and has never been a part of any US territory or state of the US republic.

The Shoshone people won the peace in 1863, by treaty and should not be subjected to involuntary risk of direct or indirect impact by US and foreign military testing of weapons of war. The US must honor the treaty obligations of "peace and friendship" that result from the alliance of the Shoshone Nation of Indians to the Union of the United States. The Shoshone, in alliance with the US, used our language to "code talk" in World War II to win the war against Japan. Comanche are Newe, the Shoshone people. Paiute are not Shoshone and do not speak for the Western Bands of the Shoshone Nation.

US military agency expansion within the Treaty of Ruby Valley, Article 5 defined country of the Western Bands of the Shoshone Nation of Indians, have a cumulative degrading effect on Shoshone religion, democracy, social and economic wellbeing of the 10,000+ year-old people of the Great Basin. The Western Bands of the Shoshone Nation rest our survival on the strength of America's promise of "peace and friendship."

US military and civilian development and testing of weapons of mass destruction have deposited radiation across Shoshone homelands and communities. The Shoshone people have been involuntarily exposed to conditions of life from US military and civilian expansion in Shoshone country that result in the Shoshone people suffering higher incidents of a broad range of cancers and other illness know to be plausible from exposure to radiation that are cumulative in impact.

CU-9

The US Air Force is undistinguishable from other US cooperating agencies (DTRA, DOE, EPA, BLM, USFWS and the State of Nevada) engaged in an ongoing pattern of international treaty violation, violation of Article VI of the US Constitution, "treaties are supreme," and the practice of "cultural triage" a systematic process that meets the minimum threshold genocide under the UN Convention on Punishment and Prevention of the Crime of Genocide.

The US has created conditions calculated to bring about the destruction of the Shoshone people by refusing to act to protect and preserve the natural resources of the Western Bands of the Shoshone Nation of Indians needed for the next 10,000 years and instead test military weaponry destroying the delicate flora and fauna, and invite foreign military forces to bomb Shoshone Country in violation of the territorial integrity of the lands the Shoshone people rely upon for food, water, air, tribal identity and religious sacrament in communion with the land.

The reality is that the US has abandoned the Western Bands of the Shoshone Nation of Indians and seeks to replace the legitimate form of Shoshone democracy by consensus, with the US federally recognized tribes simple majority to stifle and silence Native Americans that do not support the mission of the US military industrial complex.

The model of the Consolidated Group of Tribes that the US defined, employed and otherwise created and used to purchased agreement by US protectorates, federally recognized tribes, in preparation of the Nevada Test and Training Range Land Withdrawal Draft Legislative EIS was adopted by the US Air Force from the US Department of Energy.

America's finest solution is the systematically dismantle the living lifeways of the Shoshone Nation of Indians. The US Department of Energy created the Consolidated Group of Tribes as a model in the Yucca Mountain Cultural Resource Studies (1990) with the US Air Force acting as cooperating agency, to conduct "cultural triage" that is defined as, "the forced decision making of an ethnic group to a development project" upon the Shoshone people and land. Triage is used in flood, famine, natural disasters and "just declared wars" where the just party is the Christian nation. The Western Bands of the Shoshone Nation of Indians suffers not from flood, famine or natural disaster and was never conquered by the US as documented by the Treaty of Ruby Valley in 1863. The Western Bands of the Shoshone Nation of Indians is victim to the secret plot by the US government, indistinguishable by agency, to determine the parts of Shoshone living lifeways cannot exist in development for benefit if the US and the profit of the military industrial complex—GENOCIDE. The process of cultural triage meets, at a minimum, the threshold of genocide under the 1987 US implementation of the UN Convention on Prevention and Punishment of the Crime of Genocide, the Proxmire Act.

Genocide is defined in law as:

> Title 18, United States Code § 1091 - Genocide
> (a)Basic Offense.—Whoever, whether in time of peace or in time of war and with the specific intent to destroy, in whole or in substantial part, a national, ethnic, racial, or religious group as such—
> (1) kills members of that group;
> (2) causes serious bodily injury to members of that group;
> (3) causes the permanent impairment of the mental faculties of members of the group through drugs, torture, or similar techniques;
> (4) subjects the group to conditions of life that are intended to cause the physical destruction of the group in whole or in part;
> (b)Punishment for Basic Offense.—The punishment for an offense under subsection (a) is—
> (1) in the case of an offense under subsection (a)(1), where death results, by death or imprisonment for life and a fine of not more than $1,000,000, or both; and
> (2) a fine of not more than $1,000,000 or imprisonment for not more than twenty years, or both, in any other case.
> (c)Incitement Offense.—
> Whoever directly and publicly incites another to violate subsection (a) shall be fined not more than $500,000 or imprisoned not more than five years, or both.
> (d)Attempt and Conspiracy.—
> Any person who attempts or conspires to commit an offense under this section shall be punished in the same manner as a person who completes the offense.
> (e)Jurisdiction.—There is jurisdiction over the offenses described in subsections (a), (c), and (d) if—
> (1) the offense is committed in whole or in part within the United States; or
> (2) regardless of where the offense is committed, the alleged offender is—
> (A) a national of the United States (as that term is defined in section 101 of the Immigration and Nationality Act (8 U.S.C. 1101));
> (f)Nonapplicability of Certain Limitations.—
> Notwithstanding section 3282, in the case of an offense under this section, an indictment may be found, or information instituted, at any time without limitation.

CU-9

The Western Bands of the Shoshone Nation have not relinquished our water rights and do not consent to the sale or use by other than Shoshone citizens.

There are numerous title encumbrances on the lands currently occupied by the Nellis community arising from Shoshone property ownership of the region pursuant to tribal custom and from the decision of the Inter-American Commission on Human Rights with regard to violations of international human rights law.

The Shoshone people have endured and continue to face imminent threats for US military occupation, bomb testing and expansion suffering cumulative adverse impacts from US military occupancy that are not mitigated. Many of the illnesses that sicken the Shoshone people are not known and not studied by the US. No baseline health study are conducted. Environmental reviews fail to adequately identify, address or mitigate significant adverse health impacts and fail to take into account the disproportionate burden of those impacts will have on the health, welfare and

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spiritual well-being of the Western Bands of the Shoshone Nation of Indians.

The US Army occupied Shoshone homelands and removed the Shoshone people by gunpoint on forced marches, a treaty violation, since the signing of the Treaty of Ruby Valley in 1863. After the US involvement in World War II, the US Army Nellis occupation morphed into the US Air Force and enforced a culture of secrecy around the Nellis community. The Atomic Energy Commission imposed a Top Secret designation on human radiation experimentation. There is no transparency in the Nellis community to the activity and harms committed upon the Shoshone land and people. The Shoshone people will never know what defense agency actions are employed in the defense of the US that are calculated to bring about the destruction of the Shoshone people in whole or in part.

Foreign nations, America invades and rebuilds. To the Shoshone Nation, the US military invades and degrades the good quality of life once lived by the Shoshone Nation.

We seek the implementation of Article 6 of the Treaty of Ruby Valley to create a Shoshone homeland and seek action by the President.

Air Force has not used a culturally appropriate context for determining potential impact upon Native Americans that include lifestyle differences—diet, mobility and shelter. Instead, the US created and utilize a group of incompetents, the Consolidated Group of Tribes under the leadership of a person that is not enrolled in any federally recognized tribe yet, is authorized by the US Air Force to speak on behalf of federally recognized tribes. CU-9

Water necessary to meet the needs of the Article 6 reservation are required.

Unextinguished Shoshone title is an encumbrance on DOE, BLM and AF efforts to site a high level nuclear waste repository/military spent fuel at Yucca Mountain because the DOE, and therefore the US Air Force, cannot prove ownership to Yucca Mountain or any part of the Tonopah Test Range and the proposed Desert Wildlife National Refuge under control of the US Fish and Wildlife Service.

We are opposed for any nuclear Defense Waste Repository for military nuclear spent fuel in Shoshone country that includes the Desert Wildlife National Refuge.

The US Air Force Nevada Test and Training Range Land Withdrawal Draft Legislative EIS is a violation of International Law and US Domestic Law against the crime of genocide .

Until the Western Shoshone need of an Article 6 treaty reservation homeland is met, the US military expansion can only be viewed as destabilizing the Shoshone Nation and must be rejected.

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Las Vegas Paiute Tribe

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, Nevada 89191

Re: Las Vegas Paiute Tribe Comment Letter

Dear Colonel Murray,

Please accept this correspondence as comments from the Las Vegas Paiute Tribe ("LVPT") regarding the Nevada Test and Training Range Military Land Withdrawal draft legislative environmental impact statement. In commenting, please note that LVPT ancestors, for close to a millenium, have lived, traveled, hunted, worshiped, and otherwise used the land which the Air Force now wants to use for flight training, munitions testing, and simulated ground combat. LVPT is deeply concerned about these proposed uses of the land.

As you can appreciate, western expansion by Europeans and others greatly reduced the ability of Southern Paiutes to use the expansive lands they considered their homeland. The creation of reservations reduced even more the Tribes' ability to use the land for travel and food. The LVPT's initial reservation was created in what is now close to downtown Las Vegas, and the acreage taken into trust for the Tribe in 1983 lies in the Las Vegas Valley, with no Tribal rights to the mountains they so often used for sustenance and respite from the brutal Las Vegas summers. LVPT considers the Southern Nevada mountains as sacred. Tribal members stay connected to their culture, religion, and sense of who they are by accessing public lands that are now outside of their existing reservation. Reduction of that access through the Air Force's proposed withdrawal greatly affects sacred landscapes. CU-1

Already, the Tribe's quiet enjoyment of its land is affected by flyovers and munitions training. This is especially true during the "Red Flag" training that occurs annually. During these flyovers and trainings, Tribal members are subjected to constant loud noise and disturbance. The Tribe fears that increasing the already existing impacts will damage the Tribe further.

Accordingly, LVPT opposes further impacts to its cultural and wildlife resources, and supports adoption of Alternative 1, or an even more protective alternative. Also, as has the Moapa Band of Paiutes, LVPT requests a thorough and open conversation between itself and the Air Force so as to provide better understanding to Tribal members and to give the Tribe an opportunity to further express its concerns. LVPT also adopts and incorporates the comments made by the Moapa Band in its letter dated March 28, 2018. GE-16

Sincerely,

Chris Spotted Eagle
Tribal Vice-Chairman

Number One Paiute Drive • Las Vegas, Nevada 89106-3261 • (702) 386-3926 • Fax (702) 383-4019

4006-4014

NEVADA TEST AND TRAINING RANGE
LAND WITHDRAWAL DRAFT LEGISLATIVE
ENVIRONMENTAL IMPACT STATEMENT

REPORTER'S TRANSCRIPT OF PROCEEDINGS

On Wednesday, March 14, 2018
At 10:00 a.m.

Held for the Las Vegas Paiute Tribe
Multi-Purpose Building
#1 Paiute Drive
Las Vegas, Nevada

Reported by: Deborah Ann Hines, CCR #473, RPR

INTEGRITY COURT REPORTING, LLC 702-509-3121
7835 S. RAINBOW BLVD., SUITE 4-25, LAS VEGAS, NV 89139

CHRISTIAN GERLACH: My name is Christian Gerlach. I was born and raised in Las Vegas, Nevada. I work for the environmental nonprofit the Sierra Club. I am commenting specifically to the access to resources, cultural resources within the desert training range.

It has been brought to my attention, through Chairman Greg Anderson of the Moapa Band of Paiutes, that individuals who have any sort of criminal record or background in anyway do not get security clearance to be allowed access to what are their traditional cultural resources. The traditional cultural resources are part of the healing process, as was explained by Chairman Anderson, for these individuals to better themselves.

And realizing, again, societal context in which Native Americans currently exist as a disadvantaged identity, people who have been forcibly removed from their land, people that are removed from society, often there's high levels of drug abuse, other issues, societal issues within that population that should be given special consideration when approving or denying access to these sites within the Nevada Test and Training Range.

Again, realizing the necessity to balance

national security and cultural, traditional uses, the reality is that this is a special case in which I think the United States Air Force, national security agencies should be making those exceptions so that these individuals can also further heal from past historical traumas and personal traumas they've experienced.

Part of the issue with this whole process by which individuals are allowed on the refuge or not is also communication. It's not widely known throughout the community of Moapa or Las Vegas Band of Paiutes how one can go through the application to actually get onto these lands and experience their own individual cultural history tied to these lands. CU-1 LU-2

CHRIS SPOTTED EAGLE: I just want to welcome everybody here on behalf of the Las Vegas Paiute Tribe, and I want to thank, again, the Nellis Air Force Base in organized work in keeping these communications going. We really do appreciate the extension as well to the end of the month for us to submit tribally our comment periods.

Speaking with our Chairman, we are preparing and going to submit a written statement, as far as we get our guidance from our council in resolution form to make it official, so we're preparing that now and

considering all of it. You know, 3C is our -- the alternative 3C is really the one where we've kind of got our eyes on because it impacts us, as well as with our brothers and sisters in Moapa as well, so, you know, the cultural significance of that. So that's kind of where we would be.

But, again, I want to welcome all of you here. And, again, appreciate all the work that all of you have done, and we welcome and respect all of your inputs as well. Like I know a lot of the folks that are here that are on a lot of activist groups, we appreciate you guys as well, and thank you guys for being here. That's all I have. Thanks.

CHAIRMAN GREG ANDERSON: My name is Greg Anderson. I'm from the Moapa Band of Paiutes. We're also opposing this land expansion. I start out about our tribal land used to be 2.3 million acres. That was a long time. The government took that land away from us back in the 1800s. So what I'm trying to say right now is that we have -- you guys have -- they told us that BLM is supposed to consult with tribes when we do these things. You know, and not once did we get any notification from BLM, Nellis Air Force Base, their liaison, or anybody come to the tribe and give us any kind of say of what they were doing.

NP-13

Our tribe right now is opposed to the land expansion because of the significance of the deer, the mountain ranges. All these mountain ranges mean something to our people. So that's where we're at. You know, and we have these people that speak on behalf of our tribes. I don't think you guess are speaking for us, and that's what I'm saying. You guys didn't come to the tribe and speak to us directly. Nuwuvi group don't speak for the Paiute people and the Moapa Band of Paiutes, and that's what I'm saying. NP-13

So I think you guys all need to realize that we're here. We're still people here. These sheep, these mountain ranges mean a lot to us. And for you to just come in and take this land like that, I think that's wrong. You know, I think you say you're going to protect these lands. You know damn well they don't protect that land up there.

A cave, I was up there with Clifford Jake and Howie Miller in 1984, '86, said, oh, we're trying to stop the bombing over here. They're trying to drop bombs in these caves, right? But did they do that? No. You went back up there, this past year they went back up there, and what did you find up there? Projectiles stuck in the rocks. The caves CU-11

all caved in. Those things you guys say you're protecting but you're not. And that's what we're saying. CU-11

We're not for this expansion part of it. I think you guys needed to consult with the tribes a long time ago before you even started, then we might have a different view of what you're trying to do. But what you are talking right now, I think we're -- we're opposing it.

And then we're sick and tired of the people not -- the government not coming back to the tribes. We're supposed to be working government to government, supposed to be working like that. It's not working. So that's where we're at. CU-12

We've got a resolution going up too, so we're opposing this. So I'd just like to say to the Nellis Air Force Base, you people that are speaking on behalf of the native people that are in this country right here in Clark County belongs to the Moapa Band of Paiutes and the Las Vegas Band of Paiutes. All these other tribes, they got nothing to do with Southern Nevada. That's the way I look at it. If anybody else says the same thing, they need to say it to us right now, and that's how I feel.

And we're all talking like this. So and I'm

just -- I'm upset the way it is. You know, you go in here, you collar the sheep. Those sheep are our people. You know that, Richard. You know those sheep are our people. And you've seen what they're doing to them. They collar them and then you look at their little graph they put up there, where is the all sheep? In one area. They never left that area because why? They're scared, they're stressed. That's the thing about it. BI-48

You guys say you're protecting these areas. You're not protecting them. You know, these places mean a lot to us. We have to have a lawyer. If we have a person that's a felon on our reservation, can't come onto the base, can't come into these areas. That's not right. These are our ancestral homelands. All these lands mean something. The plants, the animals, everything means something to us. LU-2 CU-1

You guys see it a different way, I don't know. In our way, we talk to the old people back there, they call them apples, I guess. That's the way they look at it. I'm tired of it. We've been fighting for land our own selves and can't get it. When you have the government that wants to come in and just do that, I think that's wrong.

I know this last -- I know you're supposed to be hearing this, I don't think it's going to be heard. Can't hear what we're talking about. I don't think the Congress back in Washington, I don't think they listen to us either. But that's how we're standing in Moapa. We're standing against it. No matter what it is, we're going to stand against it and do what we can to stop it.

So I'd like to have you guys come to the tribe, that's what I'm talking about. Come to our tribe. Not once have you came to our tribe. Not once have you came to our tribe and said, "Hey, these guys are planning on a land expansion, what do you guys think?" You could have came and talked to us, but you guys don't do that, and that's why I'm saying this the way I'm saying it. CU-8

It means something to us, but it doesn't mean nothing to you because you work for the government. You're getting paid by the air force base, that's why it doesn't mean nothing to you. But it's us people that live here in Clark County, that's what it means to us, our people, Southern Paiute people. The people down there don't mean nothing. I mean, this is our area.

So that's what the salt songs some of you

know, that's how these things come. All these stories that are told on these rocks are from our old people. And it hurts when I have to see this, our own Indian people are coming against our own Indian people, trying to do something, forbid something for us. Well, they're not speaking for the tribe. So I'm going to let you guys know that. Thank you, guys.

(Applause.)

MERCEDES KRAUSE: Mercedes Krause, K-r-a-u-s-e. I want to say, number one, I stand with the people. I stand with the Paiute people in protecting their land.

Number two, I want to say that the first thing that came into my mind, I come in and I go, okay, let me hear, open my ears and hear both sides, hear the other side of it. You know, we do need to be protected.

And looking at this, I'm like, okay, you know, they're saying that it's not going to be any more bombing, it's just going to be things to monitor. But what I hear right now is that the existing way that it is, things are not being protected the way that they were promised. So if even right now as a way, this, you know, the areas

CU-13

are supposed to he protected, they're not being protected, then now they want to expand it and they're saying, oh, no, no further damage is going to happen. There's not going to be more bombing. It's just going to be for monitoring, or whatever it was. How are we supposed to believe that when already the existing area is not being protected as it was promised? CU-13

And then the other thing that was interesting to me, I guess I can say, is, you know, I think it was in the 3C, this one, the accomodation was made for the people who were concerned about losing the access to racing areas or the areas for the ATVs, but the tribes weren't even consulted first. Like where was their input on where things should go? And I just, I don't think that's fair. CU-10

So I want to publically say that as a native Las Vegan, a native Nevadan, I stand with the Paiute people and their stance, and I stand for protecting our public lands. And I think when the lease is over, I mean, I agree with the alternative of withdrawal, complete withdrawal, not withdrawal for use of the military land.

(Applause.)

RATA ELMORE: (Speaking native language).

I have addressed you culturally, because we are all culturally the same. I'm hurt deeply because we again are repeating history. I'm outraged to hear tribal leaders say that they have not been addressed with this. This has been going on since January, what year? Outrage. You're repeating history, the bad part of history. As an indigenous woman, I'm furious.

I address this forum traditionally because as an indigenous people I acknowledge the building, because the building has life. I then acknowledged our ancestors because culturally they matter. They walk with us. They are real. They are not yesterday. I acknowledged the people of this land, you know, of this land, because although I don't stand on my land, I stand on Mother Earth, and I acknowledge Mother Earth.

I'm furious that I stand here because my seven-year-old is concerned about the bighorn sheep. I'm furious that when I advocate for my child, it should be soccer uniforms, not standing with government officials, with my native friends asking for what's simply right. We have to stand on the right side of history. We can't repeat history and repeating history.

I wear many hats. I'm the founder of the New Zealand group, and with that hat, when New Zealanders come to Las Vegas, the first thing they ask is where should they stay on the Strip, the next thing they ask is where should they eat, and then the third thing they ask is how can I pay honor to the people of the land and where will we go.

Where will I take them? What stories will I tell them? This doesn't just affect the people here. It doesn't just affect the Paiute community. It affects the world. Your story will be retold internationally. It should be a good one. Look how far you've come, the changes you've made.

I am outraged that my son is seven years old, was talking about procreation in Las Vegas, because our native friends are not seen as real people. I'm not antigovernment. I think the air force has a purpose and a place. And you have a place. I don't think you need more. And I actually think that, like Mercedes, it's time to move away.

So I actually came here more to share and to educate, but after what I've heard around Moapa community, I'm outraged. As an indigenous woman of another country, I'm outraged. You're repeating history. The wrong part of history. You should be

ashamed. I'm ashamed.

So when I go up to my seven-year-old today, I'll let him know I was here, and then what he'll say to me is what's going to be done -- because I love seven-years-olds -- everything can be fixed. "Mom, you fix everything." What is going to be done?

I also believe our Paiute friends, nothing is going to be done. Prove me wrong. On this day our children will be out of school for 17 months. We have to be better for our kids, for our next generation, for their generation after them. And it starts with -- I can't even say something little like this, this is huge.

I learned that the bighorn sheep are not sheep, they're people. That means something to me. It means something to the community. I'm just disappointed. I'm disappointed. I came here to just kind of voice an opinion, but what I heard is I'm outraged. As a member of the New Zealand community, I'm outraged. As a mom, I'm outraged. As an indigenous woman, I'm furious.

(Speaking native language).

MITCI PATTERSON: M-i-t-c-i, P-a-t-t-e-r-s-o-n. I'm a member of the Bishop Paiute Tribe. I was raised in this whole area by a Southern

Paiute, a member of the Moapa Paiute Tribe, Donald Palm.

This whole area is so valuable to the native people. As a kid growing up, this whole area was where we went and did our stories, our story telling, our Paiute picking. It's all generational, and it is who -- the land is who we are. And as a Native American woman, I want to pass these stories on to my grandchildren.

I want to be able to bring my grandchildren to these areas out in all of these important mountain ranges where I was raised and where I was taught these stories. These stories are old, and they're so important to the people of the land and who we are. And that's about all I have to say. I am opposed to the expansion. So thank you for letting us speak today.

(Applause.)

FAWN DOUGLAS: Hello, everybody. My name is Fawn Douglas, F-a-w-n, D-o-u-g-l-a-s. And so much to say. Everything that Greg said, I echo everything that he said. That place is very important. I was just at the Desert National Wildlife Refuge over the weekend recording some of the petroglyphs, writing them down, taking pictures.

And being in front -- I'm an artist. I'm an artist too. A lot of the art that I did is very petroglyph-inspired. And so I was out there, you know, doing my pastels and such, because I want to record these areas in case they're shut off. If this area is closed off to us, I won't be able to see this area anymore. I won't be able to gain this inspiration from this area anymore. LU-2 CU-1

And I think that the air force, and, again, nothing against the air force, we have very proud, strong warriors. We have our powwows that celebrate our veterans. We're not against any of that. But I know that the government owns millions of acres throughout Nevada. In fact, they almost own the entire state of Nevada for everything that they have to do.

And earlier today -- I was a little late because I was at UNLV for the walkout. I stood in solidarity with students across America against gun violence, against the things that are happening to our youth, and to listen to what the youths, you know, what the youths have to say about that.

And one thing I'm against is this area for the art of war. To expand this area for air force, for Red Flag exercises, to build runways through the

beautiful dry lake bed that's next to a white sand dune I've never seen before in my life, except for there. And to think of any part of that land being taken, being bombed, being destroyed for the art of war is disgusting to me and it's an outrage. It's really terrible.

And earlier today I stood with hundreds of students at UNLV, thousands of students across the United States against gun violence, and here we are today for this, to see if, you know, maybe you can get more land, more land, a few -- another hundred thousand, 200,000, 300,000, 400,000 acres out of this area. I've walked through this land. There are petroglyphs, artifact sites all over this place that you're going to take care of for us? That doesn't make any sense.

And I wish that our elders were here today to speak about this. I wish more of our tribal members were here to speak about this. But coincidentally you schedule a meeting at 10:00 in the morning -- 10:00 in the morning at every single tribal spot, in Bishop, Ely Shoshone, here, and where else? Chemehuevi. All four of these different meetings are being scheduled at 10:00 in the morning when people are in school, when they're at work, when

NP-14

they're out doing what they have to do. Our elders don't get together and meet until the evenings.

Just scheduling this meeting at this time in the morning is a huge slap in the face, a huge disrespect, a huge disrespect to our people. Thank goodness I got to call a few people last night when I learned, after our tribal council meeting, that this in open, that other people could come. Thank you people who came last minute to be here.

But there would have been -- this room would have been filled with hundreds of people, hundreds of indigenous voices, hundreds of our Southern Paiute people, Chemehuevi, and all through. I mean, you would have got people here from Utah, from Shivwits, Kaibab, Kanosh to be here with us to tell their stories and to say why these places are important. But, no, you schedule this meeting at 10:00 in the morning.

You also schedule after the public comment period. Does this meeting even matter? Is it going to matter? Public comment period closed on March 1st. Is anything we're saying today, are any of the tears, any of the emotions, any of the words that are spoken by any of our people going to matter when the public comment period closed on the 1st?

NP-14

NP-12

I see injustice. This is not fair. And there should have been more people today, but unfortunately you scheduled the way you scheduled, and it looks very shady. It looks very skeptical to me.

And just speaking on the Nuwuvi group, there are people I know in this group, there are people that I respect in this group. I respect the work they did for our culture, for our people, but not if their voices are saying that the air force is taking care of this land, like, oh, they're going to do good things with it. And I don't know if it's any coincidence, the voices that are saying this are air force veterans or paid by the government.

I'm sorry, Richard Arnold, but I don't agree with this. I don't agree with this at all. I respect you. I've worked with you. But I think it's wrong. I think it's very wrong. And throughout history, history will teach us that there as client chiefs all over American that have made deals on behalf of tribes that they are not tribal council members, they are not chair people, they are not chiefs. They are client chiefs, people that the government will entrust will listen to their words, but again sovereigty needs to be respected. The

CU-10

government-to-government relationship needs to be addressed, it needs to be respected. Thank you.

(Applause.)

MERCEDES KRAUSE: I'm trying to hold my composure since I came in here, and I've listened to the Chairman speaking. And I'm processing in my head and I'm so emotional now. And, you know, I'm from Las Vegas, and I really have always respected and loved so much this community, and that they have their lands and they can go out to these areas, that they're still in touch with these things.

And for me I think the hurt that I feel is that in my lifetime, like to me this is something that happens to my child. And they have access right now to something that I don't personally have access to because of similar things that have happened, occupied territories in my case. And it's just heartbreaking to see this being taken away in our own time.

So I really hope that you can listen to the voices, especially the people, you know. I don't think that anyone has a bad intention. I think, you know, you want to protect our country, you want to protect cultural artifacts and follow the government mandates that are set to protect those environmental

CU-10

mandates, but it's not what's happening right now.

And to really do the good thing, I mean, you have to listen to what the people are saying, because I can't tell you how awful it is to have that lost. And, again, like it's us right now. You know, we can't do anything about that in the past, but this is us right now, and something can be done.

And, you know, you're the air force. Of course they're going to listen to you more. I really hope that you can listen and see if your heart tells you anything about what you're hearing, and if you can -- you make suggestions that will be better for the people, because, you know, your suggestions that is going to be heard more.

VICKIE SIMMONS: I'm Vicki Simmons. That's my cousin, and he's the Chairman of our tribe. But most in the last ten years I lost my mother, and she's spent the last years of her life rediscovering her past.

When I grew up, we were struggling. Our reservation was only a thousand acres. A lot of people moved back, and we tried to combine our money to provide income for the tribe. My grandmother lost so many babies. People were trying to live on the reservation and they couldn't make it because they

were stealing the water and they were cheating the people and they were trying to round up all the Indians and put them over there in the reservation.

So my mom married some guy from the air force, and, you know, tried to make a life with him, and it didn't work out, it's another Indian tribe, but we moved back. And my mom came alive again when she got to the reservation. She started speaking her language.

She was raised speaking her language and forced to go to Indian school at a young age where she was punished for speaking her language. And she -- even all the little kids they would take from Moapa, and they would get punished. They'd have to hang up their -- if they wet the bed, they're, you know, they had to look out for one another.

So they struggled up there at Stewart Indian School, and they came back -- some people liked it, but a lot of people didn't like it. My mom ran away. She hid in the hills. A lot of the people would run away from there, and they would try to make it, hitchhike all the way back home where they didn't have a good life at all.

The thing that they needed to do was come to Las Vegas so they can make money to send home to the

tribal people, and that's where my -- what my mother did. And they worked hard. Of everything that happened right here on the Indian colony, and I used to live here too with my Uncle Ray, he had a good job.

And, you know, it's like a lot of our past has been robbed from us, you know, the stories that we have to try to reclaim, find out. And it's so exciting. And there's just not enough of the people in our tribe to do this job, you know. We have a lot of businesses, and our people have to work sometimes around the clock, and we struggle to keep your culture committee staffed and we struggle to keep the same people on the council.

Also we have bad health effects, which I attribute to Nellis Air Force Base and the coal plant. We have very many injustices. And it's, I feel, sometimes like we're like an endangered people. There's so small of us. We do have, you know, that our land was a thousand acres and it turned to 70,000 plus acres. And so we have a lot to look after. There's a lot of damage to our land. There's a lot of roads and other development, and it's really a struggle.

And we do appreciate everybody that helps us

in this way. But, like me, I can't even get onto the Nellis Air Force Base. There's other -- we're always limited on the amount of people that can participate, only so many from a tribe. And sometimes we get lost out of the communication. And different people, elders in our communities, they get to go. And I'm still trying to go on that stuff, so I really would like to get there, and hopefully we'll go to the Desert Wildlife Refuge.

I also work with the desert wildlife, fish and wildlife for a short time, working with the Nuwuvi group, working on kiosks, you know, developing Southern Nevada public lands money and creating these informational centers. And that's a big ordeal too.

I swear, if you really wanted to live on the reservation and be me, you would have to be a hundred people. And that's what Greg is. And you have no idea the struggles, what he has to do in one day. And that you would think -- we just flew out of Moapa. We had a meeting last night that lasted hours into the night, and we flew over here.

So appreciate everybody's help. And I don't know what to do, but I'm going to try to stand with my tribe and oppose it and try to participate the most that I can. And we're going to try to get the

kids out to the Desert National Wildlife Refuge over at Corn Creek over the Clark County holidays, so I'd like to try to work something out with the Las Vegas tribe and our kids, we all intermingle. We did that before the last time. We had a nice time up in Arrow Canyon.

So I do apologize because it's so hard to arrange something with our own tribal people. And I like to -- I don't always include all the other people because we, as one Paiute people, need to be with other Paiute people. And it's not -- it's just something that we have to do. And I don't mean to exclude the other people at all, because something will start -- I have people that are in wheelchairs, they can't walk, they have cancer, and there's all those kinds of things that we need to take care of just to get those few people. Don't put that person in that van, take that person in that van, and even that kind of stuff too. So it gets a little bit hard, but I'm glad to see you guys.

And some of you guys see me a lot, but I stand with our tribe, and, you know, believe that our council should always be, you know, that somebody comes to our tribe, either through getting on that agenda to our council meeting, go over to our tribal

building or write a letter. And just be persistent, sometimes we get a little bit busy, we have a lot on our desk, and our Chairman is a senior, and so it's, you know.

SEAN SCRUGGS: Good afternoon. Sean Scruggs, Fort Independence Paiute Tribe. This is kind of for everybody.

FAWN DOUGLAS: Which Paiute tribe?

SEAN SCRUGGS: Paiute Fort Independence, California. This is kind of for everybody. It's also kind of for Greg. So first to Greg, I'll just let you know that I am on the writers council, the LEIS writers council with Richard. As a Fort Independence Paiute, not once, not ever do I speak for Moapa. I don't speak for Chris. I don't speak for any other tribe. In fact, in this case on the writers council I don't even speak for Fort Independence tribe as an official position. That is your job. Sovereign government, your responsibility, and it's directly responsible for the United States Air Force to come to you. I completely recognize that and respect that 100 percent.

For me, as a tribal writer, I got involved with the CGTO, the Consolidated Groups Tribal Organization, a couple of years ago, and my chairman

came to me and said, "Hey, you live in Las Vegas. Can you go over and represent us since you live there?" And I said I was more than happy to, because any kind of involvement and voice is better than none.

I've worked with some great officials, air force officials along the way, representatives, squadron commanders. And you've got some really good people in here that are willing to listen. They don't share our native view, which is completely reasonable, I wouldn't expect them to because they're just not raised that way and they wouldn't see things the same.

When Richard approached me or he asked in a meeting, he says we need some writers on this LEIS group, because it is an opportunity, culturally, not from Moapa, but just culturally to have a dialogue with the air force and hopefully to Congress and we would write something to them that maybe someone will actually look at and have a conscience and say, wow, I never knew the Native American perspective.

It may get washed away, they may not even read it, but with the LEIS group, eight people from different tribes have come together, and we look at everything as a cultural resource. We've talked

about the mountains. They said, "Hey, we want to build a tower up there on the mountain." No, it's a cultural resource. You're going to be affecting the view that you might have had in the morning blessing. The sheep, every single thing is a concern out there.

We had this huge document that's, you know, 7, 800 pages, we were only given literally just an amount of time, a small amount of time to review it and have some kind of input. We produced 56 pages of text. Again, I know it's just text, but we talk about the land out there, it's holy land, and that even anything out there is a violation of holy land, just as if you were going to go to Jerusalem and build something right in the middle, how horrible that would be, so we talk about those things in there.

And, again, it's not saying that that's Moapa's view, we're just saying culturally this is something that we share. We all pretty much have the same idea and where we're trying to articulate it, because that's going to be better, I believe personally, than nothing at all. And, again, I'm not saying that, hey, Moapa said this or, you know, anybody said that. So I just want you to know that so you understand what I'm doing.

But, again, it's not unusual that Fort Independence's perspective on no 3A or no 3C or whatever, and along the way, because I'm from the Fort Independence, I've been able to go out and see the petroglyphs, I've been able to go out and see artifacts. I say artifacts, but sites, cultural sites, and I'm able to appreciate everything else out here firsthand, and I know how valuable it was without even seeing it.

I just went up to Great Basin and Corn Creek, been out there by Duckwater and all that stuff, so I've seen this before, but I have a different appreciation now for sure after going out and seeing this, and I have an appreciation for my own home in Independence.

But this group and this venue, the writers group has given us a voice. I don't know where it is on the scale of one to ten, it may be zero by the time it gets to Washington, you know, the way things have been treated before, and nothing against anybody here in this room, but here on a scale of one to ten, on the meeting, for me it's at least a ten because it's given me an opportunity to share with people how important things are. And without that dialogue, they might not even know.

And if someone takes this seriously, the things that we produced and talked about, even to the degree of how depleted uranium out on the range affects insects, that's how serious I take it. Depleted uranium that's washed off of decoys out there and washed into the soil, and that water is going to get in there and get back into the roots and get into the sage or something that insects eat, all the way up to the bighorn sheep, that's how I have taken this seriously, to an F-18 crashed a couple years ago.

And I knew the Lieutenant Colonel who was the one that died out there, but when you have somebody who dies on the range, how does that affect anything else? Natives weren't even notified, and that I know in consultation on that. Maybe we want to do a cleansing ceremony for the range, but I don't even know if you guys were notified.

I knew about this when I was in the air force because the F-18 was from my unit, but now I'm telling them in this dialogue, in this item we produced that if you have an incident when an aircraft crashes, we still want consultation because maybe we want to make sure that the area is cleaned. If somebody dies, maybe there's a cleansing ceremony

that we want after somebody has died. I don't know.

And I say "we," but I said maybe you guys need to have the opportunity to be notified and make that determination yourself. And that's the kind of things that we want to bring to light. Where it goes from here, I don't know, but at least it's an opportunity, you know, to try.

CHAIRMAN GREG ANDERSON: But I was thinking myself, I was thinking that before this even started, before they even -- they should have came, exactly, to the tribe. I mean, even your group should actually came to the tribe and said, "What's your input? What's your say?" But you're talking from a native part of it, but you're not seeing what the people that are from here are seeing.

You know, I mean, you're talking -- I know all of the natives -- all of us natives have the same beliefs, mostly, but I'm saying to consult with our tribe, that's what you guys should have did, or consult with the Las Vegas tribe. These are our lands, you know, what I mean? I know what you're saying, but I'm just trying to say, you know, this should have started a long time ago with the government coming to the tribe first and say, "Hey, we're going to start this on the reservation."

But let us know what's going on, you know what I mean? But then, like we said, we have a liaison supposed to be between the tribes and the air force and the tribes, not once has he came to our reservation to give us an input on what's going on. So that's what we're upset about, about the whole process. And our land is our land. All this stuff we have respect for. But when we get told the government says -- they gave you how many days to do that?

SEAN SCRUGGS: For the LEIS --

CHAIRMAN GREG ANDERSON: Right. That's what I'm saying. Is that ample enough time to analyze everything we got? But, see, did you say anything? That's the thing what I'm saying. You're not saying anything because you're part of the air force. You're one of the air force people, so you're not speaking on behalf of the Moapa Band of Paiutes. That's what I'm trying to say.

SEAN SCRUGGS: And I never will. And I never will.

CHAIRMAN GREG ANDERSON: That's what I'm trying to say. I can see your point, what you're talking about today, that part of it. I can see that.

SEAN SCRUGGS: The other thing, I can personally, Sean Scruggs speaking as Sean Scruggs, before anybody ever started drawing lines or thinking about it, that's where this should have gone --

CHAIRMAN GREG ANDERSON: Exactly.

SEAN SCRUGGS: -- to Greg. They should have said -- all the other tribes, I said, we want to do this. The answer might have been no, but they can still come to you and say then so we -- I was introduced to this -- by the time I was introduced to this, somebody already drew these little squares. Before they thought about drawing the little squares, that's when they should have.

So this was 2015, 2013, 2011 when they want to think about this to expand and improve the threats, that's where the true consultation would have been to come out to you and say, "Hey, we want to draw some squares. You know what, maybe you can tell us where there's something that's not as culturally sensitive," and we can already have the dialogue. That was Sean Scruggs' answer, probably would have been done right there. That would have been a true consultation instead of saying, "Here's a map, what do you think?"

CHAIRMAN GREG ANDERSON: Right.

SEAN SCRUGGS: "Let's draw the map together."

MERCEDES KRAUSE: I just want to -- can you see how -- I mean, for me, I only see that as being purposeful that the tribes themselves that are affected are not even spoken to but outside tribes that can look like they are Paiute or native representation are given. Do you see how that seems purposeful? As a noted public comment please.

FAWN DOUGLAS: I guess I had a comment. My name is Fawn Douglas, F-a-w-n, D-o-u-g-l-a-s. I'm a member of the Las Vegas Paiute Tribe. Just on the consultation, I guess the air force liaison, Richard Arnold, has not consulted with the tribal council, but I'm wondering if you consulted with the Las Vegas Paiute Tribal Council, yes or no?

Can you just put it on the record that I asked if he had had any consultation with any other tribes, specifically Las Vegas Paiute Tribes, specifically Moapa Band of Paiutes.

(Thereupon the proceedings were concluded at 12:45 p.m.)

* * * * *

CERTIFICATE OF REPORTER

STATE OF NEVADA)
SS:
COUNTY OF CLARK)

I, Deborah Ann Hines, certified court reporter, do hereby certify that I took down in shorthand (Stenotype) all of the proceedings had in the before-entitled matter at the time and place indicated; and that thereafter said shorthand notes were transcribed into typewriting at and under my direction and supervision and the foregoing transcript constitutes a full, true and accurate record of the proceedings had.

IN WITNESS WHEREOF, I have hereunto affixed my hand this 30th day of March, 2018.

Deborah Ann Hines, CCR #473, RPR

NEVADA TEST AND TRAINING RANGE
LAND WITHDRAWAL DRAFT LEGISLATIVE
ENVIRONMENTAL IMPACT STATEMENT

REPORTER'S TRANSCRIPT OF PROCEEDINGS

On Thursday, March 15, 2018
At 10:00 a.m.

Held for the Mojave & Chemehuevi Tribe
Chemehuevi-Nuwuvi Park
100 Havasu Lake Road
Havasu Lake, California

Reported by: Deborah Ann Hines, CCR #473, RPR

INTEGRITY COURT REPORTING, LLC 702-509-3121
7835 S. RAINBOW BLVD., SUITE 4-25, LAS VEGAS, NV 89139

RON ESCOBAR: Being part of the sub-writers group, we had talked and discussed all of the 1, 2, 3 and 4, all the alternatives. We're never going to come to a conclusion on what alternative, you know, we would like to see, but Congress is ultimately going to make the end result of it in 2021. We hope they make a strong and right decision. But I know what we put together, they'll have some good input from the tribes.

But my main concern would be access to the tribes onto the property after it's determined what action they're going to take and what alternative, you know. LU-2 CU-1

Being a youth growing up and raised in Las Vegas, Nevada, my most primary area would be, you know, of concern would be the Pahranagat area, in that area, and it's been a site, an area that me and Richard have gone out to many times.

Speaking pretty much with the commissioner from Lincoln County had said from that area, you know, would like to keep access open to the people, you know, our kids and their kids and then their kids, we would like to see this area, but you've got to the take it into the same breath.

You know, talking about being with Richard

and going out to the other sites, it's one thing going out to a site and seeing an area that hasn't been disturbed in the last 50 years. It's like walking onto an area that hasn't been disturbed, it's the same. You know, that's all good if it would stay the same like that, you know, I'm for that.

But I would like to still see access, not only to the tribes, but to certain people in the communities in these areas. You know, to me, personally, they've kept the areas, you know, guarded. They have been -- the tribal members, they're like us, and they love this land too, especially in that area around Pahranagat. LU-2 CU-1

And as a kid I've gone back there many times. I could recall shooting my first shotgun back there. So this area to me is very personally sacred but also very valuable and a lot of memories to me. It's a place to see. It's a view-scape that very -- unless you live in the area, you probably hadn't seen this place. It's a huge, dry lake bed, lots of small hills.

My main concern is the artifacts and all the Indian writing on the rocks, you know, they stay preserved and all that. I'm kind of struck between a rock and a hard place. I'd like to see it stay CU-1

there, but I know the people in the community have been keeping it up and keeping it secure themselves.

So I'm kind of like, you know, but what direction to take. I know our council will meet and discuss this issue and determine an alternative or a way we'd like to see our tribe go, but to me I'd like to see more, not more access but reserve the access for the people who have lived there for, you know, not hundreds of years but their lifetimes and their kids' lifetime.

Another issue, and I know you heard a lot about it up in Vegas yesterday, is the bighorn sheep. You know, those are us. Those need to be protected also. And access to see those, not too many people down in this area have ever seen a bighorn sheep. But I'm pretty lucky, you know, I got to see them. Even as a kid growing up I used to see packs of them. My kids and their kids and then their kids should be able to see these animals and access this area. LU-2 CU-1

As a kid, I went back there with my dad, and we seen a herd of, you know, 200 antelope that were just sitting in the same valley that we saw a couple months ago. And these are memories that I have and I'd like to pass those memories onto my kids and their kids and their kids.

So my main concern would be access to the area after the decision is made on whatever to close the area or not, whether or not we would still have access to the area. Pretty much that's my statement. CU-1

EDWARD D. SMITH: I'm Edward D. Smith. I'm a member of the Chemehuevi Indian Tribe, also a member of the Chemehuevi Tribal Council. And I'm not speaking for the council as a whole, but at our last tribal council meeting we were talking about the airplanes flying around and jets flying around, and they do it quite frequently over us. Sometimes they come pretty low and they leave a trail behind them, and people are complaining about it. I believe the aircraft come out of the air force base out of Yermo or out of Phoenix, not actually out here that members are complaining about it.

I listen and I got to say my piece. It doesn't bother me seeing them airplanes flying around. My taxpayer dollars are being spent on them airplanes they're flying around. I know it costs a lot of money to put one of them things in the air, and you've got three or four of them flying around, that's a lot of money.

Without a standing military, you know, this country is nothing. There's countries that want to

take us over. That's what I told the tribal membership. I'm not a Trump supporter. What I do like about Trump is he's spending a lot of money on the military, because you need a standing military, you know.

I don't want to upset other tribes with what I'm saying, but this is me personally talking. I support our military. I support spending tax dollars, my tax dollars to go to the military. You know, without any type of military, this country would be nothing. It started with a -- without guns -- it started with a gun, it started with the musket. Without them muskets, there would be no America. I think the tribes back East would have drove everybody back to Europe.

So I support this. I mean, I'm a Vietnam veteran. I'd do it over again. I'd do it again. The air force was quite active in Vietnam. I think the first battle they had was Drang Valley. I had a friend that was there. Without the air force coming in and dropping the napalm, we probably wouldn't be here today. I mean, they dropped napalm so close that it burnt some of our troops. But at that time we did win that battle, we didn't win the war but we won the battle because of the air force and the

military. So I don't have a problem with them.

The land is -- other areas, I don't know about, I haven't heard about other people. I go out there as much as I can. It's getting harder for me to travel, but I've been up to Nellis several times. I enjoy the area. I've been in some areas that are still pristine like they talk about, and there's stuff still there that no one's ever touched and has been protected for so long. It's good to see it.

So that's my standing on this project. I don't have a problem with it. Speeds of our aircraft anymore, in a couple of seconds they're from here to over Ely, I mean way beyond what they're trying to set aside or reserve there. That's my personal feeling. I support the project. That's all I have to say. Thank you.

(Thereupon the proceedings were concluded at 12:15 p.m.)

* * * * *

CERTIFICATE OF REPORTER

STATE OF NEVADA)
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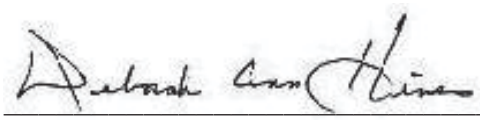
COUNTY OF CLARK)

I, Deborah Ann Hines, certified court reporter, do hereby certify that I took down in shorthand (Stenotype) all of the proceedings had in the before-entitled matter at the time and place indicated; and that thereafter said shorthand notes were transcribed into typewriting at and under my direction and supervision and the foregoing transcript constitutes a full, true and accurate record of the proceedings had.

IN WITNESS WHEREOF, I have hereunto affixed my hand this 30th day of March, 2018.



Deborah Ann Hines, CCR #473, RPR

A.4.2.5 Government and Agency Letters (CINs 5000-5013)

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Department of Energy
National Nuclear Security Administration
Nevada Field Office
P.O. Box 98518
Las Vegas, NV 89193-8518

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Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Suite 107
Nellis AFB, NV 89191

DEPARTMENT OF ENERGY/NATIONAL NUCLEAR SECURITY ADMINISTRATION COOPERATING AGENCY COMMENTS ON THE DRAFT NEVADA TEST AND TRAINING RANGE MILITARY LAND WITHDRAWAL LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

The Department of Energy National Nuclear Security Administration Nevada Field Office (NNSA/NFO) and Environmental Management Nevada (EM-NV) have reviewed the Draft Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative Environmental Impact Statement (LEIS). We are submitting the following comments as a Cooperating Agency. It is your decision whether to consider and include them in the LEIS as public comments.

Comments

- Section 1.3, Page 1-11, Lines 19 – 23. Desert Rock is no longer "considered" …the entire state of Nevada was designated one of six FAA Test Sites for UAS a couple of years ago.
  - NV65 is the FAA designation for the airport.
  - In addition, the airspace above the Nevada National Security Site (NNSS) is "restricted airspace" rather than "controlled airspace."
  - Replace text with, "Desert Rock Airport (NV65) is located within the NNSS geographic boundary near Mercury, NV, but lies outside the NNSS's FAA-designated restricted airspace.
  - Aviation assets (including manned and unmanned vehicles), supporting NNSS activities, regularly use this airport.
  - While not part of the NTTR, the NNSS can be overflown by military and other aircraft with prior coordination and approval."

GE-17

- Section 2.3.3.1 - Alternative 3A – Range 77 – EC South Withdrawal, Page 2-24 (also Page 3-264).
  - The DOE's EM Nevada Program currently has thirteen (not eleven) monitoring wells on Range EC South that are regularly used to monitor and characterize the tritium contamination plume that originated from the underground nuclear testing on the NNSS. If EC South becomes a live-fire range with a full air-to-ground designation, how will these DOE assets be protected, and will DOE still

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have access to these assets? Please keep in mind that the contamination plume is continuing to migrate toward the southwest and additional wells will need to be drilled and monitored in the future in the current EC South Range and possibly North East of Rainier Mesa on the NTTR. Current EM Nevada Program planning calls for approximately 7 new wells to be drilled in sequence on the EC South Range during FY2020 – FY2021. Typical well drilling includes 24/7 operation of the drill rig and supporting activities. This campaign will require active/frequent coordination with the USAF to minimize any schedule and cost impacts.

- In a similar situation, DOE's EM Nevada Program is currently remediating contaminated soil on the TTR (Clean Slates Corrective Action Units) as well as performing characterization, investigation, and/or remediation activities at the Double Tracks Corrective Action Unit on the NTTR (west of the TTR) and Project 57 on the NTTR north of the NNSS. Access to these sites will continue to be needed in the future.

LU-2
LU-22

- Section 3.12.1.6 - Department of Energy Environmental Restoration Program
  - General Note. NNSS Corrective action site numbers do not align with the numbers presented. Not sure if the NTTR sites are being comingled with the FFACO numbers. The 2015 Decontamination Report is accurate from an FFACO perspective with the recent updates provided below. These numbers and status are easily produced, if the criteria is clear.
  - Page 3-253, Paragraph 3. The number of sites included in the text are not consistent with NNSS records. Do they represent both the NTTR and NNSS sites that are part of the FFACO?
  - [redacted]

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anticipated to be completed in 2018 with final closure approval by the end of 2019. These sites are projected to be clean closed per the FFACO criteria. CAUs 411, Double Tracks and CAU 412 Clean Slate I were clean closed per the FFACO and approved by the NDEP in 2017. DOE continues to conduct inspections at these sites to ensure that required fencing is in good condition and that postings remain legible (U.S. Air Force, 2016h)."

- Page 3-254, Lines 17- 21. Replace with, "Seven of the eight remaining open sites are areas where atmospheric testing or plutonium dispersion testing occurred and comprise Schooner, Clean Slate II, and Clean Slate III."
- Table 3-46. Title: Summary of Study Activities at Plutonium Dispersion Sites. First entry: CAU 102 is not specifically a Plutonium Dispersion Site. It is a regional groundwater area associated with Underground Nuclear testing on or near Pahute Mesa.
- Table 3-46, page 3-254 & 255, Work Completed Column: Delete "geophysical and geologic modeling".
- Table 3-46, page 3-255. CAU 411 Double Tracks is CLOSED. Add two rows for CAU 411. Row 1: Activities Column add "Final Closure Report and Addendums", Year Column add 2016, Work Completed Column add "NNSA submitted the final Closure Report and Addendums to NDEP." Row 2: Activities Column add "Clean Closure Acceptance by NDEP", Year Column add 2016, Work Completed Column add "NDEP agreed that the Clean Closure of the site is completed in accordance with the FFACO."
- Table 3-46, page 3-255 & 256. CAU 412 Clean Slate I is CLOSED. Add two rows for CAU 412. Row 1: Activities Column add "Final Closure Report", Year Column add 2016, Work Completed Column add "NNSA submitted the final Closure Report to NDEP." Row 2: Activities Column add "Clean Closure Acceptance by NDEP", Year Column add 2016, Work Completed Column add "NDEP agreed that the Clean Closure of the site is completed in accordance with the FFACO."
- Table 3-46, page 3-256 & 257. CAU 413 Clean Slate II is CLOSED. Add two rows for CAU 413. Row 1: Activities Column add "NDEP Approves Corrective Action Decision Document and Corrective Action Plan", Year Column add 2017, Work Completed Column add "NDEP approves the Corrective Action Plan detailing corrective action to achieve clean closure." Row 2: Activities Column add "Implementation of Corrective Actions", Year Column add 2017, Work Completed Column add "Corrective Actions (remediation) activities were initiated in 2017 and will be completed in 2018".
- Table 3-46, page 3-257. Add three rows for CAU 414 Clean Slate III. Row 1: Activities Column add "Corrective action investigation", Year Column add 2015-2017, Work Completed Column add "Collection of soil samples and thermoluminescent dosimeters at sample plots, subsurface depth screening for buried

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Nellis AFB Public Affairs -4- MAR 0 6 2018

contamination, geophysical surveys at ground zero, removal of contaminated debris outside CA fence, soil samples of soil mound surface and interior, FIDLER* surveys, and removable contamination surveys." Row 2: Activities Column add "NDEP Approves Corrective Action Decision Document and Corrective Action Plan", Year Column add 2017, Work Completed Column add "NDEP approves the Corrective Action Plan detailing corrective action to achieve clean closure" Row 3: Activities Column "Implementation of Corrective Actions", Year column 2018, Work Completed column add "Corrective Actions (remediation) activities will be completed in 2018".

- Table 3-46, page 3-258. Add one row for CAU 415 Project 57. Row 1: Activities Column add "Final Closure Report Submitted to NDEP," Year Column add 2017, Work Completed Column add "NDEP approval of the final Closure Report is Pending."

GE-17

- Section 3.12.2.4 - Environmental Consequences - Alternative 3 – Expand Withdrawal of Public Lands for the NTTR, Page 3-267. Although there should be no impact to the expansion areas, changing EC South to Range 77 and making it a live-fire range would appear to potentially impact the DOE Environmental Restoration Program. Please clarify and explain.

HZ-13

The NFO appreciates the opportunity to comment on this Draft LEIS. If you have any questions or need additional information, please contact Carrie E. Stewart, NNSA/NFO National Environmental Policy Act Compliance Officer, at (702) 295-0077.

Thank you for your assistance.

Angela P. Colarusso
Assistant Manager
for Site Operations

OAMSO:CES-8054
ADM 16.1.5.a

cc:
R. J. Boehlecke, EM-NV
J. C. Fowler, Navarro
M. B. Lowe, NFO
C. E. Stewart, NFO
MSTS Correspondence Management
NFO Read File

5001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

March 8, 2018

Michael Ackerman
99th Air Base Wing Public Affairs
4430 Grissom Ave., Suite 107
Nellis AFB, Nevada 89191

Subject: Draft Legislative Environmental Impact Statement for the Nevada Test and Training Range Land Withdrawal (CEQ # 20170236)

Dear Mr. Ackerman:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Legislative Environmental Impact Statement (DLEIS) pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The DLEIS analyzes effects of the Nevada Test and Training Range (NTTR) land withdrawal extension and proposed expansion. The action alternatives evaluated in the DLEIS include alternatives and sub-alternatives addressing changes in land management and access, additional acreage withdrawn, and the time periods for the land withdrawals. It is EPA's understanding that the selected alternative is expected to be comprised of one or more of the land management/access or increased acreage alternatives combined with one of the temporal alternatives. The DLEIS does not identify a preferred alternative or combination of alternatives.

EPA is rating all the action alternatives as *Environmental Concerns – Insufficient Information* (EC-2), based on our concerns regarding the migration of munitions constituents off-range, which appears imminent, and potential impacts to receptors. These concerns, while applicable to all of the action alternatives, are heightened for Alternatives 2 and 3, both of which propose a 30% increase in munitions expenditures on the range, and for Alternatives 4B and 4C, which would extend the withdrawal period beyond 20 years. Please see the enclosed Detailed Comments for further discussion of these concerns and EPA's recommendations for addressing them. The Detailed Comments also provide suggestions regarding the environmental justice analysis and tribal concerns; recommend additional information be included in the Final LEIS regarding impacts to water sources from changes in management on national wildlife refuge lands; and provide updated information regarding air quality and general conformity.

EPA appreciates the opportunity to review this DLEIS. When the Final LEIS is released for public review, please send one electronic copy to the address above (mail code: ENF-4-2). If you have any

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questions, please contact me at (415) 972-3521, or contact Karen Vitulano, the lead reviewer for this project, at 415-947-4178 or vitulano.karen@epa.gov.

Sincerely,

Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosure: Summary of EPA Rating Definitions
EPA's Detailed Comments

cc: Cristy Smith, U.S. Fish and Wildlife Service, Desert National Wildlife Refuge
Mike Sword, Clark County Department of Air Quality

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SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

Category "1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category "2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category "3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

EPA DETAILED COMMENTS ON THE NEVADA TEST AND TRAINING RANGE (NTTR) LAND WITHDRAWAL DRAFT LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT, NEVADA, MARCH 8, 2018

Potential for Off-Range Munitions Contamination

Receptors and pathways not clearly identified

The 2015 Operational Range Assessment (ORA) findings discussed in the DLEIS noted the presence of munitions constituents, including lead and explosive residues, at or near current range boundaries in soils from ephemeral washes and a single groundwater well. Although one detection of 2,6-dinitrotoluene (2,6-DNT) in groundwater exceeded the EPA tap water regional screening level (RSL), the DLEIS and Contamination Analysis Report (CAR) indicate that it was below levels that affect human health based on "other studies by the EPA and the Agency for Toxic Substances and Disease Registry" (ATSDR) (CAR p. 41). The studies are not identified.

The DLEIS concludes that the 2015 ORA provides sufficient evidence that munition constituent contamination may be migrating from on-range sources to off-range areas via soil transported during storm events, surface water/sediment transport, and groundwater (p. 3-251). It does not identify specific receptor locations and pathways, and the 2007 ORA concluded that there was no viable off-site exposure pathway for surface water or groundwater (p. 3-236), yet the discussion in the DLEIS implies a drinking water route of exposure for humans. Because the exposure route and location of the closest wells are not identified, it is not clear which communities could be affected. Off-site sampling at public and private community wells is mentioned in relation to monitoring of radioactive groundwater contamination from the historic nuclear testing at the Nevada Test Site, but it appears those wells are located in different potentially affected communities.

> ***Recommendations:*** In the Final LEIS, clarify whether or not any potential routes of human exposure to munitions constituents have been identified and describe any such routes. Identify the closest drinking water sources and surface water locations that could be impacted by the contaminant migration that is occurring. Identify the EPA and ATSDR studies mentioned in the DLEIS and CAR, and include a table comparing the sampling results cited in the DLEIS with the reference values used in those studies. HZ-5 HZ-6 HZ-7

Coordinating munition constituent migration actions with the proposed action

The ORA report concluded that there is a "strong potential" for munitions constituents to migrate off-range via soil transported during storm events, surface water/sediment, and groundwater, and recommended further investigation to determine an appropriate response and plan for follow-up efforts. According to the DLEIS, the Air Force signed a memorandum of record in April 2015 acknowledging the threat of munition constituent migration outside the NTTR, stating, "the Air Force Civil Engineer Center (AFCEC) shall facilitate and coordinate with the range, installation and other stakeholders regarding range-specific response planning activities in order to determine appropriate scope of a follow-on effort" (p. 3-251). It is not clear what kinds of range-specific response planning activities are intended in the memorandum of record, as no such activities are described in the DLEIS.

The Air Force ORA Program manual (Dec 2011) indicates that, in instances where data indicate a substantial threat of release, the assessment team may evaluate and identify on-range measures to mitigate further munitions constituent transport and prevent an off-range release. Such measures would be appropriate for discussion in the LEIS. Consistent with the Council on Environmental Quality's guidance for Programmatic Reviews, coordination of the current NEPA review with response planning would provide an opportunity to identify potential adverse impacts early; modify aspects of the

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proposal, as needed, to avoid or mitigate such impacts; and develop monitoring programs to address broad scale impacts.

> ***Recommendation:*** Disclose in the Final LEIS any range-specific response planning already underway or expected, pursuant to the memorandum of record, and explain how the proposed action, under each alternative, would support or be coordinated with such planning efforts. Fully characterize the current extent of contamination and consider establishing a regular monitoring schedule to ensure drinking water sources are not compromised. Consider the strong potential for migration when recommending alternatives selection to Congress, including the effect that a 30% increase in munitions expenditures would have on contaminant migration and the ability to protect drinking water supplies. Identify on-range measures that could mitigate further munitions constituent transport and prevent an off-range release. HZ-8

Methods to prevent migration

The CAR indicates that munitions contaminated soil exists on the NTTR, particularly in soil adjacent to target complexes and at sites formerly used as munitions pits. The DLEIS states that the cleanup and maintenance of munitions residues from target areas would continue using "Coronet Clean" procedures, which include sweeping out around target areas and safely detonating and/or disposing of any unexploded ordnance (UXO) that is encountered (p. 3-263). While expended ordnance and target debris are removed by explosive ordnance disposal personnel or a UXO contractor at least every two years, residual contamination in the soil is not remediated on a regular basis (CAR p. 71). For this reason, it is likely that the concentration of munitions constituents in soil would increase as more munitions are used into the future, and that the increase in concentrations would accelerate under an alternative that allows for increased munitions expenditures.

Data cited in the DLEIS indicate that munitions constituents are also entering ephemeral washes as a result of sediment transport via surface water flows. Although stormwater pollution prevention methods may be available to prevent sediment migration, it is unclear whether any such methods are currently in use. The DLEIS only discusses stormwater best management practices in relation to construction activities requiring a National Pollutant Discharge Elimination System (NPDES) permit from the State.

> ***Recommendation:*** In the Final LEIS, identify any stormwater best management practices (BMPs) already employed near target areas, and discuss their effectiveness. If stormwater pollution prevention measures are not currently being utilized, explore whether installing structural BMPs is feasible downstream of target areas. If so, incorporate feasible and appropriate BMPs into the project description for all alternatives. We also recommend discussing the applicability and feasibility of practices identified in the Technical Report "Department of Defense Operational Range Sustainability through Management of Munitions Constituents"[1] to prevent migration of munitions constituents from the NTTR. If Alternative 2 or 3, which would increase munitions expenditures, is recommended to Congress, we recommend incorporating a concomitant increase in efforts to prevent or slow contaminant migration. HZ-9 HZ-10 HZ-11

Tribal Concerns/Environmental Justice

The DLEIS includes, as Appendix K, a Native American Resource Document, prepared by a Native American writers group. This document provides a very informative summary of cultural perspectives relating to the NTTR Land Withdrawal, and EPA supports its inclusion in the DLEIS. We are

[1] http://www.dtic.mil/docs/citations/ADA621938

concerned, however, that the information provided in Appendix K is not reflected in the environmental justice chapter of the DLEIS.

In Appendix K, the tribes indicate that the proposed land expansion areas remain central to the lives of Native American Tribes and are known to contain traditional and ceremonial use areas, along with traditional gathering and collection locations for Native American people. The tribes believe that land disturbance from training activities creates a cumulative impact that falls disproportionately upon tribal communities and that access restrictions prevent use and interactions with the land and natural resources of the area that are considered critical to maintaining traditional, cultural and historic practices. They feel that the analysis provides only a broad overview of the potential impacts, and discounts the disproportionate affect to Native culture (p. K-23).

Although the environmental justice chapter in the DLEIS indicates that the tribal communities surrounding the NTTR were identified early in the LEIS process as an environmental justice community of concern (p. 3-119), the EJ analysis evaluates only noise and safety impacts for disproportionality, and finding none, concludes that no disproportionately high and adverse impacts to environmental justice communities would occur under the alternatives. The impacts to culture from loss of access were not identified. Given the large difference in size of the withdrawal areas under Alternatives 3 A, B and C, this suggests a potential difference in the level of impacts among alternatives that was not differentiated. The guidance *Promising Practices for EJ Methodologies in NEPA Reviews*[2] suggests that responsible opposing views regarding an impact's status as disproportionately high and adverse, may warrant discussion in a NEPA document.

> ***Recommendations:*** Include a summary of tribal environmental justice impacts in the environmental justice chapter of the Final LEIS. Discuss the impacts of access restrictions under the existing land withdrawal and each alternative, describe how tribes would be accommodated under each alternative, and address some of the Native American Resource Document's specific recommendations, such as the request to sponsor an Indian subsistence consumption study and a study on health and environmental effects of the NTTR activities on tribes.

SO-13

Air Quality – General Conformity

The DLEIS states that general conformity applies to federal actions in nonattainment and maintenance areas and that "general conformity is not applicable to this land withdrawal extension or expansion" (p. 3-25, 3-26, Appendix D). Please note that general conformity may become applicable, depending on the timing of the action. On December 22, 2017, EPA notified the State of Nevada and the Clark County Department of Air Quality of its intention to designate a portion of Clark County in nonattainment with EPA's ozone standard, which was lowered to 0.070 parts per million in 2015. If EPA finalizes the nonattainment designation as intended, a portion of Clark County would be classified as marginal nonattainment for the 2015 ozone standard. As explained in Section 176(c)(6) of the Clean Air Act, newly designated areas have a one-year grace period after the effective date of designation of National Ambient Air Quality Standards (NAAQS). If the Proposed Action has not been initiated within 1 year of the designation of a portion of Clark County, general conformity may apply to the project.

While the DLEIS estimates emissions for each alternative (e.g. Table 3-22), those emissions would occur in several Nevada counties. For general conformity, only the emissions that originate within the nonattainment area should be considered. General conformity is a two-step process that begins with an applicability analysis, which compares emissions from a federal action within the nonattainment area to

[2] Available: https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf

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the general conformity de minimis thresholds noted in Appendix D of the DLEIS. If general conformity is determined to be applicable, EPA's regulations at 40 CFR 93.155 through 93.160 and 93.162 through 93.165 should be followed. For additional information, including the boundary of the potential nonattainment area, please contact Tom Kelly of EPA Region 9's Air Division at 415-972-3856 or Kelly.ThomasP@epa.gov.

Recommendation: Clarify, in the Final LEIS, the potential applicability of general conformity following a designation of nonattainment for a portion of Clark County, Nevada. AQ-3

Alternative 4

Alternatives 4A, B and C address the time period for the land withdrawal and would need to be combined with one or more of the other alternatives for implementation. Alternative 4A proposes a 20-year withdrawal period, consistent with previous withdrawals; 4B would extend the withdrawal to 50 years before it expires, and 4C represents an indefinite period of withdrawal that would not expire. The DLEIS concludes for most impact discussions that, because Alternative 4 reflects periods of time, which do not in and of themselves affect resources, there are no specific impacts associated with Alternative 4, except to provide a point in time at which impacts from other chosen alternatives may end. Thus, the DLEIS does not attribute impacts to the period of land withdrawal.

Important factors bear consideration in relation to time periods. The cumulative impact assessment should discuss how conditions have changed over time and how they are likely to change in the future with and without the proposed action. The inherent difficulties in making accurate predictions are exacerbated by the unprecedented changes occurring under climate change, especially to water and biological resources. Future land use and sustainability planning, as well as project-level analyses tiered to the LEIS, would benefit from periodic re-evaluation of the withdrawal as the effects of climatic changes and land use decisions become better understood and more apparent over time.

Recommendation: Continue with 20-year withdrawal periods to facilitate informed future decision-making based on the most up to date conditions. EPA also recommends including in the Final LEIS a robust adaptive management program, along with a commitment to ongoing consultation with wildlife and environmental agencies. PA-38 GE-3

Impacts to Water Resources Management

The current land withdrawal includes approximately half of the Desert National Wildlife Refuge, which was established in 1936 for the conservation and development of natural wildlife resources, especially the protection and preservation of desert bighorn sheep. Alternative 3C would increase the withdrawal of land from the Refuge by an additional 227,027 acres. Alternatives 2 and 3A, B and C would also maintain the existing land withdrawal from the Refuge but transfer primary management responsibility from the U.S. Fish and Wildlife Service (USFWS) to the Air Force. The DLEIS makes clear that natural sources of water are scarce across most of the study area, and that springs, seeps, and pools provide a critical resource to wildlife species living in or migrating through the arid environment (p. 3-142). It does not discuss how the transfer of primary management authority to the Air Force would affect the management of water developments, i.e., guzzlers, which are currently managed as a vital resource for wildlife and exist on the South Range and in the proposed Alternative 3C additional expansion area.

Recommendation: Explain in the Final LEIS how differences in wildlife management that would occur under the Air Force versus USFWS would affect the management of wildlife water sources. BI-4 LU-9

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Mitigation for Refuge impacts
The DLEIS indicates that, when the lands were withdrawn for the South Range under the 1999 Military Lands Withdrawal Act action, the Air Force appropriated and funded $15 million dollars for the USFWS to mitigate the use of the impact areas (112,000 acres) and to allow acquisition of similar lands, outside the South Range (p. 1-9). The DLEIS makes clear that a mitigation plan will not be developed as part of this LEIS process and that whether or not such a plan is eventually developed will depend on the final legislative language developed during the Congressional process.

Recommendation: We recommend that the Air Force recommend to Congress that additional mitigation funding be included in any renewal of withdrawal lands, consistent with current monetary value, and increased for any new land withdrawals or management changes. GE-3

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DINA TITUS
MEMBER OF CONGRESS
1ST DISTRICT NEVADA

CONGRESS OF THE UNITED STATES
HOUSE OF REPRESENTATIVES
WASHINGTON, D.C.

COMMITTEE ON
TRANSPORTATION &
INFRASTRUCTURE

COMMITTEE ON
FOREIGN AFFAIRS

January 26, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

I am writing in regards to the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative Environmental Impact Statement and its proposals impacting the Desert National Wildlife Refuge (DNWR).

The DNWR is the largest wildlife refuge in the continental United States and is home to the iconic Desert Bighorn Sheep, Nevada's state animal. The DNWR was established 82 years ago, preserving large sections of the unique Mojave Desert habitat critical to local flora and fauna. In addition, this area is part of the ancestral lands of the Southern Paiute tribes who have lived in the region for centuries. While southern Nevada has been central to U.S. national security and military missions dating back to World War II and the Nevada Test and Training Range continues to play a key role in military readiness and advanced combat training, similarly the Desert National Wildlife Refuge plays a significant role in Southern Nevada's economy, contributing to the ecotourism of our region.

I appreciate that no new bombing impact locations were proposed or analyzed through the LEIS. Nonetheless, as the U.S. Air Force and other federal agencies review various withdrawal alternatives, it is vital that any final proposal address protections for public access, preservation of cultural resources and lands important to native tribes, and conservation of critical habitat and migration paths of wildlife.

I commend the Air Force for holding a number of public meetings around Nevada to discuss its proposal and to hear from area residents. While this proposal most directly impacts Nevadans, our national wildlife refuges belong to all of us, and it is important that all citizens' concerns, regardless of where they call home, are taken into account.

This proposal must undergo a thoughtful and deliberate development in coordination with other federal agencies and respond to local concerns prior to any Congressional action. I look forward to seeing the final recommendations and working with my colleagues in Congress and all interested parties to preserve this special place for all to enjoy.

Sincerely,

Dina Titus
Member of Congress

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Office of the Governor

March 8, 2018

99th Air Base Wing Public Affairs
4430 Grissom Ave. Suite 107
Nellis Air Force Base 89191

Sent via 99ABW.PAOutreach@us.af.mil

Re: Nevada Test and Training Range Military Land Withdrawal Draft Legislative Environmental Impact Statement Comments

Dear Gentlemen:

Thank you for the opportunity to submit the attached comments on behalf of the State of Nevada to the Draft Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Land Withdrawal. As you know, the State of Nevada is a strong supporter of our military and national defense and we appreciated the presentation you made to our state agencies on February 5, 2018.

We understand there are management conflicts between the U.S. Air Force (Air Force) and the U.S. Fish and Wildlife Service that occur in the south range based on inherent differences in land use and management approaches. The Congressional designation that created the NTTR in 1999 on approximately half of the Desert National Wildlife Range, with shared agency jurisdiction, may warrant some modification that would better accommodate both agencies' needs, but should be accomplished in an equitable manner.

During the preparation of the Draft LEIS, there was little interaction with our state agencies. Better coordination with the Nevada Department of Wildlife (NDOW) would have led to a more complete analysis and an opportunity to develop a compromise alternative that would both enhance training opportunities for the Air Force and continue to provide essential protections for Nevada's wildlife and outdoor recreational experiences for Nevadans and visitors. Lack of coordination with Governor's Office of Energy (GOE) also resulted in missed opportunities to incorporate minor adjustments to the proposed withdrawal to avoid conflicts with future energy development. NP-1

We request that the Air Force initiate additional coordination with our state agencies, especially NDOW and GOE, as previously requested in our scoping comments dated December 9, 2016. We are confident that an alternative to avoid and minimize impacts to Nevada's wildlife and future energy development, while also achieving the Air Force's needs can be developed.

Respectfully submitted,

Pam Robinson

Pam Robinson, Policy Director
Office of Governor Brian Sandoval

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BRADELY CROWELL
Director

Department of Conservation
and Natural Resources

CHARLES DONOHUE
Administrator

BRIAN SANDOVAL
Governor

State Land Office
State Land Use Planning Agency
Nevada Tahoe Resource Team
Conservation Bond Program -Q1

Address Reply to

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Web www.lands.nv.gov

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
Division of State Lands

Nevada State Clearinghouse

March 8, 2018

To: Nellis Air Force Base
99th Air Base Wing Public Affairs - 4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191 via 99ABW.PAOutreach@us.af.mil

From: Skip Canfield, Program Manager, Nevada State Clearinghouse

RE: Official State of Nevada Comments:
Draft LEIS – Nevada Test and Training Range Land Withdrawal

Authorized by gubernatorial executive order in 1989, the Nevada State Clearinghouse exists to inform Executive Branch agencies of significant federal projects and policy initiatives that affect our state. The Clearinghouse is the single point of contact (SPOC) for National Environmental Policy Act (NEPA) proposals statewide. Pursuant to NEPA, federal agencies must ensure meaningful coordination and principled consistency review with the State and other local governments whenever a project or policy initiative is proposed on public lands.

The Clearinghouse conducted outreach to State agencies and local governments regarding this proposal.

- As part of this outreach, the Clearinghouse worked jointly with the Governor's Office in requesting a State Agency Briefing that was held at the State Capitol on February 5, 2018. As Program Manager of the Clearinghouse, I would like to personally thank Colonel Paul Murray of Nellis AFB and his staff as well as colleagues from BLM for their time and effort travelling to Carson City and speaking with our cabinet-level State agency representatives at the briefing. This face-to-face interaction was extremely valuable.

A concern voiced by multiple agencies is the lack of adequate consultation and the fact that the Draft LEIS contains a broad range of alternatives and sub-alternatives that, cumulatively, do not appear to satisfactorily address the State's scoping comments provided in December 2016. During the February 5, 2018 State Agency Briefing, the question was posed about this range of alternatives and what the outcome will be. The reply was that the Final Preferred Alternative will be a combination of the Draft alternatives taking into consideration all of the agency and public feedback. NP-2

Therefore, since there is no preferred alternative provided in the Draft, and with the understanding that the Final LEIS Preferred Alternative will be a combination of elements of the draft alternatives, all State feedback should be considered in the context of how it cumulatively affects the final outcome.

Attached to this Memorandum are the official State of Nevada comments and suggestions for your attention and consideration, they are briefly summarized as follows:

- Planning processes under NEPA are designed to inform the public and provide an opportunity for the project proponent to work with cooperating agencies and the general public to develop project alternatives and analyze the effects of those alternatives. This type of process requires in-depth discussions amongst cooperating agencies and is most effective when the process employs a collaborative atmosphere to create or modify alternatives. We are very concerned that this type of real coordination and consultation with cooperating agencies has been minimal, and what coordination, consultation, and cooperating agency feedback has occurred does not appear to be under consideration or inclusion by the US Air Force. — NP-3
- Nevada's counties and State agencies should be afforded a strong local voice as the LEIS moves forward via all public and transparent input processes available including close coordination with the Cooperating Agencies. — NP-4
- Careful consideration should be given to the location and size of proposed withdrawn areas, balanced with the needs of current users of the public lands. Wherever possible, the proposed withdrawal boundaries should be reduced in scale, not expanded. — PA-31
- A scenario should be pursued in the LEIS that offers a tradeoff between lands proposed for withdrawal and other lands that are currently withdrawn released back to the BLM or US Fish and Wildlife Service for expanded multiple use. — PA-32
- Public access to the proposed withdrawn lands should be spatially adjusted including the designation of specific usage times and dates based on a careful analysis of the public's needs in the LEIS. The final legislation should explicitly define and designate public access allowances, and should not be left to possible arbitrary implementation. — LU-2
- The term of the withdrawal should not be extended beyond 20 years. It is simply not clear what type of technologies will be present in 2040 and flexibility should be allowed for consideration of possible release of lands back to the public for multiple use at that time.
- The Air Force is encouraged to continue coordinating with the BLM as well as the energy industry in Nevada, including NV Energy and Valley Electric Association, to develop a proposal which would minimize any energy infrastructure impact. The Governor's Office of Energy believes that the Draft LEIS has not addressed all of these impacts. — LU-13
- Expanded restrictions placed on the Desert National Wildlife Range (DNWR) will further complicate and reduce the effectiveness of wildlife conservation and public use on the DNWR. Additionally, it is apparent that knowledge of biological resources and impacts to those resources is consistently lacking within the Draft LEIS. The wholesale transfer of primary jurisdiction to the USAF will shift the primary focus of the DNWR from wildlife — BI-45

conservation to one of military training and negate the purpose and benefits of administering the DNWR. BI-45

Thank you for the opportunity to provide these official State of Nevada comments and suggestions.

cc: Sheila Anderson, Governor Brian Sandoval's Office
Mike Ackerman, Air Force Civil Engineer Center
Tom Seley, BLM Project Manager
Victor Rodriguez, Nellis AFB

ATTACHMENTS:
Nevada Department of Wildlife Letter
Nevada Department of Energy Letter
State Land Use Planning Agency Memo

5005

BRIAN SANDOVAL
Governor

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TONY WASLEY
Director
JACK ROBB
Deputy Director
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March 7, 2018

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Re: Draft LEIS: Nevada Test and Training Range Military Land Withdrawal Legislative Environmental Impact Statement (LEIS) Comments

GE-19

To whom it may concern:

The Nevada Department of Wildlife (NDOW) has been a cooperating agency in developing the Draft LEIS since December 2015. Initially, NDOW engaged in meetings with the U.S Air Force (USAF) and the other agency cooperators to better understand the importance of a renewed land withdrawal for maintaining the Nevada Test and Training Range (NTTR) environment as the premier USAF asset for electronic and live-fire tactical testing and training exercises. Additionally, the USAF has articulated that expansion of NTTR jurisdictions to adjoining public lands managed by the U.S. Fish and Wildlife Service (USFWS) and Bureau of Land Management (BLM) would enable them to keep optimal pace with technological advances and tactics used in aerial warfare around the globe now and into the future. Scoping comments to the Draft LEIS formally outlined the State of Nevada's concerns for fundamental wildlife management relationships and public access that supports a variety of outdoor experiences. We have included these comments as an attachment to this letter.

The programmatic nature of the Draft LEIS, especially the land withdrawal and expansion proposed onto the Desert National Wildlife Refuge (DNWR), will result in a significant departure from existing land management priorities. NDOW remains concerned with the alternatives presented in the LEIS as written and especially with the USAF's consistent absence of real and honest coordination with cooperating agencies, including NDOW. We recommend the USAF take steps to strike a more equitable balance between the desire to modernize training capabilities and maintain sustainable wildlife resources and public access on the DNWR. To achieve this, NDOW feels there is an opportunity to develop a revised version of Alternative 2 that enhances training opportunities, while simultaneously providing essential protections for wildlife resources and public access.

In our comments below, we present additional input on the proposed withdrawal expansions and Draft LEIS alternatives. It is our hope that the supplied information will initiate more productive collaboration among the cooperating agencies and result in measures that minimize impacts to wildlife and public access.

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We have organized our comments into the following sections:

- Desert National Wildlife Refuge (DNWR);
- National Environmental Policy Act (NEPA) Planning;
- Comments on Existing Proposed Alternatives;
- Comments on General Environmental Constraints and Proposed Mitigation;
- Recommendations for new Boundary Fencing; and
- Comments on Wildlife Monitoring, INRMP and Agency Coordination

Desert National Wildlife Refuge (DNWR)

The DNWR landscape was originally selected for its remoteness, ruggedness, and minimal land-use conflicts. These attributes protect ecosystem services that Nelson (Desert) bighorn sheep (*Ovis canadensis nelsoni*; hereafter, bighorn sheep) and other species depend upon, and we, as humans, use and enjoy. The current boundary of the DNWR is a remnant of the original Desert Game Range created in 1936. The intent of the Desert Game Range was that of preserving bighorn sheep. When created, the Desert Game Range was much larger than the existing 1.6 million-acre DNWR. The Military Land Withdrawal Act of 1999 withdrew approximately 2.9 million acres of federal lands for military use, including 826,000 acres (approximately one-half) of the DNWR to create what is now the NTTR. This portion of the DNWR is currently managed under a shared agreement between the USAF and the USFWS, with primary jurisdiction under the authority of the USFWS. As previously stated in our scoping comments, the largest concern for NDOW is additional loss of access and adverse impacts to wildlife resources as a result of continued military expansion into the DNWR. In concert with the original intent of the refuge, NDOW and its conservation partners have made significant investments of time and resources to improve wildlife resources on the DNWR, both within and outside of the NTTR. Expanded restrictions placed on the DNWR will further complicate and reduce the effectiveness of wildlife conservation and public use on the DNWR.

National Environmental Policy Act (NEPA) Planning

Planning processes under NEPA are designed to inform the public and provide an opportunity for the project proponent to work with cooperating agencies and the general public to develop project alternatives and analyze the effects of those alternatives. This type of process requires in-depth discussions amongst cooperating agencies and is most effective when the process employs a collaborative atmosphere to create or modify alternatives. In our experience, this process produces a final result that achieves the purpose and need of the proponent, while minimizing adverse impacts to significant resources. Many times, these efforts occur during the cooperating agency review period between scoping and release of a public draft. The general public benefits from this internal development phase as the draft document typically includes a preferred alternative that represents the results of intra-agency cooperation and is considered the best-available alternative. We are very concerned that this type of real coordination and consultation with cooperating agencies has been minimal, and what coordination, consultation, and cooperating agency feedback has occurred does not appear to be under consideration or inclusion by the USAF.

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Additionally, is apparent that knowledge of biological resources and impacts to those resources is consistently lacking within the Draft LEIS. The lack of in-depth conversations between USAF and NDOW throughout the development of the Draft LEIS, where wildlife specialists could provide specific feedback informed by scientific data, across each proposed Alternative has resulted in weak analysis of these resources. We recommend USAF re-engage with NDOW and other cooperating agencies to develop the best preferred alternative possible for use in the Final LEIS. The value of face-to-face coordination between stakeholders cannot be understated when working towards a collectively acceptable alternative.

Comments on Existing Proposed Alternatives

Alternative 1

NDOW fully supports selection of Alternative 1, which would maintain status quo management of the NTTR. NDOW considers this to be the least environmentally damaging alternative and would maintain the original intent and purpose of the DNWR. However, NDOW recognizes Alternative 1 meets a limited portion of the purpose and need for the USAF. For that reason, if Alternative 1 is not a viable option, we propose a collaborative effort to develop a significantly restricted Alternative 2 in concert with the USAF and DNWR. A discussion of the proposed modifications and refinements to Alternative 2 are discussed in more detail below.

Alternative 2

A modified version of Alternative 2 would maintain a significant portion of the DNWR as it was originally designed, reduce impacts to wildlife and public access, and fulfill the USAF's purpose and need. Despite our conceptual support for certain aspects of Alternative 2, NDOW has significant concerns with this alternative as written due to a tremendous lack of detail provided in the Draft LEIS. To this end, we are including specific comments relative to the existing language contained in Alternative 2 and have made recommendations for developing a modified version of this alternative that would be more acceptable to a broader array of stakeholders.

NDOW Opposes any Wholesale Transfer of Land, Jurisdiction or Release of Wilderness

NDOW does not support any effort to fully grant "ready access" or primary jurisdiction to the USAF under a wholesale approach. There are likely options to strategically transfer portions of the DNWR to facilitate meeting purpose and need, but a wholesale transfer would run counter to the purpose and objective of the DNWR. Further, we perceive this action to circumvent all public disclosures and prevent future opportunities for public dialog and input. The wholesale transfer of primary jurisdiction to the USAF will shift the primary focus of the DNWR from wildlife conservation to one of military training and negate the purpose and benefits of administering the DNWR.

NDOW Recommends Developing a Clear Description and Scaled-Approach for Ready-Access

The foundation of Alternative 2 is built on providing "ready access," but the LEIS lacks a specific description of what "ready access" includes and how the USAF would use this access. Without a clear description of what actions are likely to be implemented under "ready access," it is difficult for cooperating agencies and the general public to provide substantive and meaningful comments. Further, it clearly does not meet the intent of NEPA, which is rooted in public

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disclosure. For example, the potential impacts from a handful of special forces conducting foot-based training is far different than a convoy of vehicles traveling off designated roads and trails. The Draft LEIS provides some general examples of training operations that could be expected to occur from allowing ready access; however, the more environmentally significant events are paid little attention within the document. For example, travel through riparian areas and overland travel of vehicles are both mentioned, but with little discussion of frequency, location, or potential impact. The document contains inadequate guidance to illustrate the expected extent and severity of impacts possible under "ready access" other than to indicate a 30% increase in "aircraft operations, munitions expenditures, and motorized vehicular activity." To the reader, "ready access" conveys a free-for-all approach to military operations, as there is limited specificity as to what this alternative really translates to on the landscape.

Since the Draft LEIS is unclear as to exactly what "ready access" includes, the Final LEIS should take steps to more clearly define and place boundaries upon "ready access" to illustrate which actions can be implemented under the guise of "ready access." NDOW recommends incorporating a scaled approach, where less-impactful trainings such as special forces ground movements would be considered differently than highly disruptive training methods. This type of approach could be applied through a binding Memorandum of Agreement (MOA) that clearly illustrates de minimis-type activities versus more disruptive activities that would yield additional restrictions or avoidance areas. Avoidance areas set up on temporal and spatial scales would ensure protection of sensitive resources and provide sideboards to the concept of ready access. NDOW believes this type of approach could help serve the needs of the USAF, while still maintaining a level of integrity and protection to the DNWR.

Recommendations for a Modified Version of Alternative 2

The Draft LEIS includes four methods to institute "ready access" and we are providing a single suite of comments to address these methods as they appear to result in a relatively similar functional outcome for wildlife and habitat resources. NDOW does not support a carte-blanche release of proposed wilderness, reallocation of primary jurisdiction, or other means of providing "ready access" to the portion of the DNWR that overlaps with the NTTR. We can understand the inherent challenges of two agencies jointly-managing resources under differing directives (wildlife conservation vs. military training). To solve this issue with as few resource impacts as possible, NDOW supports a concept where small acreages of land are prescriptively released to grant "ready access" or facilitate discrete developments such as emitter locations. This approach should be applied as-needed to permit the USAF to make necessary improvements where existing wilderness or refuge regulations prohibit such developments. The concept for a modified Alternative 2, and NDOW's conditional support, relies on using best-available data and creating real opportunities for consultation and coordination with cooperating agencies to select areas of mutual agreement. Collaboration with resource agencies will be instrumental in identifying logical areas of critical importance. Priority would be given to areas where impacts to wildlife and habitat resources are minimized, but still provide basic functions required by the USAF.

Under this approach, NDOW could support limited carve-outs of proposed wilderness designations, strategic and discrete transfer of primary jurisdiction, and the development of the binding MOA to outline when and where "ready access" can occur. Under all circumstances, prescriptive releases should avoid critical wildlife resources such as bighorn sheep lambing areas, artificial and natural water sources, and other wildlife areas sensitive to human disturbance. The Draft LEIS states there would be an increase in military activities on the NTTR

from five percent (5%) to less than seven percent (7%) of the land area and impacts from Alternative 2 would be site-specific and represent a small portion of the NTTR. Despite a general lack of detail on "ready access" these figures suggest there is a very real possibility that cooperating agencies could develop a modified version of Alternative 2 that seeks to maximize mutual benefit through compromise. NDOW is largely uncertain why such an approach was not proposed in the Draft LEIS as this would seem to be acceptable to more stakeholders compared with the existing suite of possible alternatives. We strongly recommend a process to explore this possibility.

Recommendation to Increase Staff and Funding for NTTR's Integrated Natural Resource Management Plan

Additionally, it is our understanding that the existing Integrated Natural Resource Management Plan (INRMP) has not adequately executed wildlife resource management, data collection, or analysis goals on a consistent basis. As-such, assurances would need to be included to address this, and dedicated financial and/or staff resources to ensure compliance with an approved INRMP may be warranted. Continued development of the existing INRMP should continue to include NDOW input.

Alternative 3A and 3A-1

Amargosa toad (*Anaxyrus nelsoni*), a species that has been petitioned in the past for protection under the Endangered Species Act (ESA), has been documented by NDOW biologists less than 300 feet immediately adjacent to the Alternative 3A expansion. Biologists captured Amargosa toads at Spring 112 during recent surveys, as well as Oasis Valley speckled dace (*Rhinichthys osculus ssp.*) and unidentified springsnails in the surrounding springs and wetlands. These aquatic and wetland habitats are within historic and current distribution of the Amargosa toad (a state protected species), Oasis Valley speckled dace (also a state protected species), and springsnail populations, although taxa are presently unidentified to species, are considered endemic (multiple species of springsnails are currently under review for ESA-listing). The continued integrity of and access to these sites is critical for conservation and management of those species. In 2000, a Conservation Agreement and Strategy was completed for Amargosa toad and other species that co-occur with the toad in the Oasis Valley such as the Oasis Valley speckled dace. The Conservation Agreement and Strategy is a concerted effort among stakeholders to expand wildlife conservation opportunities, thus precluding the need to list the Amargosa toad under the ESA. (NV USFWS, 2014). These efforts are only effective if conservative, collaborative management of the habitats these species depend on is maintained or protected.

Additionally, NDOW is concerned with the proposal to re-designate Electronic Combat South (EC South) to Range 77 and allow live-fire air-to-ground operations as specified in Proposed Alternative 3A. The core area of EC South is Thirsty Canyon, which holds several critical water sources and is occupied by bighorn sheep year round. The Thirsty Canyon area is also important for bighorn sheep movement among subpopulations between Stonewall Mountain, Bare Mountain, Yucca Mountain, and potentially, through the Nevada Test Site to the Spotted Range. There are data to suggest bighorn sheep movement through all these areas occurs and we feel that live-fire exercises in this area will be significantly detrimental to bighorn sheep. We recommend that EC South be maintained as an electronic combat area and look for alternative areas outside of this movement corridor to conduct live-fire training. We further recommend the Thirsty Canyon complex, including all water sources and areas occupied by bighorn sheep, be

added as a biologically sensitive area and included as an avoidance area under the General Environmental Constraints section. If this is absolutely unavoidable, we recommend additional coordination with NDOW biologists to minimize impacts to the extent possible through coordinated placement of new targets.

Alternative 3B

The southwest corner of the Spotted Range, included in Alternative 3B, is important to bighorn sheep and includes the Spotted #05 water development. Aerial survey data indicate frequent use of this area by bighorn sheep. Withdrawal of this area will restrict access for the general public and resource agencies and will complicate management efforts such as wildlife surveys and maintenance of the Spotted #05 water development. Existing difficulties in accessing the NTTR for a variety of wildlife management actions are in large part due to difficulties gaining necessary military approval. Alternative 3B will greatly compound this issue to the detriment of wildlife resources. Other than "operational security and safety buffers" the Draft LEIS does not indicate what the USAF intends to accomplish with this withdrawal. It remains difficult to analyze specific impacts to wildlife resources with so little information presented in the Draft LEIS, but given the loss of public access and anticipated negative effects on wildlife resources, NDOW strongly opposes this alternative.

Alternative 3C

The entirety of Alternative 3C is important to bighorn sheep and includes several artificial and natural water sources. In many ways, this is the heart of the DNWR and the importance of this area to wildlife resources and public access cannot be overstated. Alternative 3C will likely have significant and long-term negative effects to a variety of resources, many of which are difficult to assess at this point because very few details on the future use of this area are included in the Draft LEIS. What is certain are that opportunities for public and agency access (e.g. NDOW, USFWS), wildlife resources, and public recreation will suffer significant adverse impacts. Given the resulting loss of access, anticipated negative impacts to wildlife resources, and the resulting conclusion that implementing this alternative will reduce the DNWR to a fraction of its original land mass and intent, NDOW strongly opposes this alternative in its entirety.

Comments on General Environmental Constraints and Proposed Mitigation

NDOW believes that significant, adverse impacts will occur to wildlife-related recreational opportunities and wildlife resources that are not currently addressed in the Draft LEIS. Eliminating public access will directly impact a variety of recreational opportunities, and NDOW expects significant adverse impacts to wildlife resources, including special status species, migratory birds, golden eagles, and bighorn sheep. Impacts to wildlife resources are likely to occur as a result of increased military activity, loss of access and control by wildlife agencies, and shifting priorities from wildlife conservation on the DNWR to military utilization. Additionally, NDOW believes there may be adverse impacts to water resources (artificial and natural) occurring from increased military activity, future disturbance, and loss of access for wildlife management interests that are not addressed in the Draft LEIS. These issues should be properly addressed through a suite of mitigation strategies.

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NDOW also finds the Draft LEIS lacks important details on the development, application, compliance, and monitoring of environmental constraints and mitigation measures. There is insufficient detail on several important concepts for developing effective mitigation, including:

a) How resources were prioritized for protection by the USAF;
b) How existing mitigation measures were developed;
c) What processes will be put in place to revise or add new environmental constraints as new information is obtained or as priorities for wildlife management shift over time;
d) How NDOW's knowledge of wildlife resources will be included in existing and future processes on developing and implementing mitigation;
e) How compliance with mitigations will be monitored and enforced; and
f) How adaptive management can play a role in ensuring mitigation measures are performing as expected to protect wildlife and important habitat areas.

The existing mitigation measures are far from adequate to even marginally protect the most basic wildlife resources. As an example, the DNWR was created specifically for the conservation of bighorn sheep, but the Draft LEIS does not contain a single measure specifically addressing bighorn sheep. As an additional example, the proposed mitigation measures offer no specific protection to artificial water developments that have been installed and maintained for decades by NDOW, USFWS, and sportsman-conservation organizations. These water developments are critical to bighorn sheep and represent a significant investment of time and money, but do not appear to be afforded any specific protection under the Draft LEIS. The lack of commitment to wildlife resources is further documented when the Draft LEIS states "avoid use of exploding ordinance within 200 feet of a well or natural spring" (Page 2-51). It is difficult to imagine that this buffer will afford any meaningful protection to critical water resources on the DNWR and is a prime example of how the USAF's training objectives at the NTTR are not compatible within the boundary of the DNWR. Water is a scarce resource in this region and active targets or use of exploding ordinance should be used well away from water sources. The activity alluded to in this sentence will likely result in direct munitions-related mortality of wildlife, including bighorn sheep.

There appears to be limited opportunity or willingness for the USAF to engage wildlife specialists with NDOW to collaboratively identify specific issues and develop strategies that help avoid and minimize negative impacts to wildlife resources. The lack of coordination thus far is not reassuring and given the general lack of biological information and understanding displayed throughout the Draft LEIS and supporting reports, the USAF is clearly not well prepared to make these types of decisions. If strategies are developed without well thought-out input from wildlife specialists that have on-the-ground knowledge of species and sensitive areas, they are at high risk of missing their intent. The USAF should directly collaborate with NDOW and USFWS to develop more effective mitigation strategies that incorporate critical datasets and knowledge of wildlife behavior.

There is little direction in the Draft LEIS as to what threshold is used to trigger developing and implementing specific mitigation measures. However, under 40 CFR § 1503.3(d), "Cooperating agencies with jurisdiction by law that object to a proposed action based on environmental impacts are required to specify the mitigation measures they believe are necessary for approval of the action." NDOW has been participating during the process of updating the INRMP and intends to continue providing input; however, the INRMP is not intended to address mitigation, which should be addressed in the Draft and Final LEIS. Thus far in the process, NDOW has not been afforded an opportunity to discuss more effective mitigation measures with the USAF.The

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current Draft LEIS does not provide sufficient detail in the alternatives, affected environment, or environmental consequences sections to provide opportunity for NDOW to recommend more specific mitigation. We request opportunities to hold face-to-face meetings with the objective of developing effective mitigation strategies that protect wildlife resources. In the interim, NDOW recommends the following be incorporated into the document as avoidance and minimization strategies:

a) All natural water sources and artificial water developments should have a one-mile protective buffer that excludes disruptive training actions (e.g. low overflights, live munitions/explosives, overland vehicle travel, large groups of troops, emitters, etc.) and other training activities that are likely to disrupt wildlife or damage water sources. With the limited number of water sources on the DNWR, these are critical areas for wildlife, in particular bighorn sheep. Bighorn sheep often congregate around water sources and will nearly always be found within a two-mile radius of water during the hot season;
b) Ensure NDOW can access artificial water developments, developed natural springs, and undeveloped natural spring sites to monitor water availability and conduct maintenance and/or management activities within reasonable timeframes. Install and maintain water level sensors on artificial and developed natural water sources within the NTTR boundary that relay real-time water availability to NDOW personnel to reduce on-site visitation requirements.
c) During the lambing period, all identified or known bighorn sheep lambing sites should have a one-mile minimum buffer that excludes disruptive training actions (e.g. low overflights, live munitions/explosives, overland vehicle travel, large groups of troops, emitters, etc.) and other training activities that are likely to disrupt wildlife;
d) Identify and develop use-models for bighorn sheep through use of GPS Collar and Aerial Survey data sets. Use the model to identify core bighorn sheep habitats and apply restrictions to exclude disruptive training actions (e.g. low overflights, live munitions/explosives, overland vehicle travel, large groups of troops, emitters, etc.) and other training activities that are likely to disrupt wildlife;
e) During the nesting season, all known or identified golden eagle nests should have a one-mile protective buffer that excludes disruptive training actions (e.g. low overflights, live munitions/explosives, overland vehicle travel, large groups of troops, emitters, etc.) and other training activities that are likely to disrupt nesting eagles;
f) Avoid known Amargosa toad habitat and restrict disruptive training in riparian areas within potential Amargosa toad habitat;
g) Avoid Oasis Valley speckled dace habitat and exclude disruptive training in areas within or supplying flows to identified speckled dace habitat; and
h) Develop training and compliance monitoring to ensure mitigation measures are properly followed by all personnel in cooperation with NDOW;

A major concern is the Draft LEIS lacks indication of any assurances so that even the limited mitigation measures mentioned will indeed be incorporated into the final LEIS package presented to Congress. The Draft LEIS analysis is dependent on environmental constraints and mitigation to ensure adverse impacts are below a threshold of significance. Should the existing mitigation measures be adopted into the final documentation as written, they do not specifically require any protections or compensations for reduced or lost resources. Language such as “consider,” “should,” or “may” conveys little confidence to NDOW that the described mitigation measures will be implemented by the USAF. Given that mitigations are not directly or indirectly required in the Draft LEIS, we question whether and how the analysis can conclude certain impacts will be below the significance threshold. As such, the mitigation measures as written are arbitrary. We question how this analysis was completed given the document does not

specifically articulate strategies to avoid, minimize, and mitigate impacts. Even if the USAF cannot specifically commit to mitigation measures on a Congressional action, including effective and thorough strategies in the document is an important and necessary step toward protecting valuable resources and will provide Congress with the ability to fully understand the potential impacts to these resources and ways to reduce or compensate for their loss.

Further, the mitigation measures proposed in the Draft LEIS attempt to avoid or minimize impacts, however, these measures do not provide relief or offset for impacts that despite best efforts occur due to military actions. In these cases, additional mitigation measures such as compensation, is intended to address unavoidable adverse impacts by directing positive efforts elsewhere. This can be achieved through creation of a fund where specific identified recreation opportunities or wildlife resources can be offered, protected, enhanced, or recreated, and maintained. A specific example of mitigation for lost habitat at a spring site could be to permanently protect a spring complex at another location through the acquisition of land, permanent fencing, and long-term management and monitoring at that location. These scenarios represent additional options for the USAF to help address the irreparable or irretrievable resource degradation and losses that are expected to occur as a result of the proposed action and cannot be mitigated through avoidance or minimization strategies.

The mitigation section should have been used to convey to the public and cooperating agencies that the USAF possesses an understanding of sensitive resources and took steps to develop effective mitigation strategies with resource agencies, including NDOW. We recommend the USAF take steps to further develop and clarify actions that avoid, minimize and mitigate, through some level of compensation, impacts, as well as a plan to ensure compliance prior to finalizing the LEIS. Without these specifics, there is limited assurance to the public or cooperating agencies that effective mitigation measures will become a reality if the proposed action is implemented.

Recommendations for new Boundary Fencing

NDOW called out the inappropriate application of antelope fencing in our scoping comments and will do so again here as the issue has not been adequately addressed. We recommend changing the fencing specification to one developed by Jack Helvie for bighorn sheep and subsequently adopted by the BLM (BLM Fencing Handbook H-1741-1). Further, we request more specificity on the proposed location of the different fencing specifications. NDOW remains concerned that the USAF continues to push for antelope fencing specifications when the primary wildlife species that will be affected in these alternatives is bighorn sheep. We recommend the Final LEIS set prescriptive limits, in coordination with NDOW, on elevation and slope limits where fencing will be required, instead of the general approach used in the Draft LEIS. In areas of gentle to moderate bighorn sheep habitat where fencing may be required, the bighorn sheep specification should be used as follows*:

a. Three smooth strands spaced at 20 inches, 35 inches, and 39 inches above ground;
b. T-posts or stays should be placed no further than 10 feet apart; and
c. Fences should be inspected annually and maintained in good condition.

*See: Helvie, 1971

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In areas of steeper slope (greater than 8%), elevations above 5,000 feet, or on particularly rugged or rocky terrain, NDOW recommends use of boundary markers, such as those used by the USFWS, to identify the boundary instead of fencing.

Comments on Wildlife Monitoring, INRMP and Agency Coordination

The development and use of approved INRMPs have been the primary mechanism for the USAF to implement natural resource programs on the NTTR. Our understanding of the 2010 INRMP for Nellis Air Force Base, Creech Air Force Base, and NTTR is as an effort to improve upon previously inadequate endeavors to complete comprehensive inventory and documentation of biological and water resources on the NTTR. Information compiled for use in the Draft LEIS provides little insight to the present situation on the NTTR and little analytical value in determining potential impacts to wildlife resources on the NTTR as a result of the Proposed Alternatives, or how impacts could be minimized. Further, inadequate funding and logistical support for natural resource program implementation has been problematic, and the quality of information collected through the INRMP programs is questionable.

Information useful for addressing special status species have been discussed for updating the current INRMP. For the Final LEIS and updates to the current INRMP, improved data sets and analytical products are necessary to support:

a) Analysis for the proposed alternatives and mitigation measures (on and off the DNWR);
b) Solid baseline surveys and data for species and habitats on the NTTR, which are essential for meaningful biological interpretation. Existing information is inadequate for most species inhabiting the NTTR;
c) Development of predictive models to support the INRMP and future NEPA compliance;
d) Further validation of existing predictive models for species (e.g. bighorn sheep, desert tortoise) directly applicable for mitigation measures;
e) Health status evaluations for species of particular vulnerability; and
f) Understanding seasonal distribution patterns during critical reproductive, summer, and winter periods for select wildlife species.

In addition to continued collaborations among USAF and cooperators, the USAF should commit to increased funding and support for natural resource programs. Data collection and management should be designed to improve decision-making and resource management. Given the proposed addition to land area and jurisdictional authority, the USAF should be prepared to fund the majority of work programs. This will require additional financial appropriations, and it would be reasonable for Congress to allocate dedicated INRMP funding for the life of any new NTTR withdrawal legislation. The USAF and cooperators could assist in developing a reasonable budget to meet funding needs. Establishing a priority for access to perform natural resource surveys would ensure data collection is performed under optimal conditions for each species.

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Conclusion

The Nevada Department of Wildlife strongly urges the USAF to consider our comments, and comments of the many stakeholders with a vested interest in the DNWR. There is an opportunity to improve training opportunities, while minimizing the loss of public access, impacts to DNWR, and the wildlife resources therein. It is our belief that a modified version of Alternative 2 focusing on select carve-out and prescriptive transfers identified in a coordinated manner can fill this niche. The USAF's process to date has failed in providing opportunity for stakeholder engagement and presenting a cooperative spirit to resolve the many issues brought forth during Scoping and Public Comment. This is a disservice to a passionate general public, the investments they have made over many decades, and the sensitive wildlife species for which the DNWR was created. It is also not in-line with the spirit and intent of NEPA.

An opportunity to further refine a modified version of Alternative 2, with additional input and coordination with core stakeholders would result in a stronger alternative that could draw more support than existing Alternatives 2, 3A, 3A-1, and 3C proposed in the Draft LEIS. This effort would increase the likelihood of successfully implementing a product built on compromise. The Nevada Department of Wildlife has helped project proponents refine joint alternatives in the past and would offer there are significant mutual benefits to this approach. We see a tremendous opportunity to move forward in a more collaborative manner and would appreciate the opportunity to further develop a more acceptable alternative before the document is finalized.

Sincerely,

Alan Jenne
Habitat Division Administrator
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GOVERNOR'S OFFICE OF ENERGY

February 28, 2018

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RE: Nevada Test and Training Range (NTTR) Military Land Withdrawal Draft Legislative Environmental Impact Statement (LEIS)

To whom it may concern:

The Nevada Governor's Office of Energy (GOE) appreciates the opportunity to provide comments on the NTTR Military Land Withdrawal Draft Legislative EIS.

The mission of the GOE is to ensure the wise development of Nevada's energy resources in harmony with local economic needs and to position Nevada to lead the nation in renewable energy production, energy conservation, and the exportation of energy. The GOE implements the laws of the State as defined in Nevada Revised Statutes 701 and 701A; manages energy-related programs; facilitates cooperation between key stakeholders; advises the Governor on energy policy; and collaborates with our local, regional, and federal partners to ensure a reliable and sustainable energy system.

The State of Nevada has established a goal to become the nation's leading producer and consumer of clean and renewable energy. NV Energy, the main investor-owned utility in Nevada, recently announced its own goal of becoming 100% renewable. Neighboring states like California continue to seek renewable resources located in Nevada to meet their renewable energy goals. Additional renewable generation will need to be developed for Nevada and other western states to achieve these clean energy goals and new electric transmission lines will be a critical component to complete utility scale projects.

Section 368 (a) of the Energy Policy Act of 2005, Public Law 109-58, enacted in 2005, directed the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior to designate corridors on federal land in 11 Western states for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities. A Programmatic EIS was prepared through a stakeholder driven process and the Bureau of Land Management (BLM) approved a Record of Decision for the PEIS in 2009, including corridor designations in Nevada.

In July 2012, the BLM, U.S. Forest Service (USFS), U.S. Department of Energy (DOE), and Department of Justice (DOJ) entered into a Settlement Agreement to conduct periodic reviews of

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these corridor designations, update agency guidance, update agency training, and complete a corridor study. The BLM, USFS, and DOE entered into a Memorandum of Understanding in 2013 to conduct Regional Reviews of the designated corridors and is currently in the process of completing this activity for the six regions identified. It is important to note that while corridors are going through Regional Reviews, any potential revisions, deletions, and additions to the corridors must be made in subsequent land-use planning and environmental review processes. Sections of the draft LEIS discussing the Section 368 corridor review and process (Executive Summary, and Sections 2.3.3.2, 3.6.1.3, and 3.6.2.4) need to be clarified and updated.

The GOE has reviewed the Draft LEIS and associated maps and offers the following comments/questions:

Alternative 3A-1

The GOE appreciates the responsiveness of the U.S. Air Force in altering the 3A Alternative presented during the scoping period; however, there continues to be a conflict with the designated 368 corridor 18-224. The Draft LEIS eliminated the conflicts in Township 10S, Range 48E, Sections 31 & 32 but conflicts remain in Township 10S, Range 47E, Sections 6, 7, & 8. The Draft LEIS narrative stated that these conflicts were eliminated but they are identified in Attachment 1.

This section of the 18-224 corridor is located in Region 5 and has not been reviewed; however, initial analysis completed by the BLM has not identified the need to move the section of the corridor in conflict with the NTTR draft LEIS. The GOE recommends that the sections in conflict be removed from the proposed withdrawal or to develop an alternative which preserves the ability to permit uses within the corridor consistent with the 368 designations. Requiring that energy transmission lines be placed underground for this distance of overlap is not considered a viable alternative, as costs are prohibitive.

Alternative 3B

The GOE has identified conflicts with the 368 corridor 223-224 and proposed withdrawal areas in Township 16S, Range 57E, Sections 27, 28, 34, & 35 and Township 17S, Range 58E, Sections 5, 6, 8, 9, & 15. These conflicts are identified in Attachment 2.

The 223-224 corridor is located in Region 1 and final review has not been completed; however, initial analysis did identify a potential conflict with the route. The initial analysis recommended realigning the corridor with the existing 1998 Resource Management Plan (RMP) designated corridors, US-95-Crater Flat and the US095-Crater Flat-Red Rock. The BLM Southern Nevada District is currently going through the NEPA process to update their RMP and have evaluated the recommendations in the analysis. The preferred Alternative (Alternative 3) in the BLM's draft RMP EIS would realign the corridor along the recommended route but would continue to conflict with the NTTR proposed land withdrawal identified in the draft LEIS. Attachment B also identifies the BLM's draft RMP corridors for Alternative 1 (no action) and Alternative 3 (preferred). Alternative 3 would not only conflict with the same locations identified earlier with the 223-224 route, but it would also conflict with areas in Township 16S, Range 56 E, Section 13 and Township 16S, Range 57E, Sections 18, 19, and 20. The GOE recommends that the sections in conflict be removed from the proposed withdrawal or to develop an alternative which preserves the ability to permit uses within the corridor consistent with the 368 designations. Requiring that energy

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transmission lines be placed underground for this distance of overlap is not considered a viable alternative, as costs are prohibitive.

Thank you for this opportunity to provide comments. The GOE encourages the U.S. Air Force to work with the energy industry in Nevada and federal and state agencies to develop an alternative proposal which would minimize the impact of Alternatives 3A-1 and 3B to existing permitted uses in the 368 corridors. Please do not hesitate to contact me for any additional information.

Sincerely,

Angela Dykema
Director

cc: Nevada State Clearinghouse

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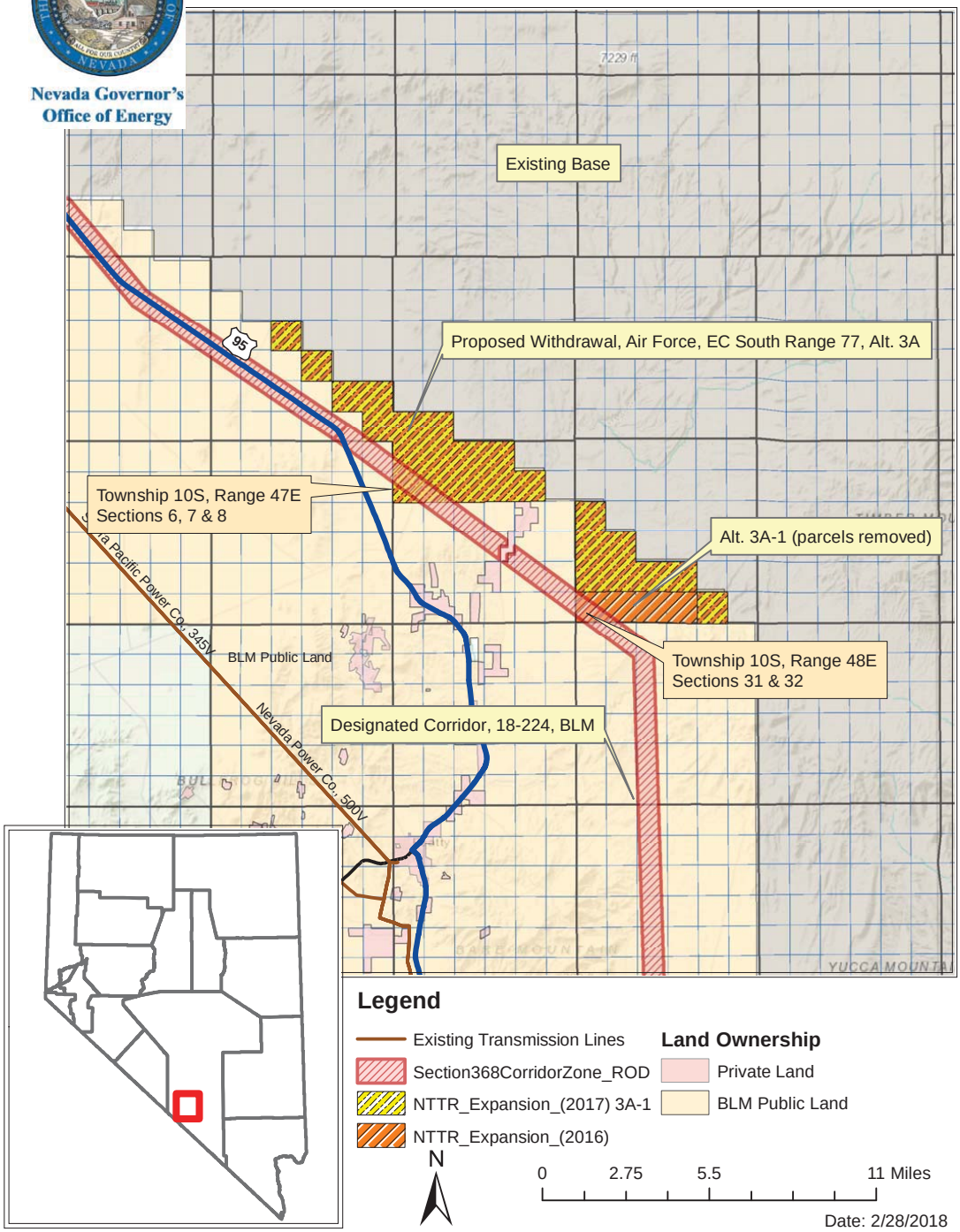
ATTACHMENT

Nevada Governor's Office of Energy

Proposed Nevada Test and Training Range (NTTR) Expansion - Electric Corridor Impact (Alt 3A vs 3A-1)



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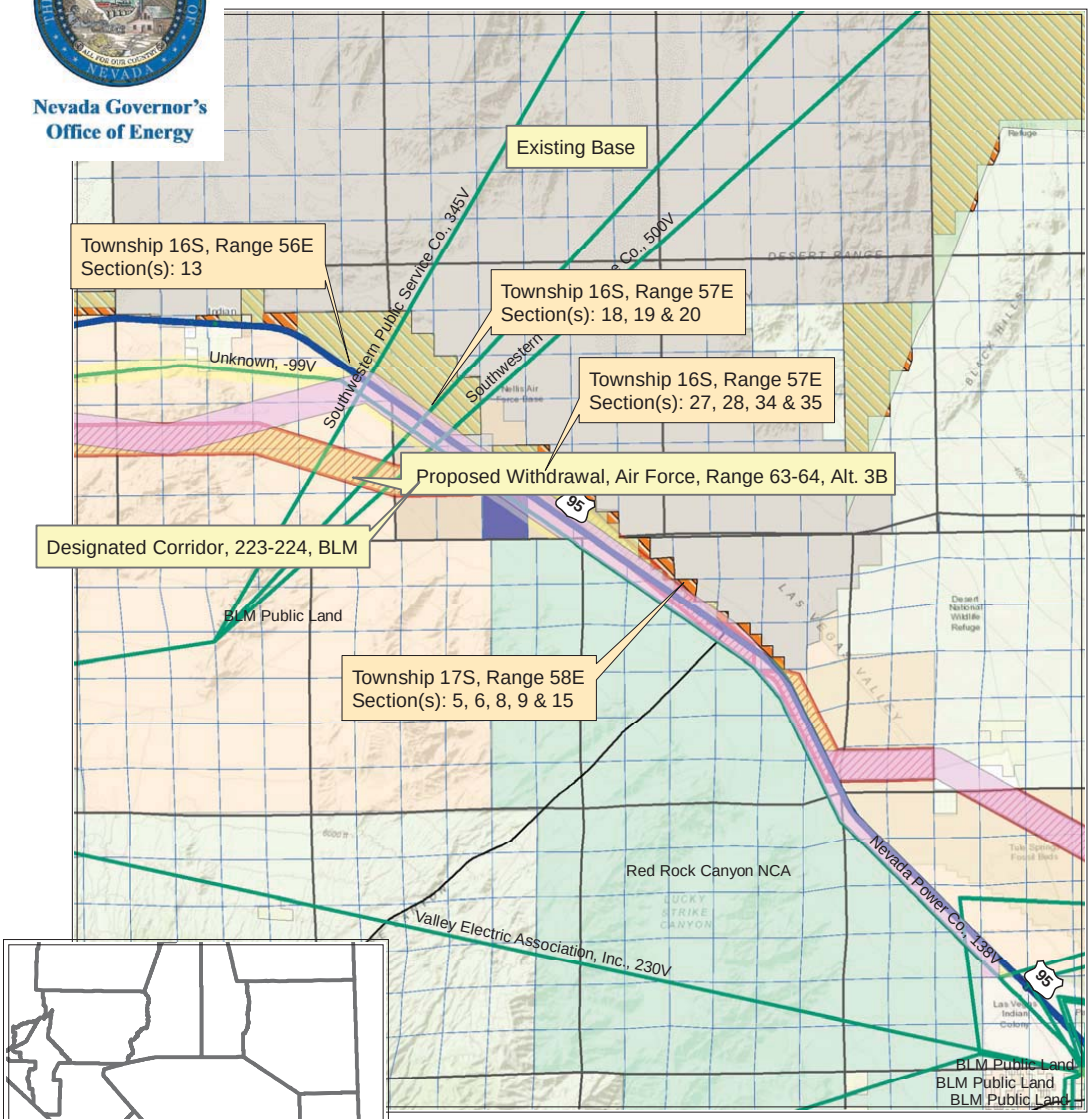
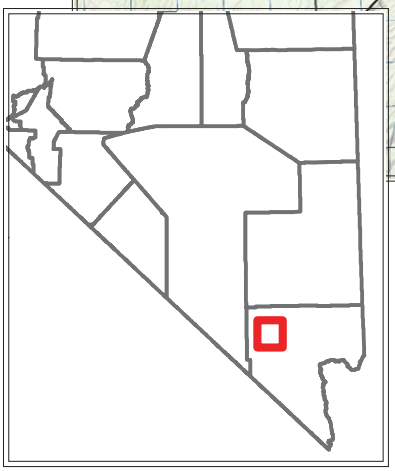
ATTACHMENT

Nevada Governor's Office of Energy

Proposed Nevada Test and Training Range (NTTR) Expansion - Electric Corridor Impact (Alt 3B)





Legend

- Existing Transmission Lines
- Section368CorridorZone_ROD
- NTTR_Expansion_(2016)
- BLM RMP Utility Cor. Alt. 1
- BLM RMP Utility Cor. Alt. 3

N

0 2.25 4.5 9 Miles

Date: 2/28/2018

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Nevada Division of STATE LANDS

STATE OF NEVADA
Department of Conservation & Natural Resources
Brian Sandoval, Governor
Bradley Crowell, *Director*
Charles C. Donohue, *Administrator*

March 8, 2018

To: Nevada State Clearinghouse

From: Skip Canfield, Program Manager, State Land Use Planning Agency (NRS 321.700)

RE: Comments and Suggestions:
Draft LEIS – Nevada Test and Training Range Land Withdrawal

It has always been recognized how valuable Nevada's military mission is to the State of Nevada and the nation as a whole. The State and counties within its borders benefit greatly economically from all of the activities associated with Nellis AFB and the NTTR and all of our military partners. Nevada is a large public lands state with a significant acreage dedicated to military withdrawn lands. Nevada is known for its extremely high percentage of lands within its boundaries that are Federally-managed. Barely 14% of Nevada is privately owned. This land pattern creates challenges for economic development and maintenance and expansion of the tax base. The vast amount of public lands designated for multiple use is very unique and comes with its own challenges and opportunities. The State Land Use Planning Agency, as well as a broad spectrum of other agencies has consistently stressed the need to have a balance that recognizes military mission while protecting multiple use interests. Any reduction in multiple use activities through a land withdrawal will reduce multiple use opportunities and must be considered carefully.

A concern of this agency is the fact that the Draft LEIS contains a broad range of alternatives and sub-alternatives that, cumulatively, do not appear to satisfactorily address the State's Scoping comments provided in December 2016. During the February 5, 2018 State Agency Briefing, the question was posed about this range of alternatives and what the outcome will be. The reply was that the Final Preferred Alternative will be a combination of the Draft alternatives taking into consideration all of the agency and public feedback.

Therefore, since there is no preferred alternative provided in the Draft, and with the understanding that the Final LEIS Preferred Alternative will be a combination of elements of the draft alternatives, please consider the following comments as they cumulatively affect the final outcome.

- Public access to the proposed withdrawn lands should be spatially adjusted including the designation of specific usage times and dates based on a careful analysis of the public's needs in the LEIS. The final legislation should explicitly define and designate public access allowances, and should not be left to possible arbitrary implementation.

- Wherever possible, the proposed withdrawal boundaries should be scaled back. For example:
  - North of Beatty and east of US95, the expansion of the withdrawn lands boundary should be eliminated if proposed targets and other military apparatus can be accommodated within the existing withdrawn lands without the need for the added safety buffers proposed in the expansion areas. It is very important to Nye County, Beatty, and Nevada as a whole, to maintain as much multiple use public lands as possible. These lands should remain in multiple use for economic development, transportation and transmission of energy and other utilities. PA-24 SO-4
  - The Alamo Road should remain open to public use between Corn Creek Station and the Pahranagat Valley. The withdrawal boundary should be moved and aligned to the west of the road. This area is simply too important to many multiple use activities to be closed, including, and not limited to, Big Horn Sheep hunting, OHV travel, sightseeing, camping, etc.

- A scenario should be pursued in the LEIS that offers a tradeoff between lands proposed for withdrawal and other lands that are currently withdrawn released back to the BLM or US Fish and Wildlife Service for expanded multiple use. Withdrawal of lands could be more palatable to counties and the State if this tradeoff is included in the analysis. Certain currently withdrawn lands within the NTTR could warrant release at this time, and this should be thoughtfully considered. PA-32

- The term of the withdrawal should not be extended beyond 20 years. It is simply not clear what type of technologies will be present in 2040. Emerging technologies could render such large swaths of withdrawn lands unnecessary, thereby warranting some lands for release to multiple use. Any term greater than 20 years does not provide the flexibility needed to accommodate potential options.

- Nevada's counties and State agencies should be afforded a strong local voice as the LEIS moves forward via all public and transparent input processes available including close coordination and Cooperating Agency status when requested.
- The Nevada Association of Counties and the Nevada State Clearinghouse should act as points of contact to coordinate County and State participation. NP-4

- The State Land Use Planning Advisory Council (NRS 321.740) values public and transparent interaction with Nevada's military partners and should be afforded future briefings by Nellis/NTTR representatives as the LEIS process moves forward. NP-6

- The NEPA principle of "Avoid, Minimize and Mitigate" should be employed throughout the process with mitigation being the very last option only after all reasonable avoidance and minimization options have been exhausted. GE-3

State Land Office • State Land Use Planning Agency • Nevada Tahoe Resource Program • Q1 Conservation Bond Program
901 S. Stewart Street, Suite 5003 • Carson City, Nevada 89701 • p: 775.684.2720 • f: 775.684.2721 • lands.nv.gov

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State Land Use Planning Agency Comments and Suggestions
Draft LEIS – Nevada Test and Training Range Land Withdrawal
March 8, 2018

Any proposal of this significance to Nevada should be carefully examined. Nevada is a proud host to our military and values the broad array of benefits that come with such a large presence in our state. Thank you for the opportunity to provide these comments and suggestions. I look forward to the continued positive working relationship with Nellis AFB and the NTTR that I have enjoyed for many years.

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Board of County Commissioners
Nye County, Nevada

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Nye County Courthouse
William P. Beko Justice Facility
PO Box 153
Tonopah, NV 89049
Phone (775) 482-8191
Fax (775) 482-8198

March 8, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

Subject: **Comments on the Nevada Test and Training Range (NTTR) Draft Legislative Environmental Impact Statement (DLEIS)**

Federal Register/Vol. 82, Page 57974/Friday December 8, 2017
Notice of Availability Draft Legislative Environmental Impact Statement for the Nevada Test and Training Range Military Land Withdrawal at Nellis Air Force Base, Nevada.

Nye County appreciates the opportunity to participate in the National Environmental Policy Act (NEPA) process and is providing these comments on the Draft LEIS for consideration by the United States Air Force (Air Force) as it prepares a Final LEIS for military land withdrawal of the NTTR at the Nellis Air Force Base.

As a local government having jurisdiction and planning authority, Nye County appreciates that many of its preliminary comments were addressed in the DLEIS, albeit in varying levels of detail. Nye County participated as a Cooperating Agency with the Air Force to the extent practicable, although opportunities for Air Force engagement and County input were rare throughout the process. As a result, the DLEIS does not adequately consider, evaluate, and disclose several direct and indirect socioeconomic, health and safety, and long-term ongoing cumulative impacts. In some instances, impacts are noted, but no qualification of nature or quantification of magnitude is attempted. Thus, consideration and disclosure of likely impacts to Nye County from the proposed land withdrawal action and alternatives is inadequate.

General Comments

Nye County is always grateful for the service and sacrifice of our nation's men and women in the military, and continues to support the mission of the Department of Defense (DoD). Unfortunately, these land withdrawals and changes to airspace and flight activities will continue to have an adverse impact on the residents and government activities of Nye County. The potential impacts of these various action proposals must be identified, evaluated, and disclosed in the LEIS, and reasonable measures to minimize and mitigate these impacts must be included as a part of any alternative considered.

Historically, Nye County's public lands have been managed to allow for mining, ranching, oil and gas development, recreation and other activities that have a positive socioeconomic impact on the County and local communities. The continued restriction on access or use of these public lands will have an adverse impact on jobs and tax revenue for the County and towns.

The continuation and expansion of this land withdrawal will result in restricting land use as well as changing established land use on these lands. The Baseline Conditions, which is the pre-land withdrawal condition and not the Status Quo, as well as the range of impacts from the continued withdrawal of the NTTR lands, was established by the 1991 Special Nevada Report (SNR), prepared as a result of a mandate in the Military Lands

PA-47

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Withdrawal Act of 1989, and in the 1998 Land Withdrawal EIS. Nye County finds that the conclusions of the SNR remain valid, and must be the starting point for defining and quantifying the expected impacts that will continue to occur if the NTTR land withdrawal is extended. PA-47

The direct and indirect effects of continued land use restrictions are not adequately identified and disclosed in the DLEIS, and language to identify mitigation measures that could offset the expected economic impacts to Nye County is not currently included. Such measures must be included in the FLEIS discussions so that they can be considered later and incorporated into the proposed legislative withdrawal language. The socioeconomic baseline analyses and methods used in the 1991 SNR should be used to examine the cumulative economic impacts to Nye County. GE-3

Nye County finds that a rigorous evaluation of the direct, indirect, and cumulative impacts of the proposed action and policies are a prerequisite to sound decision making. This land withdrawal is just one of many federal actions that continue to contribute to restricted access to private lands and multiple use of public lands in Nye County. Nye County's continuing concerns are summarized in the following specific comments.

Specific Comments

As discussed in the Special Nevada Report (SAIC, 1991), the most significant unmitigated impact to Nye County and its communities are the result of land withdrawals in support of military missions and activities. The cumulative impacts of withdrawals must be defined, quantified and disclosed in the LEIS. Resource assessment conducted in the 1990s must be updated, and valuations of resources provided. Actions to mitigate these potential losses of revenues must be an integral part of any alternative proposed. The impacts and potential mitigation measures applicable to each of the resource areas described below must be included in the LEIS.

Cumulative Effects of Federal Land Actions and Withdrawals in Nye County

Comment:
Nye County asks that all federal land withdrawal actions (Projects) affecting Nye County public lands be included in the Cumulative Impacts review, including the estimated 45,000 to 105,000 acres of new land withdrawal in Nye County that will likely be proposed for the Navy for the Fallon Naval Air Station in the upcoming amendments to the Military Lands Withdrawal Act – the same legislative action that will authorize NTTR. Given temporal and geographic connection of these two land withdrawal authorizations and their impacts on Nye County, it is imperative that both proposals be equally considered in the cumulative impacts analysis. Total land withdrawals for defense and national security projects have an adverse cumulative impact on potential earnings and multiple land use availability for Nye County. CM-1

Resolution:
The enclosed Table identifies all the past, present, and reasonably foreseeable future actions that to be included in the Cumulative Impacts analysis in the FEIS.

Socioeconomic Effects of Land Withdrawal – No Action Alternative
Chapter 3/ Page 3-301/ Summary of Impacts

Comment:
Although the DLEIS accurately quantifies the PILT revenues payable under the No Action and Action Alternatives, the discussion is confusing because it does not consistently indicate whether the change in PILT revenues represents an increase or decrease to Nye County compared to the status quo. It is not clear that the added withdrawals under the various action alternatives will further reduce PILT payments to Nye County in the future. It is easy to mistakenly conclude from the discussions in the DLEIS that PILT revenues to Nye SO-6 SO-7

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Comments on the Nevada Test and Training Range (NTTR) Draft Legislative Environmental Impact Statement (DLEIS)
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County will increase when the land withdrawal is extended. SO-7

Resolution:
Revise PILT discussions to clarify that the increase of $682,000 in annual PILT revenues to Nye County would result from elimination of the NTTR land withdrawal, that is, the removal of the NTTR facility and operations. These additional revenues would provide a significant beneficial fiscal impact to Nye County.

Revise PILT discussion to clearly state that additional land withdrawal results in the reduction of PILT revenues to Nye County.

Comment:
Although the NTTR Draft LEIS discusses effects of land withdrawal on PILT revenues, it fails to address, identify, and describe the full suite of land withdrawal impacts to Nye County economy, infrastructure, and Public Finance. The Final LEIS must identify, quantify, and evaluate not only the direct impacts to PILT from continuation of land withdrawal, but must also quantify the indirect and cumulative economic impacts to Nye County that would result in the termination or absence of the NTTR land withdrawal under the No Action Alternative. The DLEIS notes: SO-8

Termination of the land withdrawal would result in increases in local revenue streams derived from development and exploitation in economic sectors of mining, tourism, recreation, oil and gas, renewable energy and access to potential water resources and former range infrastructure - that these lands could support if not withdrawn for exclusive military use. SO-9

In contrast, for the No Action Alternative, the DLEIS estimates the cost to close NTTR and construct and new facility elsewhere to be $5 to $8 billion. Based on the supplementary economic report provided on the NTTR website, the NTTR Economic Impact Analysis section on Alternative Uses (page 51) concludes vaguely:

Economic activity is likely to increase on the former NTTR lands, when permitted. Some lands will be suitable for grazing, and there are old mining claims to be considered again. People would likely be interested in exploring the land and experiencing new hunting and fishing opportunities. These all will lead to increased economic activity on the former NTTR lands. It will take time to realize such increases. Certainly some of the participants and investments will be drawn off other lands in the area.

Thus, in addition to PILT revenues, the County experiences a loss of opportunities associated with alternative uses of the withdrawn land. The withdrawal of 1.9 million+ acres results in the direct loss of opportunities in the Mining, Ranching, Forestry, Recreation, Utility, and Transportation sectors of the economy. The local economic and fiscal impacts of lost opportunities from the NTTR land withdrawals were previously assessed, quantified, and disclosed in the Congressionally-mandated Special Nevada Report (SNR SAIC 1991). The SNR found that if NTTR lands were not withdrawn and were available for alternative uses (mining, grazing, recreation, etc.), Nye County's Gross Regional Product (GRP) would increase by up to 9%.

The lost GRP negatively impacts several revenues into the County budget from taxes, fees, and other sources including taxes from net proceeds of minerals, room taxes, and additional real and personal property taxes, and fees from development on withdrawn land. The DLEIS Economic Impact analysis reports the 2014 Nye County GRP at $1,553,973,921. Applying the results from SNR (SAIC, 1991) analysis, reduces Nye County's GRP by up to 9%, or about $152,000,000 because of the NTTR land withdrawal. Loss of this potential GRP results in reduced County tax revenues that could be used to remedy chronic budget shortfalls, emergency medical response services, and the health care crisis in northern Nye County. SO-9

In addition to unrealized revenues from lost opportunities, the loss of these lands from multiple use eliminates federal permit fees, rents, and other revenues otherwise collected and used by federal land management agencies. The loss of these agency revenues contributes to a decline in the level of federal land management

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Comments on the Nevada Test and Training Range (NTTR) Draft Legislative Environmental Impact Statement (DLEIS)
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services at the local level to the County, its communities, businesses, and residents. The loss of these sectors from the local community also impacts its core rural local character. SO-9

Without NTTR, the total Nye County budget revenue would increase by an additional $2,203,532. This amount includes Gas and Room Taxes, Liquor and Gaming Taxes, and Consolidated Taxes based on numbers from Nye County, Beatty and Pahrump 2014 budgets. The potential revenue increase does not include the County's unrealized PILT revenue in the amount of $682,000 (NTTR DLEIS, 2017), nor does it include the additional Property Tax revenue Nye County would collect in the amount of $1,631,317. SO-9

Resolution:
The FLEIS must include an identification, quantification, and analysis of the local economic impacts of the No Action Alternative to local government, and the affected communities of Beatty, Amargosa Valley and Pahrump. Preferred resolutions are:

- Revise the No Action Alternative discussion to include a quantitative estimate of the beneficial fiscal impact to the Nye County GRP and the Nye County budget that would result from termination and no-renewal of the land withdrawal. The estimates should be of the same order of magnitude are provided for NTTR and Nellis Base closure, remediation, and reconstruction costs associated with closure under this alternative. The FLEIS must recognize that the environmental and socioeconomic conditions described for the No Action alternative are the baseline conditions against which impacts of the Action Alternatives should be measured.

- Revise the Action Alternatives discussions to include an analysis of the full range of direct, indirect and ongoing and future cumulative impacts economic impacts affecting Nye County's economic conditions and local government finances as a result of the continuation of the NTTR land withdrawal.

- Identify and quantity impacts Address and discuss possible mitigations to offset the fiscal impact of $152,000,000 in lost Nye County GRP, or the equivalent flow down in revenues by including analyses similar to the those used the Special Nevada report previously mandated by the Military Land Withdrawal Act of 1989.

- Revise the cumulative impacts section to include qualitative discussion of indirect cumulative socioeconomic impact of land withdrawal that has affected Nye County since 1940 to 2020, and then from 2020 to the proposed future renewal dates.

Socioeconomic Effects of Land Withdrawal
Mining Sector and Mineral Exploration
Chapter 3.4/ Page 3-41/ Land Use, Recreation, and Visual Resources

Comment:
The NTTR's brief analysis of the impacts on mineral exploration and active mining claims within the withdrawn NTTR lands and proposed expansion is inadequate. While there is no significant impact with the extinguishment of a single mining claim, the fact that lands have been closed to exploration and mining and since 1940 is not discussed. Were these lands to be open to exploration, Nye County would see the greatest staking rush in its history. The withdrawn lands that remain closed to exploration have a potential for development and beneficiation of mineral resources and industrial commodities. PA-47 SO-9

A direct impact of the NTTR land withdrawal is the continued removal from productivity of 32 recognized mining districts in Nye County. If these districts were accessible for development and exploitation by private interests, Nye County would receive a significant direct fiscal benefit from net proceeds from these operations were they still active (Baseline Conditions). The districts include:

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South of Mud Lake
Eastern Goldfield
Stonewall
Wagner
Scotty's Junction
Clarkdale
Cactus flat
Cactus Peak
Cactus Springs and Cactus Springs West
Antelope Springs
Wellington
Gold Crater
Jamestown
Wilsons
Trappmans
Mount Helen
Tolicha
Thirsty Canyon - Sleeping Butte
Transvaal
Yucca Mountain
Silverbow
Corral Spring
Mellan Mountain
Reveille Valley
Cedar Pass
Gold Reed
Quartizite Mountain
Queen City
Limestone Ridge
Gold Range
Oak Spring
Rainstorm

Mining contributes over 90 million dollars annually in State and local taxes, including 40 million dollars in net proceeds of mine tax. The highest paid sector of Nevada's population is employed by the mining industry, with an average annual salary of $43,000.00. Mining directly employs approximately 12,500 people with an additional 30,000 people dependent on the industry for their livelihoods. As ore reserves are depleted statewide, access to mineral resources on withdrawn lands will become more critical to the state, County and nation's economic well-being.

Resolution:
The FLEIS must include discussion of the direct, indirect, and cumulative impacts resulting from past, present, and future reasonably foreseeable land withdrawal actions on Nye County's mining sector. These impacts are significant and must be quantified and disclosed in the FLEIS.

The No Action Alternative, the Baseline, should be revised to clarify that opening withdrawn federal land to multiple use would allow for the greatest economic opportunity and provide significant fiscal benefits to the locality in comparison to current condition of restricted access. With termination of the land withdrawal, the area would enjoy a return to Baseline Conditions, which would include expected significant growth in the mining sector.

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Comments on the Nevada Test and Training Range (NTTR) Draft Legislative Environmental Impact Statement (DLEIS)
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Socioeconomic Effects of Land Withdrawal
Indirect Impacts of Land Withdrawal - Water Resources
Chapter 3/ Page 3-223/ Water Rights and Improvements

Comment:
The NTTR Public Draft LEIS does not address comments related to loss of access to water resources that were previously submitted during scoping and Cooperating Agency reviews. The NTTR must disclose and discuss the cumulative impacts of land withdrawal on the limited water resources available to Nye County. The land withdrawals that comprise the NTTR and the Nevada National Security Site continue to adversely affect Nye County and local communities. WA-4

There is no discussion in the draft that land withdrawals will continue to restrict/eliminate access to 27 hydrographic basins. These withdrawals have effectively removed large areas of Nye County from future water development. There are areas on the range where groundwater resources could be developed, however, their development is considered to be inconsistent with the mission of the facility and such development is considered at best to be highly unlikely. As a consequence, the water resources that would otherwise be available for Nye County have been withdrawn as well as the land. In the Special Nevada Report, the analysis of the effects of the land withdrawals noted that: WA-5

"The withdrawal of land from public access and/or the purchase of water rights by DoD and DOE has the greatest potential for effects on Nevada. The water resources associated with these lands could, if they exist and were available, play an important role in the continued growth of southern Nevada." (SAIC, 1991 p. 8-97).

NRS 533.025 states, "The water of all sources of water supply within the boundaries of the State whether above or beneath the surface of the ground, belongs to the public." The 1991 SNR concluded that military land withdrawals reduce access to potentially developable water resources, and increase competition for water resources. A total of 20 hydrographic areas are located on the Nye County portions of NTTR with a total perennial yield of nearly 50,000 acre-feet per year. Air Force water use in these basins has been steady at 155 AFY, leaving tens of thousands of acre-feet potentially available for appropriation but not accessible.

Resolution:
The Final LEIS must quantify and disclose by hydrographic area: WA-5
- the quantities of unappropriated water resources, and
- the continuing impacts of limiting Nye County's access to water resources located on the NTTR that could be used to support the community.

The Final LEIS must identify measures that may be considered to mitigate these impacts.

Tritium Sampling Program - Public Health and Safety
Chapter 3.13/ Page 3-270/ Health and Safety

Comment:
Nye County conducts a Tritium Sampling Program (TSAMP) through cooperative agreement with the DOE Underground Test Area (UGTA) program, which includes monitoring water quality in the Beatty area to determine if radionuclides from past underground nuclear testing are migrating and contaminating the Town's drinking water. Dedicated water wells are monitored and periodically examined for the presence of radioactive isotopes in the water system, stemming from past uses of existing military lands. Four of the program's wells are located within the proposed withdrawal area. Removing access to these wells compromises the Town's early warning system and the health and safety of Beatty residents. LU-9

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Comments on the Nevada Test and Training Range (NTTR) Draft Legislative Environmental Impact Statement (DLEIS)
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Resolution:
The FLEIS must disclose this resulting land use conflict. Since the proposed land withdrawal would eliminate access to groundwater monitoring sites in this area, the FLEIS must include measures, satisfactory to Nye County, to ensure access to the sites for future monitoring, in perpetuity.

Revise text to include language to ensure access to key radionuclide groundwater monitoring.

Provide language that would allow future consideration of additional cooperative agreement between to Nye County through DOE/NNSA for continued groundwater monitoring and characterization, and related science programs on Air Force controlled lands.

Cumulative Effects of Federal Land Actions and Withdrawals on Water Resources
Chapter 4/ Page 4-1 / Cumulative Effects and Other Environmental Considerations

Comment:
Federal actions that have directly impacted the water resources of Nye County and continue to impact these resources into the future include energy and defense operations at the NNSS and NTTR, as well as management policies being implemented or proposed by three Interior Department agencies: the National Park Service, the U.S. Fish and Wildlife Service, and the Bureau of Land Management. These federal actions have also resulted in a number of direct and indirect impacts. These impacts, listed in Tables 1-1 and 1-2, include widespread resource damages, significant reductions in resource availability, and the corresponding adverse socioeconomic impacts on the tax base, growth, and productivity of Nye County's economy.

CM-2

Table 1-1. Cumulative Impacts From Federal Land Withdrawals and Public Land Use Designations

Agency	Withdrawal or Designation	Direct Impacts	Indirect Impacts	Significance
Department of Energy	Nevada National Security Site Land Withdrawal (864,000 acres ±) Central Nevada Test Area	Restricted area for development.	Reduced resources water availability; increased water costs.	Significant reduction in water availability
U.S. Air Force	Nevada Test and Training Range Withdrawal (1,290,000 acres ±)	Restricted area for development.	Reduced water availability; increased water costs.	Significant reduction in water availability
U.S. Navy	Fallon Naval Air Station (45,000 – 125,000 acres proposed	Gabbs will lose access to only known areas of good-quality water	Reduced water availability; increased water costs.	Significant reduction in water availability

Bureau of Land Management	42,044 acres designated for disposal; 80,000 acres designated as Areas of Critical Environmental Concern; Designation of the Basin and Range National Monument	Reduced water availability; increased over-appropriation of Amargosa and Pahrump Valleys; restricted areas for development; increased water demand; restricted areas for mineral exploration.	Increased water costs; decreased tax revenues; decreased long-term productivity of private lands; decreased tax base growth.	Significant increased demand for water and overdraft in Pahrump and increased demand in Amargosa Valley.
National Park Service	Death Valley National Park Land Withdrawals (106,961 acres)	Reduced water availability; increased over-appropriation of Amargosa Valley; restricted area for development; increased water demand.	Increased water costs; decreased tax revenues; decreased long-term productivity of private lands; decreased tax base growth.	Significant losses of long-term productivity of private lands, and decreased tax revenues to County.
U.S. Fish & Wildlife Service	Ash Meadows National Wildlife Refuge (23,000+ acres in Ash Meadows and land at Railroad Valley Wildlife Management Area and co-use of Nevada Test and Training Range lands)	Reduced water availability; increased over-appropriation of Amargosa Valley; decreased long-term productivity.	Increased water costs; decreased tax revenues.	Significant losses of long-term productivity and tax revenues to County.
U.S. Forest Service	Lands designated as National Forests (1,942,983 acres)	Reduced water availability; decreased long-term productivity	Increased water costs; decreased tax revenues.	Significant losses of long-term productivity and tax revenues to County.

Table 1-2. Cumulative Impacts of Federal Activities and Actions

Agency	Actions	Direct Impacts	Indirect Impacts	Significance
Department of Energy National Nuclear Security Administration	NNSS Operations Past Actions; Implement EIS/ROD	Contamination of subsurface; physical damage to aquifers; water level perturbations; increased recharge down chimneys.	Contamination of recharge; removal of contaminated areas from future water development.	Significant resource injuries and constraints on water development.

U.S. Air Force	NTTR Update RMP Operations Past Actions	Surficial contamination; water level perturbations.	Increased water demand in employment centers.	Not significant.
Bureau of Land Management	Past Actions; Implement Resource Management Plan	Reduced water availability; increased over-appropriation of Amargosa Valley; restricted area for development; increased water demand.	Increased water costs; decreased tax revenues; decreased long-term productivity of private lands; decreased tax base growth; increased overdraft of Pahrump Valley.	Significant increased demand for water and overdraft in Pahrump and over-appropriation in Amargosa Valley.
National Park Service	Past Actions; Implement General Management Plan	Reduced water availability; increased over-appropriation of Amargosa Valley; restricted area for development; increased appropriation time; increased appropriation cost; increased water demand.	Increased water costs; decreased tax revenues; decreased long-term productivity of private lands; decreased tax base growth; increased overdraft of Pahrump Valley.	Significant losses of long-term productivity of private lands; increases in costs of obtaining water rights; decrease in tax revenues to County.
U.S. Fish & Wildlife Service	Past Actions	Reduced water availability; increased over-appropriation of Amargosa Valley; decreased long-term productivity.	Increased water costs; decreased tax revenues.	Significant losses of long-term productivity and tax revenues to County.
U.S. Forest Service	Land Use Plans	Reduced water availability; decreased long-term productivity	Increased water costs; decreased tax revenues.	Significant losses of long-term productivity and tax revenues to County.

Health and Safety Emergency Medical Services
Chapter 3.13/ Page 3-270/ Health and Safety and Chapter 4.1.4.13/ Page 4-30/ Health and Safety

Comment:
Nye County Emergency Services, Road Maintenance, and Solid Waste Management service are severely impacted by the presence of NTTR, which isolates the northern county from the southern county. This makes travel by road extremely time consuming and costly for County government, local business, and residents. The airspace and land withdrawal restrictions create an obstacle to travel between the northeast and to the south and west, and extend ground and air transportation routes for emergency response vehicles, by both land and air.

SO-12

These impacts are magnified by the lack of paid emergency medical services. Because of the vast area served in Nye County and the closure of the Tonopah hospital emergency room, volunteer EMTs can no longer

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Comments on the Nevada Test and Training Range (NTTR) Draft Legislative Environmental Impact Statement (DLEIS)
March 8, 2018
Page 10

respond to a call and return to their jobs within 2 to 4 hours. Their commitment to one call can now last as long as 8 to 10 hours. This has resulted in volunteers removing themselves from rotation. SO-12

Nye County and central Nevada need support in securing a sustainable solution to provide medical services in a large swath of the state that includes the proposed NTTR withdrawal, the Fallon Naval Air Station, and other public lands that have been withdrawn from public access to support DoD missions. Nye County believes that the DoD should help to support the services they will also need while living in, visiting, or flying over Nye County. Nye County requests the full support of the NTTR and the DoD in working with the United States Congress, the Town of Tonopah, and other affected entities to re-establish and maintain medical emergency services in northern Nye County and central Nevada.

These additional withdrawn public lands will contribute to the cumulative fiscal and economic impacts, and consistent with commitments made by previous Nellis Commanders, as described in the SNR (1991), specifically: "The Nellis hospital has an informal agreement with local hospitals which provides that during national emergencies, civilian hospitals would take overflow patients from Nellis hospital. While no agreement exists to allow overflow patients from civilian hospitals to use the Nellis hospital, the base would assist if there were dire emergencies (Source: Col. Van Sweringer, Nellis Hospital, personal communication, 1989)." SO-12

Resolution:
Nye County requests that the Final LEIS consider ways the NTTR can promote a joint DoD and community effort to assist in the enrichment of the local communities and in revitalizing citizenry. Specifically, Nye County requests the Final LEIS include elements of hardened civilian and military voluntary corps to support programs that improve the quality of life in the affected local communities. Volunteers would support local government in providing local critical services, such as emergency response health care centers, to develop a collective vision of community needs, commitment to share responsibilities, and resources required to address them. Mitigation may also include providing grants through local DoD Contracting Offices to support local EMS and other rural health services capacity building, as well as requiring community volunteer program participation as a Contract Performance Requirement for all Site Contractors.

Noise Impacts
Chapter 4.1.4.2/ Page 4-13/ Noise Impacts

Comment:
Nye County notes the NTTR's discussion regarding noise impacts (less than 1 dB) occurring in the NTTR region, and the Air Force's commitment to sharing data with the local community for future planning purposes.

Resolution:
None Required

Land Use and Recreation - Beatty
Chapter 3/ Page 3-49/ Summary of Impacts- Table 3-49, Alternative 3A

Comment:
According to the DLEIS Summary of Impacts, Beatty would experience negative impacts associated with loss of trails and OHV usage, *but additional expenditures from new training configurations may offset that loss*. GE-10

Resolution:
The FLEIS must include estimated revenues and sources that would potentially offset the loss of withdrawn lands that prohibit recreation and other multiple uses, and how the local government and community may benefit from NTTR's additional expenditures.

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Comments on the Nevada Test and Training Range (NTTR) Draft Legislative Environmental Impact Statement (DLEIS)
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Page 11

Similarly, Table 2-5 on Page 2-42 Summary of the Degree of Impacts for Potential Alternative Combinations Table does not identify the impacts of Alternative 3A-1, which fails to fully avoid proposed recreational trails east of the Town of Beatty. At a minimum, Land Use and Recreation impacts and the Socioeconomic Impacts of Alt 3A-1 have the potential to be significant. This information should be added to the table.

Boundary Impingement - Beatty
Chapter 1.5.2.2/ Page 1-33/ Summary of Concerns - Public Input

Comment:
Nye County supports the Town of Beatty in their comments concerning the portion of the proposed land withdrawal that will impinge on the northern boundary of the Town of Beatty. The withdrawal, closest to Beatty (Alternative 3A and 3A-1), will further minimize the already narrow position of the valley and block access to public lands.

Diversion of traffic and recreational activities through Death Valley and private property will harm Beatty's economy through reduced tourism dollars, potential business and residential construction, reduced property values, and reduced State, County, and Local tax revenues. Most off-road areas to the west would necessitate transit across Death Valley National Park boundaries. Since Death Valley National Park does not grant permits for its lands to be used by large off-road events, the Town of Beatty's ability to provide variety for these events is limited largely to areas to the north and east of town, including land to be removed from access by alternatives 3A and 3A-1. The proposed land withdrawal will also block critical recreational traffic access.

Resolution:
Since the stated goal of the proposed action is to enhance the capability of unmanned aerial systems, the FLEIS must include an explanation of how these lands actually contribute to accomplishing the stated goal.

Amargosa Toad – Beatty
Chapter 3.8.1.6/ Page 3-149/ Special Status Species and Habitats

Comment:
The Town of Beatty has made substantial efforts in cooperation with local governments and state agencies over the past 15 years to protect the Amargosa Toad, which exists only along the Amargosa River within Oasis Valley. These efforts will be hampered by interference with the source waters of Amargosa River, including springs located within the proposed withdrawal area.

While briefly addressed as a public concern in chapter 1 of the DLEIS, the document fails to identify the impacts to source waters and the consequential impact to the Amargosa Toad species. The document also fails to provide mitigation or avoidance. BI-6 WA-2

Resolution:
Nye County finds that the impacts of land withdrawals in these areas of concern to the Town of Beatty must be adequately addressed in the FLEIS, and language to consider measures to mitigate the potential impacts must be included as part of any alternative proposed.

Alternative 3A/-1, EC South Withdrawal
Chapter 2.3.3.2/ Page 2-25/ Alternative 3A/-1 Amended Range 77 - EC South Withdrawal

Comment:
The re-designation of the EC South to "Range 77" in Alternatives 3A and 3A-1 include the headwaters of the Amargosa River, creating a public safety and health hazard for the Beatty community water system. The

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Comments on the Nevada Test and Training Range (NTTR) Draft Legislative Environmental Impact Statement (DLEIS)
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Town's ability to monitor and study the headwaters is critical to the health, safety, and long-term sustainability of the community. To this point Beatty has been assured that there is little potential for contaminants to migrate vertically downward to an aquifer, namely the Amargosa River.

Part of the justification for the NTTR Boundary expansion by approximately 18,000 acres would be to add a buffer to the safety foot print of the range because munition or emitter use would occur in the proposed withdrawal area. If this type of activity were to occur, toxic residue and by-products from the explosives could contaminate the watershed in Pahute Mesa. In this scenario, the toxins and by-products may enter washes that drain Pahute Mesa, and eventually they would end up in the Amargosa River. Amargosa River is connected to the public drinking water supply in Beatty and supplies several wells for residents and ranches in the Oasis Valley. This water source also supports the Amargosa Toad habitat and other flora and fauna in the area.

The Nye County Water Resources Plan Update (2017) states actions taken at the NTTR have resulted in; the dispersal of more than 40,000 tons of explosion debris, residues, and contamination (depleted uranium, beryllium, and explosive products) on alluvial fans and playas; the disposal of solid wastes, paint products, solvents, batteries and petroleum products in landfills, pits, and explosive ordinance disposal pits; leaks from underground storage tanks; and the consumption of water in support of mission related activities.

According to historic reports, the dispersion of explosion debris may have resulted in the contamination of ground water. The amount of ground water that may have been contaminated as a result of these by products is not known and cannot be estimated on the basis of existing studies. Similarly, insufficient studies have been done to allow the definition of contamination that may have resulted from land filling of wastes, the operation of explosive ordnance disposal facilities or leaking tanks. Recent studies have identified two categories of contamination on the NTTR, ordnance residues and operations and maintenance spills. The County cannot support further damage and restriction of public access to such a critical resource that may lead to additional loss of resources and socioeconomic values to the County.

Resolution:
Areas of the headwaters of the Amargosa River should be removed from consideration in this Sub-Alternative in the FLEIS.

Please feel free to contact me should you have any questions regarding Nye County's comments.

Sincerely,

Lorinda A Wichman

Nye County, Nevada
Lorinda A. Wichman, Commissioner
Nye County Board of County Commissioners

Enclosure: Projects for Consideration in Cumulative Impacts Analysis

18-0117LW Nye County is an Equal Opportunity Employer and Provider

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Enclosure - Projects to be Included in the Land Withdrawal Cumulative Impacts Analysis

Bin	Category	Name	Timeframe (Past, Present, Foreseeable Future)	Summary	Description	County	Land Use	Mining	Grazing	Recreation	Socioeconomics	Environmental Justice	Transportation	Airspace	Cultural Resources	Noise	Biological Resources	Public Health and Safety	Air Quality	Water Resources	Geological Resources
Transportation	Transportation	I-11	Foreseeable Future	Nye County supports construction of the I-11 corridor through Nye County (Resolution number 2014-26).	Project I-11 is a proposed 4-lane highway connecting Las Vegas and Reno, Nevada. The FRTC expansion will impact a segment of the highway proposed to be located in Nye County.	NYE							X								
Land Use	Withdrawal from Public Access and Multiple Use	Department of Defense: Fallon NAS	Foreseeable Future	Indefinite land withdrawal of 32,640 acres for training and testing.	NAS Existing w/d - 0 acres Navy Proposed new w/d approx - 32,640 acres The incremental indirect cumulative impacts of the land withdrawal, including the proposed acreage to be withdrawn in each County, and the impacts on each County should be disclosed and discussed in this or a separate table. The impacts result from the indefinite but likely in perpetuity removal of these lands from all forms of public access and multiple use. These proposed actions contribute to the cumulative loss of additional private lands through federal buyouts, removal of additional public lands from future geothermal and mineral development, recreation, ranching, loss of county roads, and other allowable multiple uses. The loss of significant opportunities from these important economic sectors will contribute to the indirect adverse cumulative impacts of federal land withdrawal actions already affecting Nye County's economy. The legislative action that will withdraw an additional but undisclosed acreage of land for Fallon NAS in northern Nye County from all forms of public access and multiple use will also withdraw an additional 15,000 to 17,000 acres from public access and multiple use for the USAF's NTTR in central and southern Nye County. This is in addition to the 1,900,000 acres of public land already withdrawn for NTTR and the 880,000 acres withdrawn indefinitely for the DOE/NNSA's Nevada National Security Site. Thus, the federal land withdrawals in support of military and defense actions are temporally related, will both affect a single local jurisdiction and so are geographically connected, and will occur on a backdrop of historical and ongoing indirect cumulative impacts of federal land withdrawal. These ongoing and connected projects contribute to the cumulative impacts and should be considered and disclosed.	NYE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Land Use	Withdrawal from Multiple Use	US Air Force Department of Defense: Nevada Test and Training Range	Past, Present, Foreseeable Future	Indefinite land withdrawal of 1,918,000 acres for nuclear testing and related activities.	NTTR Existing w/d - 1,900,000 acres Proposed new w/d - 18,000 acres The incremental indirect cumulative impacts of the land withdrawal, including the proposed acreage to be withdrawn in each County, and the impacts on each County should be disclosed and discussed in this or a separate table. The impacts result from the indefinite but likely in perpetuity removal of these lands from all forms of public access and multiple use. These proposed actions contribute to the cumulative loss of additional private lands through federal buyouts, removal of additional public lands from future geothermal and mineral development, recreation, ranching, loss of county roads, and other allowable multiple uses. The loss of significant opportunities from these important economic sectors will contribute to the indirect adverse cumulative impacts of federal land withdrawal actions already affecting Nye County's economy. The legislative action that will withdraw an additional but undisclosed acreage of land for Fallon NAS in northern Nye County from all forms of public access and multiple use will also withdraw an additional 15,000 to 17,000 acres from public access and multiple use for the USAF's NTTR in central and southern Nye County. This is in addition to the 1,900,000 acres of public land already withdrawn for NTTR and the 880,000 acres withdrawn indefinitely for the DOE/NNSA's Nevada National Security Site. Thus, the federal land withdrawals in support of military and defense actions are temporally related, will both affect a single local jurisdiction and so are geographically connected, and will occur on a backdrop of historical and ongoing indirect cumulative impacts of federal land withdrawal. These ongoing and connected projects contribute to the cumulative impacts and should be considered and disclosed.	NYE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Enclosure - Projects to be Included in the Land Withdrawal Cumulative Impacts Analysis

Bin	Category	Name	Timeframe (Past, Present, Foreseeable Future)	Summary	Description	County	Land Use	Mining	Grazing	Recreation	Socioeconomics	Environmental Justice	Transportation	Airspace	Cultural Resources	Noise	Biological Resources	Public Health and Safety	Air Quality	Water Resources	Geological Resources
Land Use	Withdrawal from Public Access and Multiple Use	Department of Energy: Central Nevada Test Area	Past, Present, Foreseeable Future	Indefinite land withdrawal of 2,560 acres for test site surveillance/maintenance.	CNTA Existing w/d - 2,560 acres The DOE Office of Legacy Management assumed responsibility for long-term surveillance and maintenance at the Central Nevada Test Area (CNTA) Site in 2008. The CNTA site requires routine inspection and maintenance, records-related activities, and stakeholder support.	NYE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Land Use	Withdrawal from Multiple Use	Department of Energy: Nevada National Security Site	Past, Present, Foreseeable Future	Indefinite land withdrawal of 880,000 acres for nuclear testing and related activities.	NNSS Existing w/d - 880,000 acres The Nevada National Security Site helps ensure the security of the United States and its allies by supporting the stewardship of the nuclear deterrent, providing emergency response capability and training, and contributing to key nonproliferation and arms control initiatives. They execute unique national-level experiments, support national security customers through work for others, manage the legacy of the Cold War nuclear deterrent, and provide long-term environmental stewardship for site missions.	NYE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Land Use	Withdrawal from Multiple Use	Department of Energy: Tonopah Test Range	Past, Present, Foreseeable Future	Indefinite land withdrawal of 339,360 acres for research, development, and weapons testing.	TTR Existing w/d - 399,360 acres Tonopah Test Range provides research and development test support for the Department of Energy's weapon programs. The range also offers a unique test environment for use by other Government agencies and their contractors.	NYE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Land Use	Withdrawal from Multiple Use	Department of Energy: Yucca Mountain Project	Foreseeable Future	Indefinite land withdrawal of 49,000 acres for nuclear waste storage.	YM w/d - 49,000 acres The Yucca Mountain Nuclear Waste Repository, located on a piece of land adjoining the NNSS in Nye County, Nevada, was designed to be a deep geological repository storage facility for spent nuclear fuel and other high- level radioactive waste, as designated by the Nuclear Waste Policy Act amendments of 1987.	NYE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Land Use	Withdrawal from Multiple Use	Department of Interior and Department of Agriculture Projects/Land Withdrawals, and Segregation.	Past, Present, Foreseeable Future	Indefinite land withdrawal and segregation for Wilderness Areas, Monuments, Parks, Refuges, and Roadless Areas.	**DESIGNATED WA'S, MONUMENTS, PARKS, REFUGES, AND ROADLESS AREAS WHOLLY IN NYE CO.** Alta Toquima Existing w/d - 35,860 acres Alta Toquima Proposed new w/d - 40,701 acres Arc Dome Existing w/d - 115,000 acres Arc Dome Proposed new w/d - 96,135 acres Ash Meadows - 23,000 acres Basin and Range existing w/d approx - 200,000 acres Death Valley Existing w/d - 44,000 acres Grant Exchange Existing w/d - 52,600 acres Quinn Canyon Existing w/d - 26,310 acres Table Mountain Existing w/d - 92,6000 acres Table Mountain proposed new w/d - (no info) acres **Total Existing w/d -589,370 acres** **Total Proposed new w/d (min) - 136,800 acres** **WSA'S PARTLY IN NYE CO.** South Brock **SEGREGATED BUT NOT WITHDRAWN (NO INFO) ACRES** 28,269 acres total in Nye, Eureka, and Lander Counties **Total Existing Segregated - 144,200 acres** DOI and DOA Combined Existing Land Withdrawals and segregations comprise 764,170 acres, with an additional 136,800 acres of proposed new withdrawal. Total acreage of DOI withdrawals includes WSAs under segregation. Based on historical trends it is likely (reasonably foreseeable) that these segregations will be made permanent through Congressionally-designated WAs. BLM-designated and segregated Areas Of Critical Environmental Concern are not included the totals as these numbers are expected to increase substantially when the BLM finalizes the Southern Nevada District and Battle Mountain District Resource Management Plans (in prep since 2010).	NYE	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

5009

Board of County Commissioners
Lincoln County, Nevada
P.O. Box 90 – Pioche, Nevada 89043
Telephone (775) 962-8077
Fax (775) 962-5180

COUNTY COMMISSIONERS
Paul Donohue, Chair
Varlin Higbee, Vice Chair
Kevin Phillips
Nathan Katschke
Jared Brackenbury

DISTRICT ATTORNEY
Daniel M. Hooge

COUNTY CLERK
Lisa C. Lloyd

February 20, 2018

99th Air Base Wing Public Affairs
4430 Grissom Ave. Suite 107
Nellis AFB, NV 89191

RE: Comments regarding the NTTR Draft Legislative EIS

Dear Sir or Madam:

The Board of Lincoln County Commissioners, (County) appreciates the opportunity to provide formal comments regarding the NTTR Land Withdrawal Preliminary Draft Legislative Environmental Impact Statement.

The County fully appreciates the increasing threats to our national security in addition to the dynamics associated with the technological advancement in weapons systems, not only in terms of our own testing and training, but also with that of our adversaries, especially in the age of irregular warfare.

In general terms, the County supports Alternative 2, whereby the change in overall land management in the South Range would allow for "Ready Access" in both the North and South Ranges. The County would recommend a jurisdictional reciprocation, of sorts, between the USFWS and Air Force. Although land management would change, the County does not foresee a significant reduction in the value of the resources that are present and that have been managed under policy (wilderness) of the USFWS since 1971. These areas and their respective resources would not see a significant amount of increased "on-the-ground" impacts and can still be managed and maintained at acceptable and productive levels under primary jurisdiction of the Air Force.

The County does not support Alternative 3C, the Alamo Withdrawal, primarily because of the loss of public access and the many uses associated with that access. The Alamo Withdrawal contains approximately 160,000 acres within Lincoln County's border. This represents yet another "taking" of public land within Lincoln County's border.

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Please see the attached specific comments.

If you have questions or concerns, please feel free to contact Cory Lytle in the Lincoln County Planning and Building Department, [redacted].

Thank you for your time and consideration.

Sincerely,

A. Paul Donohue

Paul Donohue
Chairman

5009

ATTACHMENT 1
Lincoln County, Nevada's Comments to the
Nevada Test and Training Range Draft Legislative Environmental Impact Statement

NTTR LEIS Chapter	*NTTR LEIS Section*	*Page*		COMMENT
2	*2.3.2*	*2-22*		The County supports Alternative 2 to extend existing land withdrawal and provide ready access to the North and South Ranges. • Lands within the South Range and DNWR proposed as wilderness (approximately 590,000 acres) which significantly restrict Air Force activities should be re-designated to allow for utilization and efficient use of the withdrawn land to support testing and training. • The estimated 11.5 acres of increased ground disturbance is insignificant compared to the increase in testing and training capability. • Change in land management in the South Range would also allow testing and training capability to be fully realized. Scheduling conflicts would be significantly reduced.
2	*2.3.3.4*	*2-28*		The County does not support Alternative 3C, the Alamo Withdrawal because of the potential loss of access for recreation and other land uses currently present. • Approximately 160,000 of the proposed 227,000-acre withdrawal is situated within the County. • The County is opposed to loss of public access to the DNWR. More specifically on the Alamo, Old Alamo, Old Corn Creek, and Cabin Springs Roads.

ATTACHMENT 1
Lincoln County, Nevada's Comments to the
Nevada Test and Training Range Draft Legislative Environmental Impact Statement

NTTR LEIS Chapter	*NTTR LEIS Section*	*Page*	COMMENT	
2	*2.3.3.4*	*2-28*	If Alternative 3C is chosen, the County would request that a "shared use" concept be examined and developed whereby public access for recreational use is allowed during certain times of a calendar year. • This "shared use" could be limited to months where temperatures and other factors make it more feasible for the public to enjoy the area. • Historical use could be examined whereby certain seasonal closures and access restrictions correlate with seasonal extremes and other visitation or factors.	LU-2
3	*3.4.2.4*	*3-61*	The County supports the limited access that includes management of wildlife, law enforcement, cultural resource inventory and management, water development and facility maintenance and others.	
3	*3.4.2.4*	*3-63*	The County supports efforts to allow "shared use" concept for public access, as is mentioned in Chapter 2, Section 2.3.3.4, under Alternative 3C. • The County is opposed to loss of public access to the DNWR. More specifically on the Alamo, Old Alamo, Old Corn Creek, and Cabin Springs Roads. • Loss of recreational activities in the proposed withdrawal area of Alternative C will result in greater impacts to adjacent areas.	LU-2
3	*3.4.2.4*	*3-64*	The County supports continued access for limited bighorn sheep hunting within the proposed withdrawal area. This includes hunt units 283 and 284 and in addition to units 252, 253, 280, 281, and 282 on other portions of the NTTR.	LU-8

5010

March 5, 2018

99th Air Base Wing Public Affair
4430 Grissom Ave. Suite 107
Nellis AFB, NV 89191

RE: Comments regarding the NTTR Draft Legislative EIS

To Whom It May Concern:

The Lincoln County Regional Development Authority (LCRDA) appreciates the opportunity to provide comments regarding the NTTR land Withdrawal Preliminary Draft Legislative Environmental Impact Statement. LCRDA is responsible for retaining and attracting businesses and identifying economic opportunities for the County.

LCRDA supports the mission of NTTR and fully appreciates the increasing threats to our national security and the need to improve the range's capacity to support military testing and training. However, LCRDA does not support Alternative 3C which proposes to withdrawal 154,378 acres within Lincoln County. This is in addition to a significant existing NTTR footprint in Lincoln County.

Appendix G, SOCIOECONOMICS, provides only baseline data for certain economic indicators including employment and recreational use of BLM lands but provides no analysis of the direct, indirect and induced impacts of Alternatives C. Alternative 3C would result in the loss of public access and the many recreational uses associated with that access, such as hunting and hiking, that are important to the economy of Lincoln County. Public access to the Desert National Wildlife Refuge on the Alamo, Old Alamo, Old Corn Creek and Cabin Springs Roads and trailheads at the northern terminus of Old Alamo Road and on Dead Horse Road would be impacted.

SO-11

Thank you again for the opportunity to comment. Please feel free to contact LCRDA Executive Director, Jeff Fontaine, at [redacted] if you have any questions or need additional information.

Sincerely,

David Hurd
Chairman

5011

Beatty Chamber of Commerce

PO BOX 956
Beatty NV 89003
PHONE/FAX: 775-553-2424
Website: beattynevada.org

99th Air Base Wing Public Affairs
4430 Grissom Ave., Suite 17
Nellis AFB, NV 89191

RE: EIS No. 20170236, Draft, USAF, Nevada Test and Training Range NTTR Land Withdrawal

To Whom it May Concern;

We are writing to oppose all options involving the proposed land withdrawal and expansion of the Nellis Test and Training Range in Southeastern Nevada.

Although we do understand the importance of the defense of our country, it should not be on the backs of public land users.

Tourism and recreation are the core industries of the area and the proposed areas to be withdrawn will significantly impact the future economic development of rural Nye County and the Beatty area. SO-3

Growth and development in any geographic area is largely dependent on economic activity. The area proposed for withdrawal in option 3A already has OHV trails as well as mountain bike trails and has been earmarked by the Beatty community for future development of additional trails to aid in our economic growth. SO-4

Our Community hosts several events during the year on areas marked for withdrawal. The 2018 Boy Scout Mountain Man Event alone saw over 1500 visitors to our area and it was in part on the area 3A option for withdrawal. In Addition, we have an Off-Road Poker Run to benefit the VFW Post in Beatty and many more. The area in option 3A also includes parts of the Jeep Trail through the Bullfrog Historic/Geological Mining District. People come to our area to learn about western history, wildlife, mining, geology and to just plain have fun in our free, open spaces. LU-18

Beatty's future economic opportunity is in part dependent on policies and plans for activities on public lands. The Beatty area has a small corridor of public lands area along Hwy 95 to use for expansion and economic growth, and by increasing the NTTR area into that corridor the Air Force is seriously impeding our ability for future growth and increase tourism into the area. SO-4

By cutting off access to these important historic, geologic and geographic areas you would be cheating future generations of Americans and visitors to this great country, the benefits of the freedoms awarded them by our public lands.

We strongly oppose any land withdrawal now and in the future for NTTR and would like to see the areas left status quo.

Sincerely,

Ann E Marchand

Ann Marchand
President
Beatty Chamber of Commerce

Beatty Nevada: The Scenic Gateway to Death Valley!

5012

Beatty Town Advisory Board
PO Box 837
Beatty, Nevada 89003
775-553-2050

99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

February 9, 2018

Re: EIS No. 20170236, Draft, USAF, NV, Nevada Test and Training Range (NTTR) Land Withdrawal
Federal Register / Vol. 82, No. 235 / Friday, December 8, 2017 / Notices 57975

The United States Air Force has asked for public comment on the Draft LEIS, to be submitted by March 8, 2018.

Our last comments supporting Alternative 1 (Status Quo) were submitted on December 10, 2016. The most recent Draft of the EIS includes modifications made to Alternative 3A resulting in Alternative 3A-1. We acknowledge and appreciate the modifications made in an effort to address our concerns about the negative economic impact that removing critical trails and land from public use would have on Beatty.

It is the opinion of the Community at large and therefore of the Beatty Town Advisory Board that the additional land withdrawal, particularly those indicated as Alternative 3A and 3A-1 will have detrimental impacts on both the financial and physical well-being of the residents of Beatty and the economic development future of the Town.

We cannot support the NTTR expanded land withdrawal proposed in alternatives 3A and 3A-1 for the reasons detailed in this letter, therefore, we continue our support of Alternative 1 (Status Quo).

The public land bordering the current NTTR boundary has been identified by other Federal Agencies/Departments for a variety of uses. One example of those uses is, Section 368 Energy Corridor 18-224 Crater Flat to Las Vegas, established under the Energy Policy Act of 2005. In January of 2009, the BLM amended their resource management plans to incorporate the designation of the Section 368 energy transport corridors. The proposed expansion of the NTTR North Range footprint would add conflict, complication, and a new host of public concern to the future execution of any of the projects currently authorized for this area.

It is vital to Beatty that the final proposal addresses access to public lands.
Public lands play a significant role in Beatty's economy primarily through ecotourism. Protections for unrestricted public access are critical to Beatty's overall long-term economic health. Outdoor recreation, hunting, preservation of cultural and historic resources, conservation of critical habitat and water resources, all support the growing ecotourism industry.
Beatty's history also shows that access and appropriate use of public land by mining and ranching is a critical piece of its overall long-term ecological and economic health.

5012

Our concerns remain centered on the following issues:
(1) Negative impact on Beatty's immediate and future plans for development and economic growth
(2) Negative economic impact due to the restriction of access to public lands for a variety of outdoor activities
(3) Loss of usable land due to "hemming" in of Beatty between Death Valley National Park and the NTTR boundary
(4) Reduction of historically permitted grazing rights and mining patents
(5) Loss of access to land critical to species management efforts in our area
(6) Access to and protection of water systems and the hydrogeology of the Oasis Valley and Beatty

(1) Negative Impact on Beatty's immediate and future plans for development and economic growth.

In the past, Beatty experienced population and economic growth and loss because the primary industry was mining. The typical life of a mining operation is finite; it does not lend itself to a long-term, sustained, stable community population or long-term stable revenues and resources. When a mine opens in a community it brings residents, services (to support those residents), and prosperity. When it closes the community loses neighbors, job force, services, and revenues. Beatty has experienced this cycle for well over 50 years and one of our main outdoor attractions Rhyolite; a mining ghost town was created by this cycle and stands as a testament and reminder to all of us who live here.
That is why over the years Beatty and the residents who remain when the mine leaves have turned to tourism and outdoor recreation as the focus for its current and future development plans. Our goal is to create a community that has a stable economy, population, work force and sense of security. We believe that the structured reoccurring events that have been developed and held in the past few years are the primary sources of economic growth that we are seeing in our revenues.

The Town along with private groups and entities have outdoor recreation plans that are in various stages of execution. Some are in action now but are in their infancy, others are still in the planning phases, but we believe all of them will help us attain our goals.

Any additional restriction of land accessibility will severely impact if not stop those plans, effectively removing this LMI (low and moderate income) Community's chance to move its self forward and its residents upward in their earning potential, access to needed services, and the ability to continue to contribute to Nye County, the State of Nevada and the United States of America.

(2) Negative economic impact due to the restriction of access to public lands for a variety of outdoor activities.

Consolidated tax contributes the lion's share of revenue to Beatty and it has been growing significantly in recent years contributing over $400,000.00 annually in FY16 and FY17. These revenues are used to support Town services such as the Volunteer Fire Department, the Community Center, Desert Hills Cemetery, radio translators, infrastructure capital improvements and operating costs related to town operations.

Room Tax revenues have been growing as well in recent years, generating an annual income in excess of $325,000.00 in FY16 and FY17 which is apportioned per ordinance to the State, the County, the Town Park and Recreation General Improvement District (GID), the Beatty Chamber of Commerce, the Beatty Museum and Historical Society and the Town.

Beatty advertises and leverages its proximity and access to trails, wildlife, geology, and history for the purpose of outdoor recreation.

5012

Beginning in 2014 and every year following, community groups put in place structured, reoccurring events that use our public lands. These events draw people from all over the United States and the World to Beatty and as a result, the local economy receives a boost during the events, but the impact does not stop there. The events expose people to all of the outdoor recreational opportunities available to them in our area. This exposure is paying off as individuals return to Beatty and explore on their own. This explains the upward economic trend we are seeing in our Consolidated and Room Tax Revenues in recent years.

Some of the events that have been taking place in and around Beatty using land that is being proposed for withdrawal are;
Best in the Desert Las Vegas to Reno off-road race
Beatty VFW John Strozzi Post 12108 Annual Historic and Geological Tour, Poker Run
Trails-OV Mountain Biking Events Including the Tinker Classic
SNORE 250
Best in the Desert 250

Trails-OV, a subsidiary of a local 501c3, has held mountain biking events and offers independent outdoor recreation. The Beatty Veterans of Foreign Wars (VFW) Post has held an annual off-road event that fills Beatty's Hotels and RV Parks to capacity, greatly increasing the town's room tax, restaurant, fuel, and general sales revenues. Best In The Desert has held its Vegas to Reno off-road race for over 20 years which generates revenue for not only Beatty but the State as well. Key portions of the routes, along with existing and planned public land trails used by; Trails-OV, Beatty VFW, Best In the Desert, and outdoor enthusiasts, will be blocked under alternatives 3A and 3A-1. LU-17

The Secretary of the Interior issued Order No. 3356 an order which continues the Department's efforts to enhance conservation, stewardship; increase outdoor recreation opportunities for all Americans, including opportunities to hunt and fish; and improve the management of game species and their habitats for this generation and beyond. The order was signed by the Secretary of the Interior on September 17, 2017, effective immediately. This land withdrawal would be counterproductive to the law. GE-15

Access to some of the best-known hunting spots in our area would no longer be available when incompatible military activities are taking place, should either alternative 3A or 3A-1 be granted. How will the public be made aware when such an activity is going on? Is it the intention of the Air Force to notify the licensing agencies, the Town of Beatty and surrounding communities when there are "incompatible military activities taking place"? Hunters may choose not to use this area because of this uncertainty which will result in lower hunting license revenue for the State's Division of Wildlife and again fewer visitors to Beatty resulting in less revenue for both. LU-8

All outdoor recreation activities, which we as a community advertise, leverage our history, geology, and archeology. We are proud of our unique history and the geology that created it. Without our unique geology, we would not have been a part of the "Gold Rush".

The ability for people, miners, scientists, and students to come here to see, touch, and stand on land that offered so much, so long ago, and to explore what else it may have to offer, is part of who we are in the United States. We are proud to share our history with the world and grateful that the world has interest in it. LU-2

It is important for you to understand that Beatty already has to contend with land use restrictions that exist due to Department of Wildlife, BLM and other agency limitations. Portions of land cannot be used for structured group events due to a variety of reasons throughout the year. These restrictions have been accepted by the Community and it has found satisfactory solutions, as demonstrated above, that allow it to achieve economic growth while balancing the important environmental concerns that are the source of most of these restrictions.

5012

Adding the proposed land withdrawals will create an unrecoverable position for Beatty and its future economic plans involving tourism and outdoor recreation.

(3) Loss of usable land due to "hemming" in of Beatty between Death Valley National Park and the NTTR boundary.

The withdrawal, closest to Beatty (Alternative 3A and 3A-1), will further minimize the already "squeezed" position of the valley. Access to area public lands would be forever blocked.

Because most off-road areas to the West would necessarily involve transit across Death Valley National Park boundaries and since Death Valley National Park does not grant permits for its lands to be used by large off-road events our ability to provide variety for these events is limited largely to areas to the North and East of town, including land to be removed from access by alternatives 3A and 3A-1. The diversion of traffic recreational activities by pushing it through Death Valley and private property will harm Beatty's economy in the form of reduced tourism dollars, reduced potential business and residential construction, reduced property values, and reduced State, County, and Local tax revenues. SO-4

The Air Force already has air space restrictions in place that allows for the safe flight of our military and civilian pilots. For fifty years Beatty has had the unique pleasure of seeing and hearing our military aircraft overhead. It has become a part of who we are, who our neighbors are, and we are proud to have the Air Force in the skies above us. One reason listed as a purpose of the proposed action is to enhance irregular warfare test/training capability of unmanned aerial systems coordinated efforts with overland navigation. A satisfactory explanation of why physical land is needed now to accomplish the goal stated above has not been given to the Town, and the removal of the proposed land will only block critical recreational traffic access. PA-24

(4) Reduction of historically permitted grazing rights and mining patents.

Beatty, specifically the Oasis Valley, is an area that has been grazed by ranchers for over 100 years. Permitted grazing on public lands supports a skilled trade and way of life, ranching, which provides not only a critical food source to Americans but supports many other connected industries. It is another industry that contributes to Beatty, the State, and the Bureau of Land Management economies.

Both proposals made by the Air Force will reduce the current grazing allotment of up to six percent or 15,980 acres resulting in a negative economic impact of up to $128,000.00 annually according to the Air Force Summary. We believe the socioeconomic impacts are underestimated. While six percent of the overall grazing rights from the BLM Razorback allotment may seem small, it's important to note that the ranches in the Beatty area are to the East and North of US Highway 95 and that 3A-1 would remove as much as half the presently available grazing land. Not only would this negatively impact local ranching businesses immediately it will surely stifle future growth in an industry that adds diversity to Beatty's economic growth opportunities. LU-7 SO-4

Also, grazing rights monies are paid to the BLM and those monies help support the Battle Mountain District. Most of Beatty's publicly managed lands are located in the Battle Mountain District. This district is in the same fiscal condition that most rural cities and towns currently are. The lack of available staff is in direct correlation with the financial status of the Battle Mountain District. Also, the District does not have the financial resources to hire outside professionals that could work in place of staff, as projects come up. Additional staff or outside professionals are needed to complete the required studies to move forward with productive current and future land use planning.

The loss of up to $128,000.00 to the BLM annually, will no doubt negatively impact the Battle Mountain District who struggles today to support the outdoor recreation activities that are currently happening not to mention supporting future plans.

5012

Mining and Beatty are synonymous with one another. Without our unique geology, we would not have been a part of the "Gold Rush". Access to public land is in large part what created our community allowing individuals and companies to explore the possibilities of what the land could and did offer. Beatty still values the presence of mining exploration which we hope will result in operations. While we no longer wish to rely on this industry solely, we still feel that the mining industry is a crucial component of our long-term economic success as a community. The potential economic impact of an active mining operation is significant because typically jobs relating to mining are higher paid, skilled positions.

As a direct result of active mining operations, skilled workers and their families move to the community and active mining operations offer existing residents the chance at a higher paying job or the opportunity to learn a skill. All of these things raise the quality of life for all residents.

Reducing the land available to the public will remove the possibility of mining exploration. We understand that there is at least one active mining claim located in the withdrawal area, what will be the fate of that mining claim in the LEIS? LU-16

(5) Loss of access to land critical to species management efforts in our area

Beatty and STORM-OV have been recognized by; the U.S. Fish & Wildlife Service, the Nevada Department of Wildlife, Senator Reid, and Congressman Heck for species management and responsible land use. We feel we are the best stewards of our land, take that responsibility seriously and shoulder it with pride.

The success of STORM-OV's efforts to show that responsible public and private land use by ranchers, off-road, and outdoor enthusiasts can support and protect a species, namely the Amargosa Toad, is evidenced by the decision of the Department of the Interior, Fish and Wildlife Service's findings that listing the Amargosa Toad as threatened or endangered was not warranted under the Threatened or Endangered Species Act throughout all or a portion of its range as stated in the Federal Register/Vol.75, No. 138/Tuesday, July 20, 2010/Proposed Rules.

The Bullfrog HMA is in this area and the biological impact of fencing along the approximate twenty five mile boundary is uncertain. The burro population in this area is already at levels higher than recommended and this or any change to the herds' territory has unknowable consequences. Burro's, like the Air Force, have been our neighbors for a long time and they are a part of Beatty's unique character and charm but like all things too much of a good thing can be bad and limiting or reducing the herds territory can change their grazing and watering patterns moving more of the herd toward our major highways and town streets which causes a public hazard.

(6) Access to and protection of water systems and the hydrogeology of the Oasis Valley and Beatty

The proposed land withdrawal indicates the headwaters of the Amargosa River would be included. The proximity of the proposed activities to this important water system and the potential harm is of great concern to us. Our ability to monitor and study the headwaters is critical to the health, safety, and long-term sustainability of our community. We cannot support a restriction of public access to such a critical resource. LU-2

Nye County and Beatty know that testing on the NNSS has resulted in groundwater contamination. Therefore, we cannot support any proposal that may cause further water resource damage and may lead to additional loss of resources and socioeconomic values to the County.

To this point, Beatty has been assured that there is little potential for contaminants to migrate vertically downward to an aquifer, namely the Amargosa River. We also recognize national security needs, but we cannot support alternative 3A and 3A-1 which includes the re-designation of the EC South to "Range 77".

Part of the justification for the NTTR Boundary expansion by approximately 18,000 acres would be to add a buffer to the safety foot print of the range because munitions use or emitter use would occur in the proposed withdrawal area.

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If this type of activity were to occur toxic residue and by-products from the explosives could contaminate the watershed in Pahute Mesa. Should that occur the toxins and by-products could enter washes that drain Pahute Mesa, and eventually they would end up in the Amargosa River which is connected to the public drinking water supply in Beatty and supplies several wells for residents and ranches in the Oasis Valley. This water source also supports the Amargosa Toad habitat and other flora and fauna in the area and our concerns are validated by these statements in in the Nye County Water Resources Plan Update – 2017; actions taken at the NTTR have resulted in; the dispersal of more than 40,000 tons of explosion debris, residues, and contamination (depleted uranium, beryllium, and explosive products) on alluvial fans and playas; the disposal of solid wastes, paint products, solvents, batteries and petroleum products in landfills, pits, and explosive ordinance disposal pits; leaks from underground storage tanks; and the consumption of water in support of mission related activities. According to historic reports, the dispersion of explosion debris may have resulted in the contamination of ground water. WA-8

The amount of ground water that may have been contaminated as a result of these by products is not known and cannot be estimated on the basis of existing studies. Similarly, insufficient studies have been done to allow the definition of contamination that may have resulted from land filling of wastes, the operation of explosive ordnance disposal facilities or leaking tanks. Recent studies have identified two categories of contamination on the NTTR, ordnance residues and operations and maintenance spills.

In conclusion:

The economic impact of your decision on one small community is not really quantifiable. When looking at the potential financial impact to Beatty you would have to know the level of success the community would achieve should it have the opportunity to continue to grow its current outdoor recreation and tourism activities and execute on its future plans.

Economic and financial health, while crucial to our community, are not our only concerns. All levels of government, including ours, have a responsibility to hold the physical and emotional wellbeing of their constituents in the highest regard. We did our best to describe how your approval of either proposal 3A or 3A-1 would take away so many of the natural resources that are enjoyed by all of your constituents from across the country by limiting their ability to explore and enjoy this land. Please do not take the land away from the public that our military fights so hard to protect.

Beatty and the NTTR have been good neighbors and the Air Force through its direct and civilian employment has become an integral component of our economy. We have enjoyed a great relationship since 1951 and we would like it to continue into the future.

Based on the negative economic, safety, environmental, archeological, and historical effects on our community, we are asking for your support of Alternative 1 (Status Quo) Extend Existing Land Withdrawal and Management of the NTTR North and South Range no changes to current NTTR land boundary combined with Alternative 4A a twenty year withdrawal period.

Please give us the chance to see some of our goals achieved and by giving us that chance teach future generations to continue to dream and strive for more.

Sincerely,

Dick Gardner

Dick Gardner
Beatty Town Advisory Board Chair

Enclosures: 4

5012

References

Nevada Test and Training Range Public Hearing January 2018 Handout
Pages 8 and 9 Summaries of alternatives 3A and 3A-1
Page 9 map showing alternatives 3A and 3A-1

H.R.6 (Sec. 368 Extract) Energy Policy Act of 2005
https://www.congress.gov
https://www.congress.gov/bill/109th-congress/housebill/6?q=%7B%22search%22%3A%5B%22h.r.6%22%5D%7D&r=23

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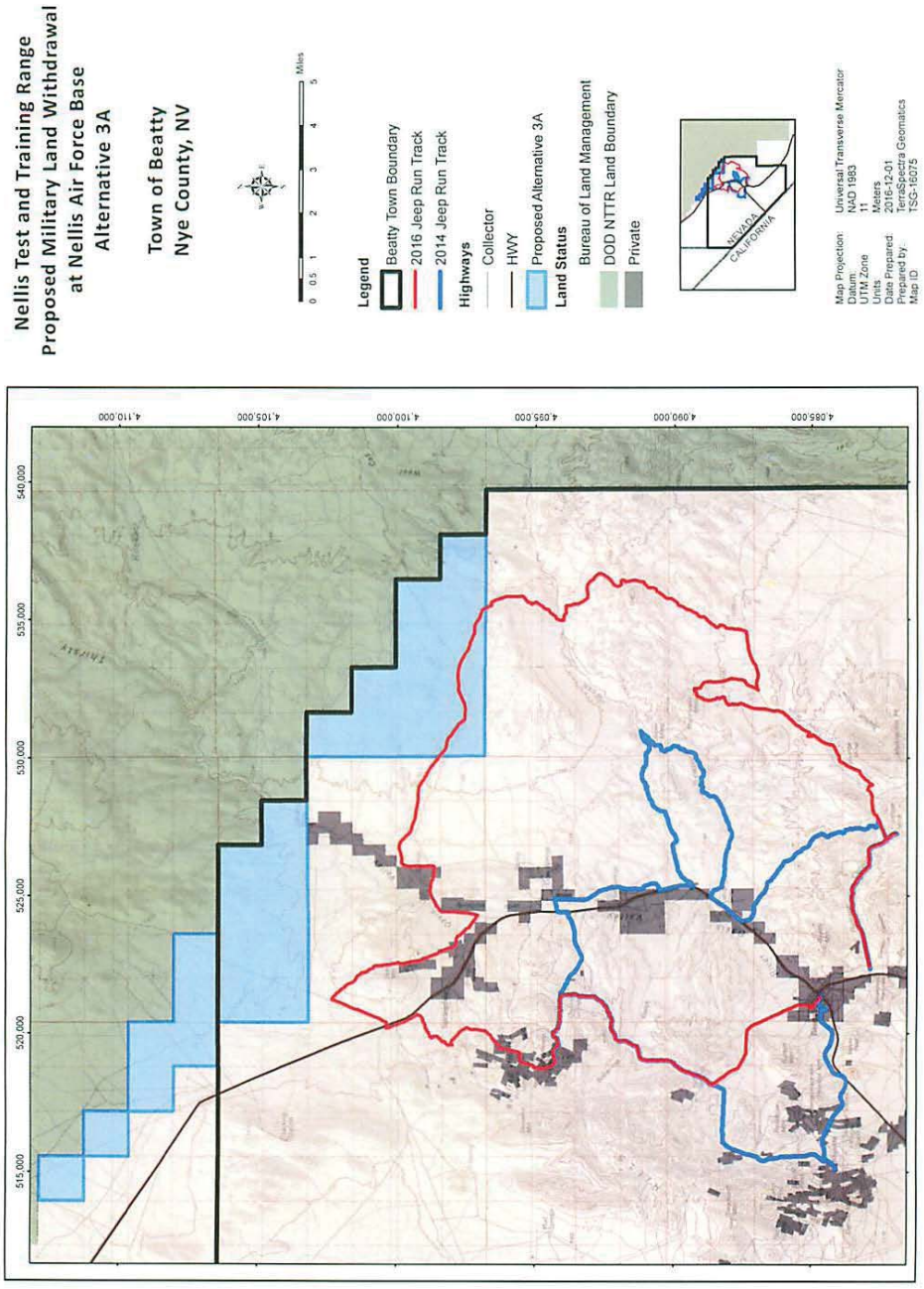
5012


Nellis Test and Training Range
Proposed Military Land Withdrawal
at Nellis Air Force Base
Alternative 3A
Town of Beatty
Nye County, NV
Legend
Beatty Town Boundary
2016 Jeep Run Track
2014 Jeep Run Track
Highways
Collector
HWY
Proposed Alternative 3A
Land Status
Bureau of Land Management
DOD NTTR Land Boundary
Private
Miles
0 0.5 1 2 3 4 5
NEVADA
CALIFORNIA
Map Projection: Universal Transverse Mercator
Datum: NAD 1983
UTM Zone 11
Units Meters
Date Prepared: 2016-12-01
Prepared by: TerraSpectra Geomatics
Map ID TSG-16075
4,085,000
4,090,000
4,095,000
4,100,000
4,105,000
4,110,000
515,000
520,000
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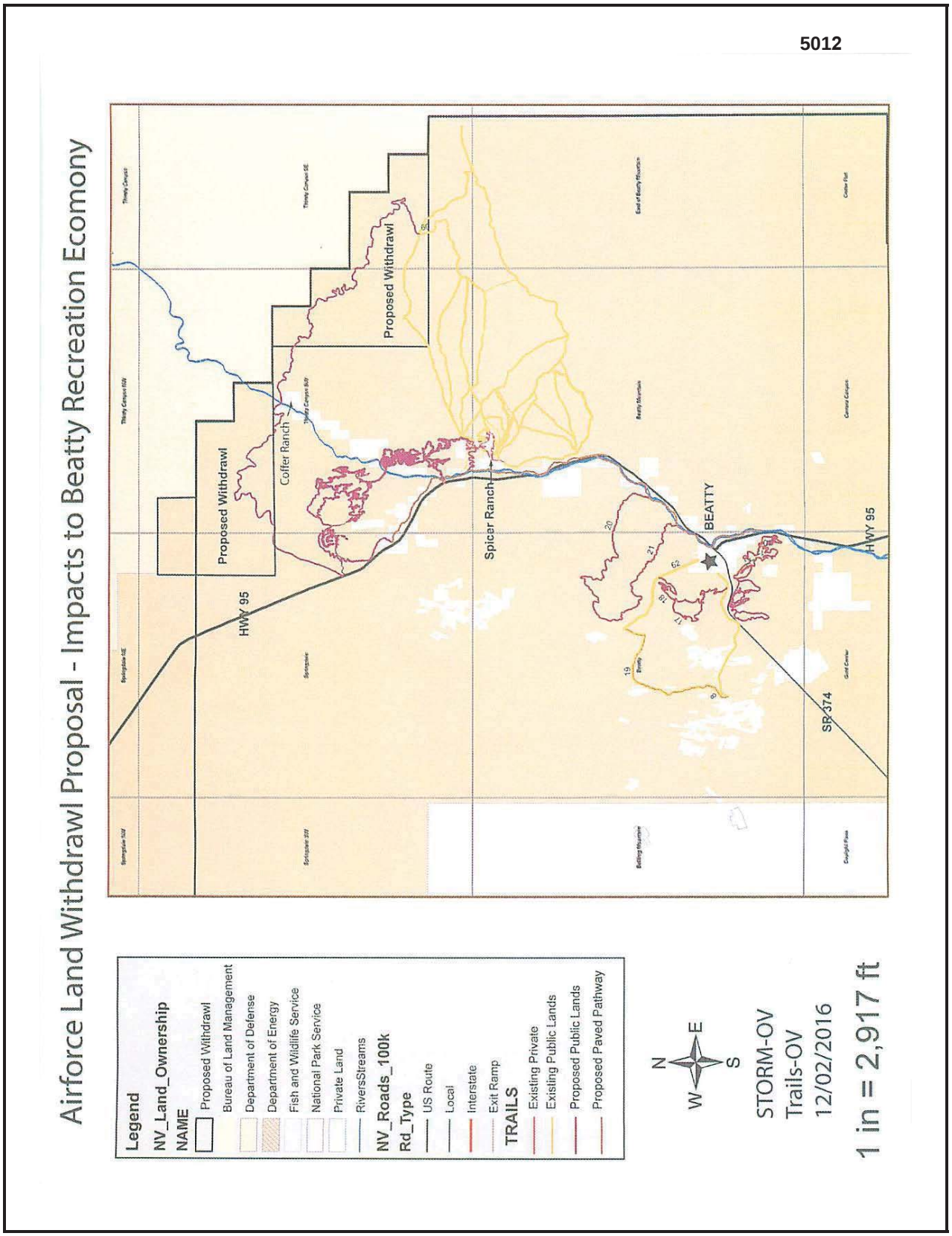
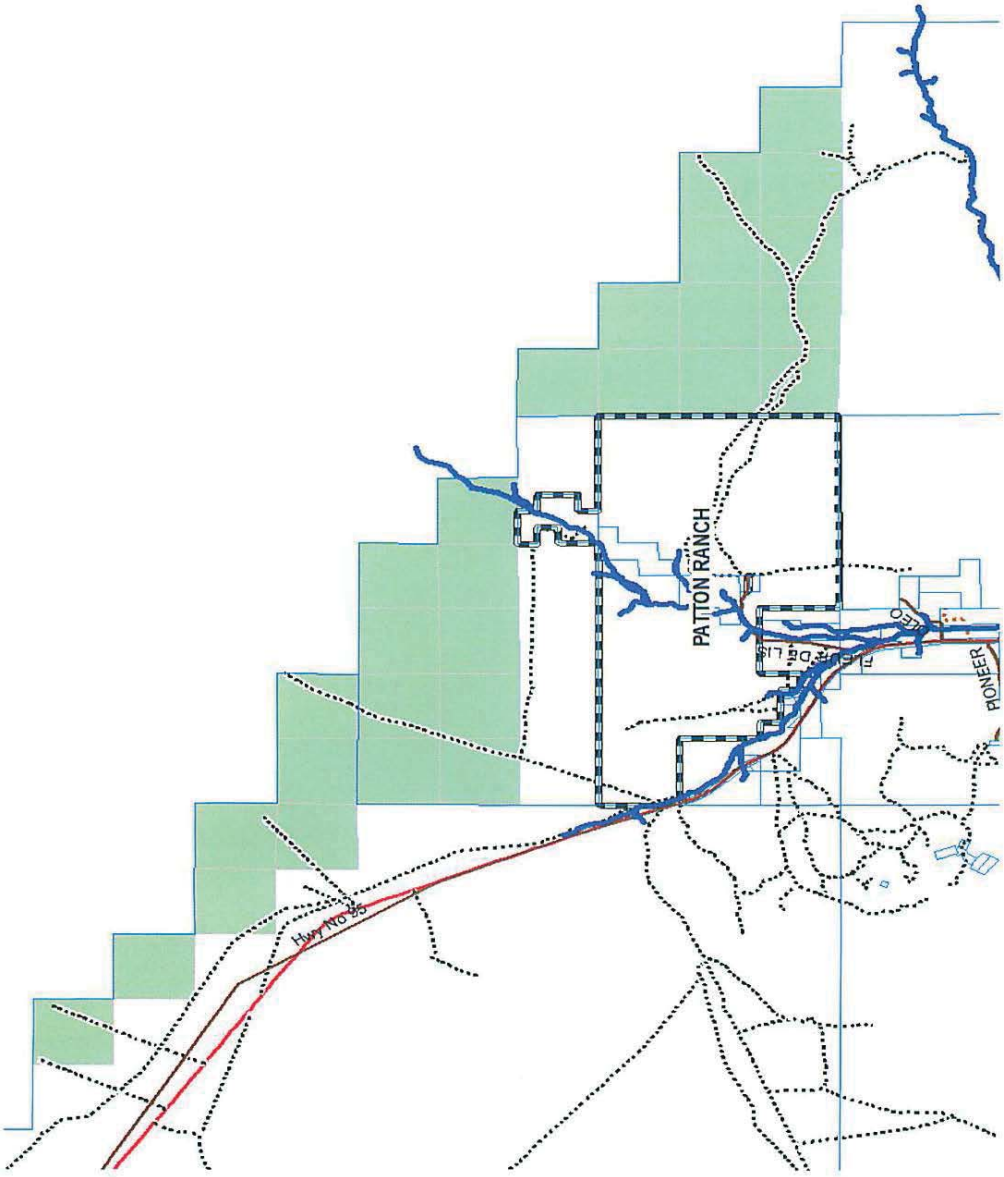

Airforce Land Withdrawl Proposal - Impacts to Beatty Recreation Ecomony
Legend
NV_Land_Ownership
NAME
Proposed Withdrawl
Bureau of Land Management
Department of Defense
Department of Energy
Fish and Wildlife Service
National Park Service
Private Land
RiversStreams
NV_Roads_100k
Rd_Type
US Route
Local
Interstate
Exit Ramp
TRAILS
Existing Private
Existing Public Lands
Proposed Public Lands
Proposed Paved Pathway
N
W
E
S
STORM-OV
Trails-OV
12/02/2016
1 in = 2,917 ft
Proposed Withdrawl
Proposed Withdrawl
Coffer Ranch
Spicar Ranch
BEATTY
HWY 95
HWY 95
SR 374

5012



5013

Beatty General Improvement District
PO Box 316
Beatty, Nevada 89003

99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste.107
Nellis AFB, Nv8919

February 15, 2018

RE: EIS No. 20170236, Draft, USAF, NV, Nevada Test and Training Range NTTR Land Withdrawal

Beatty General Improvement District is an entity created by the Nye County Board of Commissioners in 1974. Our creation then was for the betterment of the Community through outdoor recreation and that remains our primary function today forty-four years later.

Our only source of funding for our operating budget comes from the Beatty Town room taxes collected. It is not lost on us that the Communities shift in focus to outdoor recreation and ecotourism has had a positive impact on the room taxes collected. Because of the steady increase in tax collection, we have seen an increase in our annual operating budget, which has translated to our ability to provide a few new outdoor recreation opportunities to our constituents.

In the past few years we've made improvements to our community pool, we've purchased equipment that allows us to have movies in the park in the summer and we've been making plans for updating playground equipment and expanding some of our existing facilities. The ability to look forward and plan for improvements instead of just trying to maintain what we have is due in part to the increase in revenues. The communities focus on defining our primary industry ecotourism and the energy and excitement around the possible re-birth of our community will be in jeopardy without the current level of access to and use of our public lands in and around Beatty. SO-4

The Air Force and its contractors have been our neighbors for years and their contributions to Beatty are critical too. While their impact on Room Tax collection is negligible, their impact on our businesses and therefore other revenue generating taxes is not. The NTTR is a part of our heritage and it is one of our unique land uses Beatty and in Nevada but it should not infringe upon other unique land uses that are just as much a part of our heritage and just as important to our survival.

As a District created for the betterment of our Community, Beatty, we support Alternative 1 (Status Quo) Extend Existing Land Withdrawal and Management of the NTTR North and South Range no changes to the current NTTR land boundary combined with Alternate 4A a twenty year withdrawal period.

We fear the economic impact of any other alternative offered may prove devastating to the recent upward momentum of Beatty's physical, emotional and financial wellbeing.

Thank you for your consideration.

Sincerely,

Amina Anderson

Amina Anderson
Beatty General Improvement District
Secretary

A.4.2.6 Organizational Letters (CINs 6000-6032)

6000

Nevada Conservation League

Comments at the Public Meeting for the NTTR Military Land Withdrawal Legislative EIS
Prepared by Vinny Spotleson on behalf of the Nevada Conservation League
January 23, 2018

Hello my name is Vinny Spotleson, I am commenting tonight on behalf of the Nevada Conservation League, where I serve as Program Director.

- Nevada Conservation League recognizes that the Nellis Test and Training range plays a vital role in our national security, however for decades it has been able to provide that vital role while maintaining secondary jurisdiction over a large swath of important habitat in the Desert National Wildlife Refuge.
- The Nevada Conservation League opposes any expansion into the pristine lands that provide habitat to bighorn sheep, desert tortoise, over 500 species of plants and rare gila monster habitat
- We are also concerned about the further restrictions to recreation access within the Refuge. Nevadans and our members love to hike and hunt inside the refuge and any reductions in this activity would either hurt our tourism economy or drive locals into other, more crowded areas. LU-1 SO-3
- Due to the critical national security role of the NTTR, the No Action Alternative is not acceptable. On behalf of our supporters and members, we are urging the Department of Defense to adopt Alternative 1 and make no changes to the status quo management of the Wildlife Refuge.

NEVADA CONSERVATION LEAGUE
& EDUCATION FUND
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6001

FOR THE RECORD - ROBERT GAUDET

The Desert National Wildlife Refuge (DNWR) is a hidden gem sprawled across 1.6 million acres of the Southern Nevada landscape. Located just 25 miles northwest of downtown Las Vegas, the Desert Refuge provides hiking, birding, hunting, horseback riding, ATV adventures, backpacking, and camping activities on fee-free public land. The U.S. Air Force has proposed a land withdrawal that will take nearly 300,000 acres of land away from the Desert Refuge ending public access in many areas.

The Air Force claims to need the extra space for expanded buffer zones and high speed aircraft that have outgrown areas previously annexed from the Desert Refuge during World War II and later withdrawals. With the Nevada Testing and Training Range currently occupying 2.9 million acres, further encroachment on the DNWR, bringing intense military action closer to the city of Las Vegas, is something many Southern Nevada residents adamantly oppose. It is also vehemently opposed by the Nevada Wildlife Federation, WHIN, Friends of Nevada Wilderness, the Las Vegas Chapter of the Mule Deer Foundation, along with many other wildlife conservation groups.

5 reasons to save the DNWR.

1. Protection of Wilderness Areas
The labeling and protection of wilderness is a largely American concept. Today, only 5% of America can be labeled as wilderness. Lucky for us, we have 1,000's of acres in our backyard! Nevada's wilderness and areas protected as wilderness provide pristine habitats that remain largely untouched by human influence. Unfortunately, these areas are some of the few left on the entire planet!

2. Preserving Desert Bighorn Habitat
The DNWR was first protected in 1936 to provide habitat for bighorn sheep. In 1973, Nevada designated the desert bighorn sheep as the official state animal. More than 500 desert bighorn call the area home, with many of them retreating high into the rugged terrain of the Sheep Range. Many field researchers have been monitoring the population of bighorn sheep in Nevada due to their decline in recent years. It is believed that the DNWR is home to the largest concentration of bighorn sheep! It would be a shame if hikers, photographers, or researchers lose access to these majestic creatures.

3. Half of the DNWR is Already Inaccessible
During World War II, shortly after the DNWR was dedicated, 846,000 acres were given to the War Department to be used as an aerial bombing and gunnery range. Over the years, more swaths of land were acquired for military use. While we fully support our nation's troops, we also understand that wildlife cannot see these imaginary lines called borders we create. The Desert Refuge was initially created to protect wildlife not scare them with artillery shells and bombing exercises. Do we really need 300,000 more acres of destroyed wildlife habitat?

6001

4. Rich Historical Significance

Alamo and Mormon Well roads traverse the DNWR from the Corn Creek Station Visitor's Center. These roads were originally created as a wagon trail by pioneers who settled in the Las Vegas Area. Using these historical trails, visitors can view historical sites from Natives like petroglyphs and Agave roasting pits or remnants of the pioneer era like the Dry Lake Corral. The area has a rich history spanning a millennium as the land sustained both Native tribesmen and 19th century settlers. Today, they leave behind stories in the desert's time capsule that echoes memories of a simpler time in history.

5. Exclusive Recreational Opportunities

There are many secret treasures to be discovered in visiting the DNWR. Many backpackers enjoy the Hidden Forest Cabin destination. Located at the end of Hidden Forest road, is a trail leading to another historical destination in the DNWR, Hidden Forest Cabin. The cabin was constructed in the late 1800's to house the resident game warden. Over the years it has had many uses and today is a resting place and water source for hikers/backpackers. There are several large sand dunes and dry lakes preserved through time visitors can explore. Also, car camping is allowed in the Desert Refuge along the length of the roads within 50 feet and back-country camping is allowed throughout the entire refuge if it is at least ¼ mile away from water sources. The DNWR is a unique outdoor lover's paradise worth protecting and saving for future generations.

LU-1

Thank you.

Robert Gaudet

Robert Gaudet, President,
Nevada Wildlife Federation, Inc.
[redacted]
Las Vegas, Nevada 89156
702-271-5573

"WILDLIFE AND ITS HABITAT CANNOT SPEAK,
SO, WE MUST AND WE WILL". ***Teddy Roosevelt***

ROBERT P. GAUDET
PRESIDENT
NEVADA WILDLIFE FEDERATION

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6002

For the Record

Robert Gaudet

President Teddy Roosevelt once said, "Wildlife and its Habitat Cannot Speak, So, We Must, and We Will" I am speaking today on behalf of over 228 thousand sportsmen and women state wide and over 6 million nationwide unable to attend today. I am president of the Nevada Wildlife Federation, founded in 1951, we are the oldest wildlife conservation education group in the state of Nevada. We are deeply concerned about the proposed land withdrawal by the U.S. military from the Desert National Wildlife Refuge (DNWR).

The DNWR encompasses 1.6 million acres (over 2,200 square miles) of the diverse Mojave Desert in Southern Nevada. The refuge includes six major mountain ranges, of the six, the Sheep Range is the highest, most scenic, and supports the greatest diversity of wildlife and vegetation. Numerous wildlife species share the refuge with the bighorns. Mule deer, coyotes, badgers, bobcats, foxes, and an occasional mountain lion are the larger mammals. Over 260 species of birds have been identified on the range. Examples are phainopepla (fain-o-pep-la) ni-tens, roadrunner, pinyon jay, house finch, loggerhead shrike, red-tailed hawk, and golden eagle.

One of the things that makes our Nation great and the envy of the world, are our public lands and our National monuments. If we continually lose our public lands, sooner or later we will lose our right to go hiking, hunting, camping, picnicking, backpacking, horseback riding and wildlife viewing, which is now permitted in the publicly accessible portion of the wildlife refuge. Although we vigorously support our U.S. military readiness, it should not come at the detriment of one of the most wild and important public spaces in our country.

We strongly oppose any action other than Alternative 1 (Status Quo) and Alternative 4 = 4A

Thank you.

Robert Gaudet

Robert Gaudet, President,
Nevada Wildlife Federation, Inc.
[redacted]
Las Vegas, Nevada 89156
702-271-5573

"WILDLIFE AND ITS HABITAT CANNOT SPEAK,
SO WE MUST AND WE WILL". ***Teddy Roosevelt***

6003

FOR THE RECORD:
My name is Robert Gaudet, I am President of the Nevada Wildlife Federation, Inc. I am speaking today on behalf of our 1000 plus members and supporters statewide and on behalf of the National Wildlife Federations, its 50 state affiliates and their 6 million members and supporters. We are extremely concerned about a proposal to withdraw approximately 300,000 acres from the Desert National Wildlife Refuge (DNWR) for military use. While it is essential that our U. S. military have access to adequate resources, this should not come at a detriment to one of the most wild and important public spaces in our country.

The 1.6 million acre DNWR is home to Nevada's largest population of bighorn sheep; protects countless other wildlife species, and safeguards ancient archeological sites. Located just a short drive from Las Vegas, the DNWR provides world-class recreational opportunities throughout its diverse environments that range from dry desert to forested mountain peaks. The Department of Defense (DOD) has already withdrawn 2.9 million acres of land for the Nevada Test and Training Range.

Previous expansions of the Range have resulted in joint jurisdiction of 826,000 acres of the refuge between the Air Force and U.S. Fish and Wildlife Service, 112,000 acres of which are under primary jurisdiction of the military and off-limits to the public. We support the first alternative presented by the DOD that would maintain the status quo, and we strongly recommend including language that would increase cooperation with the U.S. Fish and Wildlife Service to improve habitat management over the entire 1.6 million acre DNWR, including lands where the DOD has primary jurisdiction. Withdrawing an additional 300,000 acres from our public lands and the DNWR will threaten its wildlife and wilderness character, put archeological sites at risk of destruction, and prevent public access to a significant portion of the remaining publicly accessible part of the refuge.

BI-1
WI-1
CU-2
LU-1

We vehemently oppose this request to withdraw 300,000 acres from the DNWR, and we urge the DOD to leave these refuge lands under the sole jurisdiction of the U.S. Fish and Wildlife Service.

Thank you.
Robert Gaudet
Robert Gaudet, President,
Nevada Wildlife Federation, Inc.
[redacted]
Las Vegas, Nevada 89156
702-271-5573

"WILDLIFE AND ITS HABITAT CANNOT SPEAK,
SO, WE MUST AND WE WILL". ***Teddy Roosevelt***

6004

99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste.107
Nellis AFB, Nv8919

February 15, 2018

RE: EIS No. 20170236, Draft, USAF, NV, Nevada Test and Training Range NTTR Land Withdrawal

Three ladies that had been raised in Beatty, played in Rhyolite, and had roamed the hills of the Bullfrog Mining District, realized that a very important part of history was being lost, so they put together the Beatty Museum and Historical Society. After talking all their friends in becoming members they opened their first museum in a small cottage in 1995.

The primary source of funding for our operating budget comes from the Beatty Town room taxes collected. It is not lost on us that the Communities shift in focus to outdoor recreation and ecotourism has had a positive impact on the room taxes collected. Because of the steady increase in tax collection, we have seen an increase in our annual operating budget and because of this we opened another wing of our Museum in 2017.

The NTTR is a part of our history; we have many items and photos on display that tell the story of its history and its impact on Beatty and Nevada. The Air Force and its contractors have been our neighbors for years and their contributions to Beatty are critical too. While their impact on Room Tax collection is negligible, their impact on our businesses and therefore other revenue generating taxes is not.

Public lands provide habitat for many different species that rely on our protection. The natural desert canyons and majestic mountain peaks are what help make Nevada one of the greatest true Western experiences available for residents and tourist. The economic opportunities for towns along these public lands help strengthen our economy.

In the 2016 Outdoor Industry Report the Mountain States region had a 52 % participation rate. People gave the following reasons for exploring our beautiful lands. Sixty-eight percent stated they wanted physical exercise. Forty-nine percent was to enjoy the scenic beauty of nature. Family outings ranked at fifty-five percent and to escape the demands of daily life ranked in at forty-three percent. Providing access to our public lands gives our citizens a place to explore, create their own adventure while becoming aware of the great state of Nevada.

One example of how history and the geology of the land can be combined to create an educational and enjoyable outdoor activity is the Beatty VFW Historical and Geological Tour that has been taking place annually since 2014. This event draws people from across the nation to Beatty, they tour the public lands around Beatty and learn about the unique geology that lent itself to the creation of the Bullfrog Mining District, the same District that brought the parents of the three ladies that started our organization to Beatty.

You can see how access to public lands is the reason Beatty exists today and we hope you can see how limiting or removing that access could severely cripple Beatty's economic climate putting it at risk of becoming just another town that used to be.

The Beatty Museum and Historical Society supports Alternative 1 (Status Quo) Extend Existing Land Withdrawal and Management of the NTTR North and South Range no changes to the current NTTR land boundary combined with Alternate 4A a twenty year withdrawal period.

Beatty's history shows that access to and use of public land can and does create communities. We would like the opportunity to continue to make history but we can't do it without the ability to share the natural beauty and the history of the land around us.

Thank you for your time.

Sincerely,

Amina Anderson

Amina Anderson
Beatty Museum and Historical Society
Manager

6005

VETERANS OF FOREIGN WARS OF THE UNITED STATES
DEPARTMENT OF NEVADA
JOHN STROZZI POST 12108
"The Can Do Post"
PO BOX 128 BEATTY, NEVADA 89003

99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

February 14, 2018

Since 2014 the Beatty VFW Post 12108 has sponsored a Historic / Geological Poker Run featuring the mining history of the area, the amazing geology, and the history of the natives who occupied the area for at least 14,000 years.

Our intent from the onset was to stimulate interest in the area that would bring much needed revenue through tourism to the town of Beatty and the surrounding area. One of our members spent countless hours driving and mapping the proposed routes to determine which ones would give the participants the most interesting experience. After the routes were mapped he and a Geologist / Mine Engineer wrote a guidebook explaining all the prominent features along the routes. After two years using the same route they designed additional loops, maps and guidebooks once again explaining all the features participants would encounter.

Every year the event has grown in participation, drawing people from across the State and the Nation. Every year our lodging industry sees a lift because participants fill up our hotels and RV Parks. Our local High School groups and our Boy Scout Troop are partners in the event. Through their partnering they raise money for uniforms, supplies and outings and other activities.

After the first two years the Post presented the maps and Guidebooks to the Chamber of Commerce, the Historical Society at the Museum, and various business to sell to off road explorers and history buffs in order to give off roaders an incentive to stay in Beatty and spend a few days learning about the unique outdoor recreation options available to them in Beatty.

This is an ecotourism event which is in keeping with Beatty's community economic development strategy, and the consistent increase in participation provides measurable results over years of execution. We see those results not only in the increase in participation numbers but also in room tax and consolidated tax revenue growth year over year.

We have also approached the Beatty Town Board and the County for their support in presenting a plan to the BLM to sign the above routes and make them designated off road trails such as exists in other areas which have proved to be successful in drawing visitors to those areas.

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Your proposed Alternative 3A would destroy all our work to date and stop all our plans for a future trail system by cutting off the only road that connects the trails on the East side of Route 95 with the West side making it impossible to do loop routes. Your maps that accompanied your presentation left a lot to be desired and when we presented your representative with actual topo maps of the areas in question they were unable to answer our concerns so we are including a map showing our routes superimposed on your presentation map that will allow you to better understand our concern. SO-4 GE-1

Your Alternative 3A and 3A-1would without a doubt have a negative impact on economic development through outdoor recreation in the Beatty area as it would not only curtail our plans for off road trails but also seriously impact David Spicer's efforts to promote Mountain Biking in the same areas that effect us. SO-3 SO-4

Based on all of the above we the members of the Beatty VFW Post 12108 are strongly opposed to Alternative 3A and 3A-1and are fully in support of Alternative 1 and Alternative 4A – 20 year withdrawal period.

It also appears that Alternative 2; Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges, should also be considered because it makes no sense to ask for more land to the East when on your maps it shows vast amounts of land under your control marked off as purposed wilderness area. PA-24

The question we purpose is why you would take land from the Beatty area that would impact economical growth and at the same time propose Wilderness in an area no civilian will ever be able to recreate on and in the process destroy a conservation area to the East? PA-24 SO-1 PA-5

In our opinion your complete proposal should be denied and the total area in question remains status quo, for the next 20 years.

Sincerely,

Rusty Anderson
Post Commander

6006

CAPITAL TRAIL VEHICLE ASSOCIATION (CTVA)
P.O. Box 5295
Helena, MT 59604-5295

January 6, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191
nttrleis@leidos.com

Re: Comments for the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS

Dear Legislative EIS Team,

We have assembled the following information and issues from our members and other motorized recreationists for the project record. We appreciate the opportunity to provide our comments for the Nevada Test and Training Range Military Land Withdrawal Legislative EIS. We enjoy riding our OHVs on primitive trails and roads on all multiple-use land managed by the Bureau of Land Management. BLM managed land provides a significant source of these OHV recreational opportunities. We are passionate about OHV recreation for the following reasons:

Enjoyment and Rewards of OHV Recreation

- Opportunity for a recreational experience for all types of people.
- Opportunity to strengthen family relationships.
- Opportunity to experience and respect the natural environment.
- Opportunity to participate in a healthy and enjoyable sport.
- Opportunity to experience a variety of opportunities and challenges.
- Camaraderie and exchange of experiences.
- We like to build and maintain trails for use by everyone.
- For the adventure of it.

Acknowledged Responsibilities of Motorized Visitors

- Responsibility to respect and preserve the natural environment. We are practical environmentalists who believe in a reasonable balance between the protection of the natural environment and the human environment.
- Responsibility to respect all visitors.
- Responsibility to use vehicles in a proper manner and in designated places.

- Responsibility to work with land, resource, and recreation managers. We are committed to resolving issues through problem solving and not closures.
- Responsibility to educate the public on the responsible use of motorized vehicles on public lands.

Our position is that the existing system of OHV routes does not adequately meet the needs list above. The benefits to the public would greatly benefit from an enhanced system of OHV routes.

We feel that we are representative of the needs of the majority of visitors who recreate on public lands but may not be organized with a collective voice to comment on their needs during the public input process. These independent multiple-use recreationists include visitors who use motorized routes for family outings and camping trips, weekend drives, mountain biking, sightseeing, exploring, picnicking, hiking, ranching, rock climbing, skiing, camping, hunting, RVs, shooting targets, timber harvesting, fishing, viewing wildlife, snowmobiling, accessing patented mining claims, and collecting firewood, natural foods, rocks, etc. Mountain bikers have been observed to prefer OHV trails because we clear and maintain them and they have a desirable surface for biking. Multiple-use visitors also include physically challenged visitors including the elderly and veterans who must use wheeled vehicles to visit public lands. All of these multiple-use visitors use roads and motorized trails for their recreational purposes and the decision must take into account motorized designations serve many recreation activities, not just recreational trail riding. We have observed that 97% of the visitors to this area are there to enjoy motorized access and motorized recreation. Our position is that the existing system of OHV routes does not adequately meet the needs listed above. The benefits to the public would greatly benefit from an enhanced system of OHV routes. The agency has a responsibility to adequately identify the needs of the public including those not comfortable with the agency's process and reasonably provide for those needs.

Motorized access and recreation is the means to provide the majority of the public access to and enjoyment of our public lands. We are not a special use group. We are representative of the majority of the public yet we are singled out and denied our right to enjoy public lands on an equal basis. We are looking forward to your careful consideration of our issues and concerns. The project analysis and decision must include the development of a reasonable Pro-Recreation alternative that adequately addresses the needs of the public for motorized access and recreation. We are looking forward to the development of a reasonable Pro-Recreation alternative for the Nevada Test and Training Range Military Land Withdrawal Legislative EIS that perpetuates existing OHV use and adequately mitigates any OHV closures. PA-63

OUTLINE OF SIGNIFICANT ISSUES

Significant overarching issues associated with the proposed action include:

1. Lack of Reasonable Alternative to Address the Public's Need for More Motorized Access and Motorized Recreational Opportunities PA-63

- There are over 500,000 OHV recreationists in Nevada and surrounding states that use the project area. The project area is a highly desirable OHV destination.
- The analysis does not include an alternative that would provide a reasonable level of motorized trail opportunities to meet the existing and future needs of OHV recreationists.

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- The agency must adequately identify the needs of motorized recreationists and OHV recreationists including those motorized recreationists that the process does not comfortably accommodate and reasonably provide for those needs.

2. Lack of a Reasonable Alternative to Address the Need for Motorized Access and Motorized Recreation for Youth — PA-63

- The analysis does not include any alternatives that would provide motorized opportunities to replace the closure of opportunities close to town.
- The project areas close to town are used extensively by youth and are being taken away without adequate consideration of the need.
- Consideration for motorized trail riding opportunities for the youth has not been given a hard look.

3. Lack of a Reasonable Alternative to Address the Need for Motorized Access and Motorized Recreation for the Elderly, Handicapped, and Disabled — PA-63

- The analysis does not include any alternatives that would provide motorized opportunities to replace the closure of opportunities close to town.
- The project area is used extensively by elderly, handicapped, disabled and veterans and is being taken away without adequate consideration of this significant public need.
- The analysis does not include reasonable alternatives that would provide motorized opportunities that adequately meet the needs of the elderly, disabled and veterans.
- Consideration for motorized trail riding opportunities for the disabled, elderly, and veterans has not been given a hard look.

4. Fails to Adequately Address the Impacts On and Benefits of Motorized Recreation on the Human Environment — LU-1, SO-3

- A healthy human environment includes adequate motorized access and motorized recreational opportunities as required to meet the needs of the public.
- The public is losing a lifetime of motorized access and motorized recreational opportunities for reasons that are not significant when judged with a reasonable sense of magnitude.
- The motorized closure trend being enacted by both the BLM and Forest Service are destroying a culture which is based on motorized access and motorized recreation in our public lands. The analysis has not given this significant issue a hard look.
- Our pursuit of happiness has been significantly impacted by all of the motorized closures.
- The significant closing of motorized routes in the project area does not meet the basic requirement of the NEPA act of 1969 as stated in “Sec. 101 (b) (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life’s amenities”.
- The decision significantly affects our pursuit of happiness and the quality of the human environment.

5. Over-Represents the Public’s Need for More Wilderness

- Per the MVUM, less than 3% of the visits to our national forests are for wilderness recreation and 97% of the visits are for multiple-use.
- Management of our public lands must reflect the ratio of visitors and meet their needs in an equal manner.
- Current wilderness is poorly managed and to create more only compounds the problem.

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- The current planning process is being used as a backdoor process to create defacto wilderness areas by closing motorized access and motorized recreation on lands designated for multiple-use.

6. Improperly Considers Roadless Areas
   - The proposed alternative effectively converts multiple-use lands to defacto wilderness lands which circumvents congressional law and the wilderness designation process. PA-64

7. Does Not Adequately Consider Cumulative Impact of All Motorized Closures CM-4
   - Motorized recreationists have been hammered by motorized closure after motorized closure on BLM and Forest Service managed lands.
   - The analysis does not adequately disclose the amount of motorized access and motorized recreation that has been lost to public use since the 1960's.
   - Travel plan and other planning actions have closed 25 to 75% of the historic motorized routes and all cross-country opportunities.
   - The significant negative cumulative effect of all motorized closures on the public have not been adequately evaluated and mitigated in this proposal.
   - The significant negative cumulative effect of all motorized closures on the youth, disabled, elderly, and veterans has not been adequately evaluated and mitigated in this proposal.
   - The recent motorized closures in surrounding areas have not been adequately considered and mitigated in this proposal.
   - The public has been squeezed into too small of an area with too few motorized routes. Every weekend when we talk to fellow motorized recreationists they ask us where they can go to ride trails and camp.
   - The cumulative effect of this decision combined with many other similar motorized closure decisions significantly affects our pursuit of happiness and the quality of the human environment.
   - The continual closure of motorized access and motorized recreation on lands managed by the Agency demonstrates it intent to eliminate motorized access and motorized recreation without adequately disclosing their intent and the cumulative effect.

8. Fails to Recognize the Lack of Long Distance Motorized Trail Systems
   - Fails to address past illegal motorized closure actions used to create non-motorized trail systems
   - The agency has developed many long distance non-motorized trail systems similar to the CDNST and PCT.
   - The agency has not develop any long distance trail systems for motorized recreationists.
   - Long distance motorized trail systems would see far more use than non-motorized trails.
   - Long distance motorized trail systems would provide far more benefit to the human environment including economic benefit.

9. Fails to Adequately Identify and Address the Imbalance of Trail Opportunity on our Public Lands
   - There are far more miles of non-motorized trail available in our public lands.
   - The miles of non-motorized and motorized trail in our public lands has not been adequately disclosed.
   - Miles of trail in wilderness areas and quality must be adequately disclosed.

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- Non-motorized opportunity must be compared to motorized opportunity including the miles of trails, costs and conditions, and number of users.
- Every BLM and Forest Service action creates more non-motorized trail opportunities and less motorized opportunities.
- Non-motorized recreationists have hundreds of potential opportunities in the project area. Motorized recreationists have very limited opportunities as demonstrated by the travel plan map.

10. Does Not Provide for a Reasonable Level of Multiple Use — LU-2
- The lands in the project area are designated by congress for multiple-use.
- The proposed action is illegally converting lands designated for multiple-use by congress into defacto wilderness areas. — PA-64
- The existing routes, mines, historic use, and current use demonstrate that the area does not qualify as wilderness and, therefore, should not be treated as wilderness. — PA-64
- Management for multiple-use best meets the overall needs of the public.
- Congress recognized that management for multiple-use best meets the needs of the public and gave their direction in the law.
- The agency is applying wilderness standards to lands designated for multiple-use. — PA-64
- Some visible use of the land for the good of the public is reasonable.
- The proposed land use actions would effectively convert congressional designated multiple-use lands to defacto wilderness which circumvents congressional law and the wilderness designation process. — PA-64
- Public lands need to be made great again by restoring wide-ranging multiple-use management to all multiple use lands.

11. Unreasonable Use of Climate Change as a Reason to Eliminate Motorized Access and Motorized Recreation
- Motorized recreation is not a significant factor.
- If CO2 is a significant factor, then forest fires are a significant impact and this impact must be adequately addressed.

12. Required to Provide Adequate Coordination with Local and State Government — NP-1
- Coordination with all surrounding counties is required and has not been adequately provided.

13. Fails to Adequately Recognize and Address RS2477 Route Standing — PA-65
- The proposed action closes and obliterates many routes that have RS2477 standing and should be perpetuated for public motorized access and use as originally allowed by the law.

14. Arbitrary and Capricious Analysis and Decision-Making — PA-17
- There are no site specific studies and analysis of OHV recreation as required by NEPA.
- Reasons are being used to close motorized opportunities that do not have data and studies to back them.
- Studies that support OHV recreation or give an unbiased analysis are being ignored.
- Impacts on fish and wildlife are being assumed (imagined) without adequate site specific data and studies.

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- Impacts on the natural environment are being assumed (imagined) without adequate site specific data and studies.
- The Agency is creating and using bogus issues to justify the closure of valuable motorized access and motorized recreational opportunities.
- The road density criteria assigns equal impacts to single-track motorcycle versus ATV trails versus forest roads versus highways. This criteria is not site specific as required by NEPA and is obviously false. PA-17

15. Fails to Adequately Address Justice Issues
    - The Agency is simply overwhelming the general public with involvement requirements and catering to environmental groups with paid representatives so that they can further their protectionist agenda in the end.
    - The agency must adequately identify the needs of the silent majority including motorized recreationists and OHV recreationists and reasonably provide for those needs.
    - The proposed action includes many non-motorized trail opportunities.
    - The proposed action does not include any OHV trail opportunities.
    - The Agency presents itself as “an equal opportunity provider, employer and lender.”
    - Our public lands have considerably many more miles non-motorized trails than motorized trails.
    - There is not an equal opportunity in miles of trail and quality of experience for ATV recreationists.
    - There is not an equal opportunity in miles of trail and quality of experience for motorcycle single track recreationists.
    - The inter-disciplinary team does not include ATV, motorcycle single track, UTV and full-size 4x4 enthusiasts.
    - Motorized recreationists are the only group to lose in every BLM and Forest Service action and are bearing a disproportionate share of the negative consequences.
    - The Agency is making decisions that ignore the overall needs of the public for motorized access and motorized recreation, equal opportunity requirements, and congressionally directed management for multiple-uses.
    - Motorized recreationists cooperated with the travel management rule believing that travel management planning would be reasonable. In reality travel management planning has been a massive motorized closure process and our trust has not been honored.
    - Motorized had been marginalized since the 1960’s without adequate disclosure and analysis of the significant negative impacts on the public and the needs of the public for motorized access and recreation.
    - The lack of adequate and full disclosure of significant impacts on motorized recreationists and the lack of adequate and meaningful consideration of the needs of motorized recreationists including OHV recreationists by the agency must stop with this action.
    - In the past OHV recreationists trusted the agency with the belief that they would look after our needs and we agreed to cooperate and be managed based on that belief. However, in return our needs were ignored and OHV recreationists were rewarded with excessive motorized closures. It is time to compensate and mitigate for this injustice.
    - Motorized recreationists including our members have worked hard to maintain all of the existing routes in the project area for over 40 years and have received no recognition for that effort and dedication.

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- The proposed action is overly influenced by well-funded elitist environmental groups that represent less than 3% of the visitors but seek exclusive rights to everything. Their excessive influence on public land managers is taking excessive amounts of public land from the public.
- By continuing to ignore the significant needs and issues of motorized recreationists the Agency is creating the need for a significant corrective action to address those needs and issues in the future.

16. Overstates the Impact of Motorized Access and Motorized Recreation on Fish and Wildlife

- The analysis has not adequately considered data and studies that supports an unbiased and a balanced view of how motorized recreation impacts the natural environment.
- The analysis does not have adequate site specific data and studies as required by NEPA to justify motorized closures. PA-17
- Impacts from all users groups and natural impacts must be adequately compared to demonstrate a true sense of magnitude for impacts. GE-11
- Alternatives to wholesale motorized closures that would mitigate fish and wildlife concerns were not given a hard look.
- The common claim that "states own wildlife" is incomplete, misleading and needlessly deepens divisions between federal and state governments and creates unnecessary conflicts and impacts on the public that uses federal lands.
- The road density impact criteria being used is not site specific. PA-17
- The road density impact criteria being used grossly over-estimates the impact on wildlife.
- The road density impact criteria being used is not a reasonable measure of motorized impact on wildlife habitat.
- Topography is a significant factor affecting wildlife habitat. Topography such as in the project area greatly reduces the impact on wildlife and is just as effective as or more effective than cover. The analysis does not reasonably consider topography.
- A motorized trail does not have the same impact on wildlife as a road. The impact analysis assumes one size fits all. A criteria and impact analysis must be developed that differentiates between different treads and level of use.
- OHVs cause less severe disturbance of wildlife because the relatively low level of noise that they emit provides a soft warning of their presence and especially compared to non-motorized recreation. For example, OHVs have never had a damaging encounter with a grizzly bear while hikers and hunters have had many that have ended badly for both the humans and the bear.

17. Overstates the Impact of Motorized Access and Motorized Recreation on the Natural Environment

- The analysis has not adequately considered data and studies that supports an unbiased and a balanced view of how motorized recreation impacts the natural environment.
- The analysis does not have adequate site specific data and studies as required by the NEPA to justify motorized closures. PA-17
- Impacts from all users groups and natural impacts must be adequately compared to demonstrate a true sense of magnitude for impacts.
- Alternatives to wholesale motorized closures that would mitigate natural environment concerns were not given a hard look.

- A motorized trail does not have the same impact on the natural environment as a road. The impact analysis assumes one size fits all. A criteria and impact analysis must be developed that differentiates between different treads and level of use.

18. Motorized References need to be adequately considered
    - The analysis has not adequately considered information that supports the need and value of motorized recreation.

19. Maintenance, Funding and Gas Tax Issues
    - The analysis has not adequately considered information that identifies significant issues surrounding maintenance, funding and gas tax issues.
    - If motorized is removed, then motorized funds should not be used in the area.
    - If motorized is removed, then motorized funds used previously in the area should be returned for use on motorized projects.

Please use our comments to support the protection of existing OHV opportunities, the development of new OHV opportunities to mitigate any closures that are required and to counter any anti-OHV comments.

Thank you for considering our comments.

Sincerely,

/s/ CTVA Action Committee on behalf of our 240 members and their families and friends
Capital Trail Vehicle Association (CTVA)[1]
P.O. Box 5295
Helena, MT 59604-5295

Contacts:

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[1] CTVA is also a member of Montana Trail Vehicle Riders Association (mtvra.com), Blue Ribbon Coalition (sharetrails.org), and New Mexico Off highway Vehicle Alliance (nmohva.org),. Individual memberships in the American Motorcycle Association (ama-cycle.org), Citizens for Balanced Use (citizensforbalanceduse.com), Families for Outdoor Recreation (ffor.org), Montana 4X4 Association, Inc. (m4x4a.org), Montana Multiple Use Association (montanamua.org), Snowmobile Alliance of Western States (snowmobile-alliance.org), and United Four Wheel Drive Association (ufwda.org)

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Important Note

Important information that would expose the significant issues associated with the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS have not been adequately disclosed to the public and, therefore, are not available to us. To demonstrate the information that must be developed and evaluated, we are providing the following comments that include highlighted information that serve as examples of the type of information that must be developed as part of the evaluation of the planning process.

Highlighted Information on the following pages are provided to demonstrate the type of information that must be developed as part of the public disclosure process and used in the evaluation and decision-making process. The information needed to fill in the highlighted comments for the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS is not available to us. Additionally, the data that is available to us is seriously out of date following all of the changes originating from monument designations and BLM planning actions. The highlighted Information is provided as an example of the information that must be collected and the analysis that must be undertaken for an adequate NEPA analysis and for full and honest public disclosure. The development of this information and the analysis is the agency's responsibility. Full and adequate consideration of these issues, comments, and information will easily justify an alternative to enhance existing motorized recreational opportunities. We look forward to an analysis that adequately addresses these comments. We would appreciate receiving copies of the highlighted information when it developed by the agency.

GE-18

Again, Highlighted Information for the Helena National Forest is used as the example in the following comments with the request that the Helena National Forest examples be used to develop the appropriately information for the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS in order to adequately identify and address the significant issues and needs of motorized recreationists.

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CTVA Comments
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Remember: Yellow Highlight is provided as an example of the information that must be developed for this plan in order to adequately identify and address significant issues.

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1. Must Adequately Address the Public's Need for More Motorized Access and Motorized Recreational Opportunities

1. The agency has a responsibility to adequately identify the needs of the silent majority including motorized recreationists and OHV recreationists. Once properly identified, then the agency must adequately and reasonably provide for the needs of the silent majority including motorized recreationists and OHV recreationists.

2. There is an estimated 147,828 OHV visitors to the Helena National Forest each year. At 20 miles per visit, OHV visitors log a total of 2,956,560 miles on OHV routes. We have observed that there is significantly more construction and maintenance provided for non-motorized trails in the Helena National Forest when compared to motorized trails and the amount of use that they receive. As a result, non-motorized trails are in better condition and there are more miles of non-motorized trail per user. Construction and maintenance efforts for motorized trails should be at least equal to that expended on non-motorized trails. This inequity is a significant issue that must be adequately addressed. For example, the Forest Service provides hundreds of wilderness rangers to patrol the wilderness, and educate wilderness visitors. Multiple-use Rangers are almost non-existent even though the ratio of multiple-use visitors to wilderness visitors is over 100:1. As required by NEPA, the evaluation and document must disclose the dollars expended annually in the Helena National Forest for construction and maintenance efforts for motorized trails and non-motorized trails. The decision must move in the direction of a motorized trail system that is equal to the non-motorized trail system. The decision must also move in the direction of an equal allocation of maintenance dollars.

3. Based on our estimate that 40% of the visitors are OHV recreationists, we estimate using the NVUM data for total visitors that the total number of OHV visits to the Helena National Forest is 203,200 = (508,000 x .40).

4. In addition to the studies cited above, we have observed that 98% of the visitors to multiple-use areas are enjoying multiple-use activities based on motorized access and motorized recreation as shown in Table 1.

Table 1

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TOTAL ANNUAL OBSERVATIONS ON MULTIPLE-USE PUBLIC LANDS 23-Dec-17

Date	Vehicles Motorized Access (Note 1)	OHV/Snow	FWD/WoodC	MTN Bike	Equestrian	X-C Skiers	Hikers / Runners	General Area/Comment	Vehicles at Hiking Trailhead (Note 2)	National Forest
1999	5	342	37	11	10	0	25	See specific years and notes below	0	
2000	11	223	49	26	3	7	15	See specific years and notes below	0	
2001	433	425	58	28	36	3	12	See specific years and notes below	15	
2002	626	499	87	72	23	7	23	See specific years and notes below	46	
2003	904	651	17	66	18	10	27	See specific years and notes below	26	
2004	869	571	62	21	13	19	11	See specific years and notes below	35	
2005	1,322	847	89	38	29	6	20	See specific years and notes below	80	
2006	990	655	55	21	7	0	35	See specific years and notes below	18	
2007	948	603	27	42	22	17	2	See specific years and notes below	69	
2008	1,437	690	38	39	10	30	24	See specific years and notes below	12	
2009	1,227	894	85	35	7	17	4	See specific years and notes below	59	
2010	1,352	1,037	49	11	2	26	16	See specific years and notes below	5	
2011	1,194	766	80	16	14	9	14	See specific years and notes below	7	
2012	1,072	758	44	17	4	8	15	See specific years and notes below	15	
2013	1,000	673	47	15	0	0	29	See specific years and notes below	2	
2014	837	618	72	7	13	0	2	See specific years and notes below	0	
2015	1,071	695	67	13	3	0	15	See specific years and notes below	0	
2016	963	639	53	21	2	0	18	See specific years and notes below	0	
2017	540	342	17	16	0	0	10	See specific years and notes below	0	
Column Total	16,801	11,928	1,033	515	216	159	317		389	
								Total Observations on Multiple-Use Lands	30,969	
			Mechanized Total	30,277		Non-mech Total	692			
			Mechanized %	98%		Non-Mech %	2%			

Note 1: Motorized access counted as vehicles being used for **fishing only** in 1999. Counted as vehicles (not occupants) which under-estimates actual motorized visitors.
Note 1: Motorized access counted as vehicles being used for **fishing and hunting only** in 2000. Counted as vehicles (not occupants) which under-estimates actual motorized visitors.
Note 1: Motorized access counted as vehicles being used for fishing, hunting, sightseeing, picnicing, dispersed camping, rock climbing, and wildlife viewing not counted in other categories from 2001 forward. Counted as vehicles (not occupants) which under-estimates actual motorized visitors.
Note 2: Vehicles at hiking trailhead from 2001 forward are shown to demonstrate magnitude of use but are not counted because they are not visiting multiple-use lands.

Data Source: Capital Trail Vehicle Association

Our observations of recreationists on multiple-use public lands from 1999 through 2017 is summarized in the table above (yearly data sheets available upon request) and demonstrates that out of 30,969 observations, 30,277 recreationists or 98% of the visitors were associated with motorized access and multiple-uses. Additionally, of the total number of people visiting public lands, 39% (11,928 / 30,969) were associated with OHV recreation. **Furthermore and of utmost importance, out of the 13,135 (11,928 + 515 + 216 + 159 + 317) visitors that we observed using trails, 11,928 or 91% were OHV recreationists and 1,207 or 9% were non-motorized recreationists. The group of 9% includes mountain bikes which are a form of mechanized travel. All mechanized trail users add up to 12,443 observations or 95% of the total 13,135 using trails. Therefore, the use of trails is 11.1:1 motorized versus non-motorized and the use of all routes is 20:1 mechanized versus non-motorized.** Therefore, nearly all (98%) of the visitors to public lands benefit from management for multiple-use and benefit from motorized access and mechanized recreational opportunities which are consistent with our observations. **Therefore, 91% of the trail users are motorized and 95% when including mountain bikes which enjoy using the same trail tread and trails. Therefore, in order to be reasonably responsive to the needs of the public at least 90% to 95% of the**

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trails system and public land should be managed for multiple-uses including motorized access and recreation.

5. Out of the 30,969 recreationists that were observed, 317 were hikers and 216 were equestrians and all of the meetings were pleasant. We have not experienced any user conflict in 19 years of observations.

6. The National Recreational Trails Advisory Committee identified trail-user conflicts on multiple-use trails as a concern that needed attention. The Committee worked with the Federal Highway Administration to produce a report (https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/9849/GV_191.67_T7M66_1994.pdf?sequence=1) to promote a better understanding of trail conflict, and identify approaches for promoting trail-sharing. The goal of the report was to promote user safety, protect natural resources, and provide high-quality user experiences. It reviews management options such as trail design, information and education, user involvement, and regulations and enforcement. The report found very sound ways to promote cooperation and understanding among trail users and presented ideas that will help reduce conflict on multiple-use trails. The report provides 12 principles for minimizing conflicts on multiple-use trails and we ask that each of these principles be incorporated into the travel management plan.

7. Based on Southern Recreation Report estimates that 29.1% of the visitors are OHV recreationists, the total number of OHV related visits to the Helena National Forest is 147,828 (508,000 x .291) (see NVUM citation for total number of forest visitors above). Given the 148 miles of existing motorized trails, there are 985 (147828 / 148) OHV visitors per mile of motorized trail or 1 OHV visitor every 5.3 feet. Given the 541 miles of non-motorized trail and 3,000 wilderness visitors, there are 5.55 (3,000 / 541) non-motorized visitors per mile of trail or 1 non-motorized visitor every 952 feet. Note that these statistics are at least 6 years old and do not reflect the motorized closures that have occurred during the last 6 years. This imbalance of opportunity cannot be considered equal program delivery and the proposed action must address this significant issue by creating more motorized trails. Clearly the current proposal would be a step in the wrong direction.

8. The typical use of public lands and the typical needs of the public in our region are described on Table 2-7 in the Social Assessment of the Beaverhead-Deerlodge National Forest dated October 2002 (http://www.fs.fed.us/r1/b-d/forest_plan/revision/reports_documents/social/Forest%20Social%20Assessment%20Masterfinal%20.pdf). This document reported that the total number of forest visitors in Forest Service Region 1 for year 2000 was 13,200,000. The total number of wilderness visits was estimated at 337,000 or 2.55%. Therefore, millions of visitors to public lands (nearly all at 97.45%) benefit from management for multiple-use and benefit from motorized access and mechanized recreational opportunities which are consistent with our observations of visitors enjoying motorized access and mechanized recreation on public lands.

   The agency has overlooked one important aspect of the visitor use data. The visitor use data cited above is based on a percent of the total population. However, the percent of the total population visiting our public lands is a fraction of the total population. Public lands should be managed for those people that actually visit them. We request that this adjustment be made in this evaluation.

   The total number of individuals that visit our national forests is about 56 million (personal communication Don English, National Visitors Use Monitoring Program, Forest Service, November 29, 2005). Our total U.S. population is about 286 million (2000 Census Data). Therefore, only about 20% (56 million/286 million) of the total U.S. population actually visits our

national forests. This number needs to be used as the denominator (baseline) for total forest visitors.

Forest Service Chief Dale Bosworth recognized the true popularity and magnitude of motorized recreation in his January 16, 2004 speech which stated "Off-highway vehicles, or OHVs, are a great way to experience the outdoors. But the number of OHV users has just gotten huge. It grew from about 5 million in 1972 to almost 36 million in 2000." We agree with the Forest Chief that 36 million is a significant number of recreationists. Additionally, the USDA Southern Research Station has recently validated the growing popularity of OHV recreation in their Recreation Statistics Update Report No. 3 dated October 2004 (http://www.srs.fs.usda.gov/recreation/RECUPDATES/RecStatUpdate3.pdf). This document reports that the total number of OHV users has grown from 36 million to 49.6 million or 38% by the fall 2003/spring 2004. Based on the 2000 estimates OHV and motorized recreationists are about 64% of the population that actually visits the forest (36 million / 56 million).

This is further substantiated on page 9 of a report prepared by National Survey on Recreation and the Environment (NSRE 2000) titled Outdoor Recreation Participation in the United States (http://www.srs.fs.usda.gov/trends/Nsre/summary1.pdf) which asks the question "During the past 12 months. Did you go sightseeing, driving for pleasure or driving ATVs or motorcycles?" The percent responding "Yes" was 63.1% and the total number in millions was estimated at 130.8 million. Additionally, NSRE is often referenced by the agency but the summary statistics are skewed against motorized recreation because driving for pleasure and OHV use are split out as separate groups. These two groups represent motorized recreation and if they are added together they are as large as any other group in the survey which correctly demonstrates the magnitude of motorized recreation.

Additionally, the Southern Research Station in their report Off-Highway Vehicle Recreation in the United States, Regions and States (http://www.fs.fed.us/recreation/programs/ohv/OHV_final_report.pdf) determined that of the total U.S. population in the West 27.3% participated in OHV recreation and that out of the total population in Montana 29.1% participated in OHV recreation. It appears that the study is diluting the actual percentage of OHV recreationists by using total population and not the population actually visiting and using the forest. As discussed above only 20% of the total U.S. population visits the forest. The percentage of Montanans that actually visit our national forests is higher than the national average and is estimated at ½ of the total state population. Based on this estimate, it is our opinion that about 60% (29.1% x 2) of the actual visitors to Montana national forests participate in OHV recreation.

These surveys and data demonstrates the significant popularity of motorized and OHV recreation and the tremendous public support and need for motorized and OHV recreational opportunities. We maintain that motorized recreationists are the main group of visitors out of the total population of visitors to the national forest visiting the forest 5 or more days per year. The needs and support of motorized recreationists must be adequately addressed in this planning effort by preserving all reasonable existing motorized recreational opportunities. This planning effort must also adequately address the increasing popularity by creating new motorized recreational opportunities.

9. The Southern Research Station in their report Off-Highway Vehicle Recreation in the United States, Regions and States (http://www.fs.fed.us/recreation/programs/ohv/OHV_final_report.pdf) determined that out of the total population in Montana 29.1% participated in OHV recreation. The U.S. census determined that the population in 2005 was 935,670 (http://quickfacts.census.gov/qfd/states/30000.html). Therefore, the number of OHV recreationists in Montana is 935,670 times 0.291 = 272,280.

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10. The Southern Research Station in their report Off-Highway Vehicle Recreation in the United States, Regions and States (http://www.fs.fed.us/recreation/programs/ohv/OHV_final_report.pdf) determined that out of the total population in Montana 29.1% or 272,280 individuals participated in OHV recreation. These numbers demonstrate the immense popularity of OHV recreation. These numbers demonstrate that there are not enough existing motorized recreational opportunities. These numbers demonstrate that the agency's motorized closure trend is contrary to the needs of the public. The magnitude of the number of motorized recreationists is real. The misrepresentation of visitor numbers must be discontinued. Proper emphasis must be given to motorized recreation. Additionally, the agency must understand and accept that many motorized recreationists do not participate in the NEPA process. Therefore, the agency should not be driven by the number of perceived participants and comments received. As originally envisioned and stated in law, the NEPA process should be driven by issues and needs and motorized recreationists have significant issues and needs. Motorized recreationists believe and hope that public agencies will look out for their issues and needs in an even-handed way. In other words, as the process works now, the needs of largely unorganized motorized interests including individuals and families are largely ignored. The agency must not be overly influenced by organized non-motorized groups and their significant lobbying, organized comment writing and legal campaigns. The agency must adequately emphasize the needs of lesser organized and funded motorized recreationists by developing an alternative that addresses the needs associated with the numbers and popularity of at least 272,280 motorized and OHV recreationists. The current set of alternatives does not meet these needs in a multiple-use area that is ideal for motorized use.

11. Motorized recreationists including motorcycles, ATVs, and 4x4 value highly semi-primitive and primitive motorized recreational opportunities. There is a great need for these opportunities and there is a real shortage of these opportunities due to current management trends. Also, motorized recreationists like to ride on motorized trails to remote trailheads, park, and hike from there.

12. Please incorporate the needs motorized recreationists as spelled out in the Outdoor Recreation Plan.

13. OHV recreationists need beginner loops near camping areas for those learning to use their machines and those not able to go on longer excursions.

14. The project area has significant potential for a system of motorcycle single track trails.

15. There are very few designated motorcycle single track trails in the project area.

16. Motorcycle cycle single track trails are a highly sought after experience that is in short supply.

17. The number of "single track" motorcycle trails that motorcycle riders seek has been significantly reduced over the last 35 years.

18. In past planning actions the agency did not give a hard look at the need for and use of motorcycle single track trail. This would be a good time to correct that issue.

19. "Single track" is a narrow trail that is approximately the width of the motorcycle. It contrasts with double track or fire road which is wide enough for ATV, UTV, and/or full-sized four-wheeled off-road vehicles. Single track is frequently smooth and flowing, but it may also exhibit technical rocky sections and may be crisscrossed with tree roots and other obstacles. Some trails are winding and flowing, while others are bumpy and challenging. Many single track trails offer features such as roots, logs and rocks. All of these experiences and challenges are highly

sought after by motorcycle riders. Single track trails can also be used by other recreationists including mountain bikers and hikers.

20. A program similar to the following is needed to help the agency better understand the needs of motorized single-track trail riders which have been ignored in the analysis.

    Single Track Summit - AZ State Park OHV Program

    Arizona State Parks Off-Highway Vehicle Program is excited to host this first ever event focused on bringing riders and land managers together to understand the unique trail requirements of motorcycle riders, building partnerships between rider groups and agencies, developing project proposals, and how to pay for all this work using YOUR OHV Fund. Everyone should leave this event with knowledge and contacts to help develop single track opportunities statewide.

    Please join us for what will prove to be a productive day with just enough fun stuff sprinkled in to make it exciting. We have a video short on single track riding, GoPro footage of local technical riding, and will screen the recently released adventure riding film about the Arizona Backcountry Discovery Route. Plus we will have some motorcycles on display that are used for single track riding and adventure touring.

    SINGLE TRACK SUMMIT SCHEDULE OF EVENTS
    Saturday 8:00am - 9:00am: Continental Breakfast and check-in
    9:00am: Summit Kickoff & Morning Presentations
    noon - Lunch and screening of the Arizona Backcountry Discovery Route
    1pm Afternoon Presentations & Meet the Land Managers
    4pm Summit Wrap Up
    Presenters
    Coconino National Forest & Coconino Trail Riders - The Kelly Canyon Experience
    Trail Riders of Arizona - Developing Partnerships
    Bureau of Land Management - Project Design and Long Distance Connections
    Arizona State Parks - Making it Rain, Project Funding Mechanisms and Doing Business with the State
    Tonto Recreation Alliance - Keys to Being a Good Partner
    Surprise Guests
    Sunday (optional)
    Trail Ride - Location to be determined, bring your own motorcycle

21. Motorcycle single track trails issue: New low impact motorcycle tires motorcycle single track trail riding are now available from Kenda, Goldentyre, Michelin, Pirelli, IRC, Dunlop and other manufacturers. These tires allow low impact cross country and single track trail use by motorcycles. This new technology must be given a hard look in an alternative that provides for more motorcycle single track trail opportunities.

22. Public understanding of the proposed alternatives would be greatly improved by implementing a mapping tool similar to the one developed by Idaho Parks and Recreation. This tool can be tried out at http://www.trails.idaho.gov/trails/ . Zoom in and click on a particular trail to see the information provided for each route. Earlier versions of this tool included GPS downloads for each route which would help assure that the public was on the right trail. This tool would also be useful after the analysis and decision to inform the public of the route designations.

23. OHV recreation is extremely popular in Montana. Registration statistics in 2012 show that there are 77,868 OHVs with both plate and OHV stickers, and 69,378 vehicles with OHV stickers for

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a total of 147,606 licensed OHV vehicles. The total number of OHV registrations equates to about one OHV for every 6 residents. Note that many OHVs are used by multiple residents. At 500 miles per year per OHV (a very conservative estimate), the total miles driven per year in Montana would equal 75,000,000 miles. At an average speed of 18 miles per hour, the total hours of OHV recreation per year in Montana is estimated at 4,167,000 hours. https://doj.mt.gov/driving/mvd-by-the-numbers/2012-total-vehicle-registrations-statewide/. At a value of $25 per hour the total value to the economy on Montana is $104,175,000 and the share attributable to the project area is a significant part of the economy.

24. Using a conservative estimate of 30 miles per visit and an average speed of 18 miles per hour, OHV visitors to the Helena National Forest travel 4,380,000 miles (146,000 x 30) and recreate at least 243,000 hours on their OHVs. The magnitude of these values indicates a significant need for OHV routes and a significant value in the use of those routes.

25. The Government Accounting Office (GAO) has recently released a report with recommendations on long- and short-term improvements that could reduce maintenance backlog and enhance the sustainability of trails on the public lands (http://www.gao.gov/products/GAO-13-618). Specific recommendations include Agency officials and stakeholders GAO interviewed collectively identified numerous options to improve Forest Service trail maintenance, including (1) assessing the sustainability of the trail system, (2) improving agency policies and procedures, and (3) improving management of volunteers and other external resources. In a 2010 document titled A Framework for Sustainable Recreation, the Forest Service noted the importance of analyzing recreation program needs and available resources and assessing potential ways to narrow the gap between them, which the agency has not yet done for its trails. Many officials and stakeholders suggested that the agency systematically assess its trail system to identify ways to reduce the gap and improve trail system sustainability. They also identified other options for improving management of volunteers. For example, while the agency's goal in the Forest Service Manual is to use volunteers, the agency has not established collaboration with and management of volunteers who help maintain trails as clear expectations for trails staff responsible for working with volunteers, and training in this area is limited. Some agency officials and stakeholders stated that training on how to collaborate with and manage volunteers would enhance the agency's ability to capitalize on this resource. CTVA has a long history of collaboration on trail construction and maintenance projects that we would like to continue to build on.

26. The House and Senate have passed H. R. 845 the National Forest System Trails Stewardship Act. The bill requires the U.S. Forest Service to develop a national strategy to maximize the use of volunteers to maintain trails on Forest Service land. CTVA members contribute hundreds of hours of labor and thousands of dollars in equipment and travel costs to maintain hundreds of miles of motorized trails. We are quite willing to build on this capability and, in turn, ask for recognition of our efforts and additional miles of multiple-use trails that we can maintain.

27. Additionally, OHV recreation generates millions of dollars in OHV gas tax revenues which should be used to for trail maintenance (see additional comments and Oak Ridge National Laboratory, 1994, Federal Highway Administration, Report ORNL/TM-1999/100, Federal Highway Administration, An 80 page summary of the fuel used for OHV recreation, http://www-cta.ornl.gov/cta/Publications/Reports/ORNL_TM_1999_100.pdf). Unfortunately, these dollars are not being applied to OHV trails. Bringing volunteers together with funding would solve nearly all of our OHV trail maintenance needs.

28. Motorized recreationists value high quality trails with destinations, views, vistas, and challenging riding.

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29. Because of the significant number of motorized visits to the forest and significant issues associated with motorized closures (both points are documented in our comments and the comments of other motorized recreationists), the preferred alternative must not reduce motorized opportunities. Moreover, in order to address the issues and needs of the public, a reasonable preferred alternative would provide for an increase in motorized opportunities.

30. There are many motorcycle single-track trail riding enthusiasts in the region. There are no significant motorized single-track trails in the proposed action. This is a significant need and the significant issue associated with not addressing this need has not been adequately addressed.

31. Motorized recreationists support the use of mountain bikes on the motorized trails. A reasonable alternative would be to share any proposed mountain bike trails with motorcycles. Both vehicles create and use the same "single-track" trail foot print. As proposed there are no motorcycle trails. Furthermore, based on our experience keeping trails free of downfall in the last 5 years, mountain bikers without chainsaws will not be able to maintain the trail system and it will not be functional. For example, on our last outing to the Helmville-Gould trail at the end of the season last fall, we had to remove 50-60 downed trees to get through even though it was late in the season. The Brooklyn Bridge route in the Clancy-Unionville area is another example of a route that is becoming closed by downfall. Motorcyclists would be quite willing to help build and maintain a motorcycle/mountain bike single-track trail system. This is a reasonable alternative that must be adequately addressed.

32. We have observed that motorized trails that have been closed to provide "non-motorized opportunities" see very little or no use. Another example is the Upper Hellgate Gulch trail closed as part of the North Belts Travel Plan. As shown below there is no evidence of use and the trail is now closed by downfall.

Upper Hellgate Gulch Non-Motorized Trail

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33. The number one concern of OHV recreationists as documented by Montana Fish Wildlife and Parks in their report Montana Off-Highway Vehicles 2008 is “Access to trails”.

34. OHV recreationists have a strong interest in long distance routes where they can pack their camping gear with them and travel 90 to 125 miles. The concept is to camp 2 to 4 along the way similar to the Magruder trail in Idaho (http://fs.usda.gov/nezperce) and cover 90 to 125 miles as part of the experience. This opportunity could be developed by creating boundary trails around areas such as the Elkhorn WMA, Big Snowys and Pioneer Mountains and using connecting trails through the interior to create figure 8 opportunities. We request, as a reasonable alternative, that this type of opportunity be evaluated as part of the planning process and that motorized recreationists be involved.

35. Most residents in the project area are 1st, 2nd, 3rd, or 4th generation locals who have been raised with motorized access to their public lands. They have driven their jeeps and motorcycles to places like the project area for decades and now many of them enjoy recreating on ATVs. This is a very important cultural issue that must be adequately considered by the resource management plan.

36. Another significant issue that goes along with historic motorized access is associated with the way that the level of involvement in a NEPA process is used to justify motorized closures. Grandpa did not have to participate in a confusing and intimidating NEPA process and NEPA as currently practiced is not effectively reaching the majority of the public. Please do not interpret a lesser level of participation as acceptance of motorized closures and use it as a reason to support grant and foundation funded, non-profit non-motorized environmental groups with paid staff. The level of participation is due to the lack of an adequate public involvement program that reaches or involves the majority of residents including motorized recreationists. At the same time, the NEPA process should seek communication with motorized recreationists equal to that afforded non-motorized environmental groups. We request that the agency carefully assess this situation and implement a NEPA public involvement program that adequately compensates for these conditions and adequately identifies the significant issues and needs of motorized recreationists.

37. In order to understand the needs of OHV recreationists, the agency project team must be interdisciplinary and include at least one OHV motorcycle cycle enthusiast and one ATV enthusiast, a UTV enthusiast, and a full-size 4x4 enthusiast. An OHV enthusiast is defined as an individual with at least one of the four interest areas that puts on at least 1500 miles per year riding with friends and family on trails ranging from easy to challenging and understands the needs of OHV recreationists.

38. There is a significant need for Youth Loops. Youth Loops would include a small area of several acres, either contained by fencing or clearly marked boundary, with short, tight trail system that is designed to entertain kids under adult supervision. The youth loop offers an alternative to unauthorized routes near camp areas and riding in campgrounds. A good example to refer to is the Lewis and Clark National Forest Travel Plan for the Little Belts. We request as a

reasonable alternative that this important need be adequately addressed in the preferred alternative.

39. A motorized travel plan is a plan that specifically designates roads, trails and areas for motorized use, designates which vehicles will be allowed on which routes and if seasonal restrictions apply. A comprehensive trail designation plans does the same thing except it includes all trail uses, including mountain bike, equestrian and hiking. This is a very important distinction because the anti-access groups will attempt to convince the planning team to develop a "comprehensive" travel plan by using only the existing inventory of motorized routes. They do this by identifying existing motorized trails that are good for mountain bikes, equestrians and for bird watching... or whatever. The current approach is inequitable because it takes the current motorized route inventory and tries to make it the route inventory for all users. It leaves out possibilities for constructing or otherwise developing non-motorized trails and ignores existing non-motorized trails that exist in both the planning area and adjacent lands. Now, that doesn't mean the agency can't take into consideration the effect each alternative will have on non-motorized visitors. It can - and it should be part of the NEPA analysis. But that is totally different from specifically providing a non-motorized trail system via the existing inventory of motorized routes. We support the creation, designation and management of non-motorized trails, but not at the expense of motorized visitors. We request that the agency not use the existing motorized trail inventory for designating non-motorized trails. Instead, if there is a need for non-motorized trails, then the agency should consider options that do not reduce the existing opportunity for motorized users.

40. An adequate and reasonable preferred alternative would include an adequate quantity and quality of beginning, intermediate, and advanced routes and trails for a wide cross-section of motorized visitors including motorcycles, ATVs, and four-wheel drive vehicles. Additionally, the quantity and quality of motorized routes would be at least equal to the quantity and quality of non-motorized routes. This is the yard stick that the team should measure travel plan alternatives by.

41. Road density does not equal motorized trail density. Impact information developed based on roads should not be used to estimate impacts from ATV and single-track motorcycle trails. ATV trails has far less impact than roads in all resource areas and motorcycle single-track trails have far less impact than roads in all resource areas. Motorized trails have less impact than roads and this condition must be recognized during the analysis and decision-making.

42. Because of the shortage of OHV routes necessary to reasonably meet the needs of the public, every existing motorized route is extremely important.

43. All roads to be closed to full-size vehicles should be converted to atv routes. This is a reasonable alternative for all existing roads.

44. The needs of the public for motorized recreational opportunities include a variety of trails for different skill levels. Also, routes with minimal traffic are needed as practice routes for beginning riders.

45. The availability of motorized single-track trails has declined dramatically. At the same time, nearly all of the single-track trails see very little hiking or other use. It is not reasonable to segregate users on single-track trails. We can all get along and have done so for years. Sharing should be a primary goal for use of these lands. It is also consistent with the desegregation of public places as required by the Civil Rights Act of 1964. Therefore, it is a reasonable alternative to designate all existing single-track trails on multiple-use lands within

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the project area open to motorcycle use. Additionally, single-track challenge trails are needed for expert riders and trials type motorcycles.

46. The loss of high quality motorized routes in the project area is not a reasonable alternative given the historic use of these routes and the needs of the public for access and motorized recreation. Specifically, the lack of motorcycle single-track trail does not adequately address the issues and the needs of the public for these routes. The reasons used are completely unreasonable. Motorcycles can negotiate and prefer to use trails of the same specifications as hiking and pack stock trails. This proposal does not reasonably acknowledge or consider that motorcycle riders are; willing to share, practice Tread Lightly, have maintained these trails for years, would rather ride their motorcycles on single-track trails and have developed the skills necessary to ride a motorcycle on single-track trails. We are very concerned about the lack of understanding of the needs of single-track motorcycle riders and the complete disregard for their needs. We ask that this very important issue be adequately addressed in the document.

47. National Forests in Idaho have a long and successful history of sharing single-track trails with motorcycles and we request, as a reasonable alternative, that this strategy be used in the project area. . Details on the trail system in Idaho are shown by zooming in on the map at http://www.trails.idaho.gov/.

48. Motorcycle trail riders enjoy riding single-track trails. Motorized single-track recreation trails are limited at this time and continue to decline. The process has not differentiated between ATV and motorcycle trails in the travel plan alternatives. In order to recognize the different needs and impacts, the evaluation must be differentiated between ATV and motorcycle trails. As an example, Figure 2.2 and 2.7 on page 14 of Chapter 2 in the 3-State OHV EIS and Decision clearly shows that existing tracks used by motorcycles are to be considered as motorized trails (http://www.mt.blm.gov/ea/ohv/Chapter2.pdf). The evaluation must consider these routes.

Figure 2.2 Motorcycle traveling on single-track trail is not considered cross-country travel.

Figure 2.7 Livestock or game trail used by motorcycles for regular and continuous passage is not considered cross-country travel.

49. With respect to the position that there is not enough money to mitigate problems, motorized recreationists can work with federal agencies as partners to obtain many different grants.

50. Also, motorized recreationists generate significant levels of funding that would be available if the agency would pursue them and the system was working to distribute them equitably. The magnitude of gas tax paid by OHV recreationists is significant. Fuel used for off-road motorcycle, atv and 4-wheel drive recreation in Montana is estimated at 18,537,060 gallons per year (Report ORNL/TM-1999/100, Federal Highway Administration http://www-cta.ornl.gov/cta/Publications/Reports/ORNL_TM_1999_100.pdf). Federal gas tax paid by OHV recreationists living in Montana is significant and is estimated at $3,410,819 ($0.184 tax per gallon times 18,537,060 gallons per year). The present worth of this annual amount over the past 30 years is about $58,973,000.

    The State of Montana fuel tax is $0.2775 per gallon (http://www.mdt.state.mt.us/administration/gastaxrefund.html). Therefore, an estimated $5,144,034 in state fuel tax ($0.2775 per gallon times 18,537,060 gallons per year) is paid annually by Montana off-road recreationists. The present worth of this annual amount over the past 30 years is about $88,940,000.

    The amount of gas tax being returned to Montana OHV recreationists through State Trails Program (STP) and Recreational Trails Programs (RTP) is less than $200,000 per year (http://www.fwp.state.mt.us/parks/trails/trailgrantapps.asp and http://www.fwp.state.mt.us/parks/ohvgrantaward.asp) or less 3% of the total annual gas tax paid by OHV recreationists. Basically OHV recreationists generate a significant amount OHV gas tax but it is not being returned for use in OHV trail projects. These monies should be used to maintain, develop, and provide environmental enhancement of OHV recreational resources but, unfortunately, it is being diverted elsewhere. This significant issue must be addressed.

51. The most common maintenance requirement for 4x4 and OHV routes is the construction and maintenance of water bars/dips/mounds to divert runoff from the route. This maintenance could easily be provided by running a SWECO trail machine with a trained operator over each route once every 5 years. OHV trail maintenance and gas tax monies are available to fund this maintenance. Each region could set up a program similar to the Trails Unlimited program (http://www.fs.fed.us/trailsunlimited/). AmeriCorps type labor could also be used. The SWECO could not be used on motorcycle single-track trails but they typically require less maintenance and water bars/dips/mounds can usually be constructed on these trails by hand work.

52. CTVA has trained equipment operators available to provide trail maintenance if the Agency would provide access to mini-excavators and SWECO trail machines.

53. Where cattle grazing has established a network of cow trails, a reasonable alternative would be to allow motorcycle use on these single-track trails as there would be no change in impact or visible use of the trails.

54. The Stream Systems Technology Center found that installing water bars at a reasonable spacing was a very effective way to reduce the sediment discharge from trails and roads (July 2007 Stream Notes at http://www.stream.fs.fed.us). Many other best management practices are available to control sediment production at demonstrated by the bibliography at http://www.fs.fed.us/t-d/programs/wsa/pdfPubs/road_bmp.pdf .

55. The Project Area has far less than the desired number of motorized trails. This creates two problems. First, the public will tend to “explore” closed routes in an attempt to salvage a decent outing. Secondly, it produces an unsatisfactory OHV experience.

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56. The scope of the project must address both existing routes and new construction. This is necessary and reasonable because a certain percentage of the existing routes are likely to be closed. Putting a sideboard on the project scope that prevents the evaluation and creation of any new trail segments also eliminates the opportunity to mitigate the overall level of motorized closures. This approach, if pursued, would preclude the evaluation of a reasonable alternative and also preclude any opportunity for mitigation and enhancement. Therefore, limiting scoping of the project to existing routes only would produce a significant built-in disadvantage for motorized recreationists, i.e., the overall number of motorized routes are destined to be reduced and nothing can be considered to enhance existing routes and to mitigate the overall loss to motorized recreationists. We are concerned that the process will not provide motorized recreationists with an equal opportunity (50/50 sharing of motorized to non-motorized trails) in the outcome and we are only destined to lose. We would appreciate an independent evaluation of this situation as soon as possible so that the proper scoping direction can be corrected early in the process.

57. Note that non-motorized recreationists can use routes that are both open and closed to motorized recreationists including roads and the evaluation of the opportunities available to non-motorized recreationists must be based on the total of all existing roads and trails. Additionally non-motorized recreationists can use an infinite amount of cross-country opportunity and motorized recreationists can not. A reasonable evaluation of this condition will conclude that motorized recreationists are already squeezed into insignificant and inadequate system of routes. This point must be adequately considered in the allocation of recreation resources.

58. The following are examples of adequate OHV trail systems that should be used to guide development of this project. The alternatives for this project should be compared to these OHV trail systems. Also, it would help the project team understand the needs of OHV recreationists by visiting these area and experiencing them on an OHV. Examples of the types of systems that should be developed in the project area include:

    a. Michigan Cross Country Cycle Trail MCCCT (https://www.michigan.gov/documents/dnr/ORV-Map-ofLP_Legal_2_331706_7.pdf , https://www.vvmapping.com/trails/MCCCT.html and http://www.fs.usda.gov/recarea/hmnf//recarea/?recid=30298&actid=93)
    b. Danskin Mountain in the Boise National Forest (http://www.stayontrails.com/assets/content/maps/Danskin-Mountains-map.pdf)
    c. South Fork Boise River in the Boise National Forest (see MVUM at http://www.fs.usda.gov/detail/boise/maps-pubs/?cid=STELPRDB5053223
    d. Idaho City area in the Boise National Forest (see MVUM at http://www.fs.usda.gov/detail/boise/maps-pubs/?cid=STELPRDB5053223
    e. Sawtooth National Forest (see Fairfield Ranger District MVUM map at http://www.fs.usda.gov/detail/sawtooth/maps-pubs/?cid=stelprdb5421960
    f. Winom-Frazier OHV area in the Umatilla/Whitman National Forest, see maps at http://www.fs.usda.gov/detail/wallowa-whitman/recreation/ohv/?cid=stelprdb5303096
    g. Prospect OHV area in the Rogue River National Forest (contact Rogue River-Siskiyou National Forest for map).
    h. Paiute OHV System in the Fishlake National Forest (http://www.marysvale.org/paiute_trail/contents.html
    i. East Fork Rock (http://www.fs.fed.us/r6/centraloregon/recreation/cohvops/efrindex.shtml),
    j. Mendocino National Forest (http://www.fs.fed.us/r5/mendocino/recreation/ohv/, and

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k. High Lakes and Blue Lake Trail System in the Gifford Pinchot National Forest (http://www.fs.fed.us/gpnf/recreation/trailbikes/documents/trails5269small.pdf).
l. Canfield Trail System near Coeur d'Alene, Idaho Panhandle National Forest, http://www.stayontrails.com/assets/content/maps/Canfield-Butte-trail-map.pdf .
m. These types of motorized route systems can be referred to as "High Quality" OHV trail systems.
n. In order to meet the public's need for motorized recreational opportunities, the project area and every national forest and BLM district must have OHV systems comparable to these examples.

59. Specific references from the new National OHV Policy that must be adequately addressed include:

Existing – The unit or district restricts motor vehicles to "existing" routes, including user-created routes which may or may not be inventoried and have not yet been evaluated for designation. Site-specific planning will still be necessary to determine which routes should be designated for motor vehicle use.

For many visitors, motor vehicles also represent an integral part of their recreational experience. People come to National Forests to ride on roads and trails in pickup trucks, ATVs, motorcycles, and a variety of other conveyances. Motor vehicles are a legitimate and appropriate way for people to enjoy their National Forests—in the right places, and with proper management.

To create a comprehensive system of travel management, the final rule consolidates regulations governing motor vehicle use in one part, 212, entitled ''Travel Management.'' Motor vehicles remain a legitimate recreational use of NFS lands.

This final rule requires designation of those roads, trails, and areas that are open to motor vehicle use. Designations will be made by class of vehicle and, if appropriate, by time of year. The final rule will prohibit the use of motor vehicles off the designated system, as well as use of motor vehicles on routes and in areas that is not consistent with the designations. The clear identification of roads, trails, and areas for motor vehicle use on each National Forest will enhance management of National Forest System lands; sustain natural resource values through more effective management of motor vehicle use; enhance opportunities for motorized recreation experiences on National Forest System lands; address needs for access to National Forest System lands; and preserve areas of opportunity on each National Forest for nonmotorized travel and experiences.

Clearly the rule intended to identify existing routes being used for motorized access and recreation and preserve existing non-motorized routes by elimination of cross-country travel. Why is a process that was intended to eliminate cross-country travel and designate existing motorized routes been allowed to turn into a massive closure process?

Additionally, the rule preserves existing non-motorized routes by not allowing them to be converted to motorized routes and it does not state anywhere that non-motorized travel and experiences were to be significantly enhanced by a wholesale conversion of motorized routes to non-motorized routes. The intention of the final OHV Route Designation rule must be followed by the Travel Management Plan decision and that the rule not be used inappropriately as an action to create wholesale motorized closures and a wholesale conversion of motorized to non-motorized routes.

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60. In order to be responsive to the needs of motorized recreationists, the plan must specifically allow for amendments as required to create new trails, connect trails to create motorized loops, extend trails, make minor boundary adjustments to allow a motorized trail, etc.

61. Forest Service and BLM law enforcement has taken the position that OHVs cannot legally ride on forest or BLM roads unless the road is designated dual-use. Cumulative decisions have closed OHV trails to the point that there is not an inter-connecting network of routes. At the same time, the agencies have not designated a functional network of dual-use routes to inter-connect to OHV routes. Dual-use is essential for the family OHV experience. Therefore, these closure decisions are forcing the OHV recreationists to ride non-designated dual-use routes illegally. The proposed action must include these designations in order to provide a network of OHV routes with inter-connections, where required, using dual-use roads in order to be functional. This will allow OHV enthusiasts to operate legally on forest and BLM roads. We request, as a reasonable alternative, that a system of dual-purpose roads, and OHV roads and trails that interconnect be one of the primary objectives of the resource management plan and that this objective be adequately addressed in the document and decision. The issue of speed can be adequately and easily addressed by specifying maximum speeds and signing. Without the dual-use designation, the proposed action would transform family OHV trips from a healthy family oriented recreation to an illegal activity. This is not a reasonable nor acceptable outcome.

62. The continual closure of motorized trails has forced OHVs to be operated on forest roads in order to provide a reasonable system of routes and to reach destinations of interest. The lack of dual-use designations on forest roads then makes OHV use on these routes illegal. The cumulative negative effect of motorized closures and then combined with the lack of a reasonable system of roads and trails with dual-use designation have not been adequately considered in past evaluations and decision-making. We request, as a reasonable alternative, that all reasonable routes be designated for dual-use so that a system of roads and trails can be used by motorized recreationists. Additionally, we request that the cumulative negative effect of all past decisions that have adequately considered dual-use designations be evaluated and considered in the decision-making and that this project include an adequate mitigation plan to compensate for inadequate consideration in the past.

63. In many cases illegal trails are created in response to the lack of adequate motorized opportunities. If there were an adequate number of OHV trail systems, then the need to create illegal trails would be greatly diminished. Therefore, the catch-22 of the closure trend is that in the end it feeds the illegal activity. In other words, it would be a more advantageous and equitable situation to pro-actively manage motorized recreation.

64. The agency has only addressed less motorized access and less motorized recreational opportunities. The alternatives formulation and decision-making must adequately recognize and address the fact that the majority of the public visiting the project area want more motorized access and motorized recreational opportunities.

65. The existing level of motorized access and recreation cannot be dismissed because it is only associated with the No Action Alternative. The existing level of motorized access and recreation is reasonable alternative and an alternative other than No Action must be built around it.

66. The Ravalli County Off-Road Users Association has found that “at the end of 2006, there were approximately 2500 “stickered” OHV’s in Ravalli County. For the past five years, the growth rate of “stickered” OHV’s has been about 20% per year. If this growth rate continues, the number of OHV’s in the forest will double every four years. On the Bitterroot National Forest

there have been no new OHV "system" routes designated for OHV travel since 1996. History, experience and common sense tell us that when adequate, responsible, sustainable routes with attractive destinations are provided, OHV enthusiasts will ride responsibly. On the Bitterroot National Forest this means more routes, not more restriction." The same analysis must be done for the project area and it will find the same no growth trend and a lack of an adequate number of existing routes that is further made worse by a lack of new routes to address growth.

67. The Government Accountability Office (GAO) report on OHV recreation has been prepared and released to the general public (http://www.gao.gov/Products/GAO-09-509). GAO investigators interviewed agency personnel, OHV rider and industry representatives and environmental group representatives. GAO issued a number of findings in terms of OHV recreation on public lands. GAO highlights include that OHV recreation is growing in popularity and that more Americans are seeking access to federal public lands via their OHVs. Second, the report found that the federal land agencies could do a better job of providing signage and general outreach to the recreating public so that visitors to public lands have a better understanding of where they can and cannot ride their OHVs. The report also focused attention on the inadequacies of law enforcement and the inconsistent scale of fines and penalties for inappropriate behavior on public lands. GAO found that the land agencies were stretched, both in terms of financial resources and personnel, and that other pressing concerns, such as fighting wildfires, apprehending drug criminals and border control issues kept agency personnel from devoting the necessary time to make public lands more accessible to recreation visitors. GAO looked into the issue of environmental damage caused by OHVs and found such damage is far less than some observers believed to be the case. Another finding was that agency personnel worked well with OHV user groups on trail maintenance projects. The report's conclusions confirm what we have known for a long time about OHV recreation on public lands and provide further reason to continue working on our priority issues. Motorized recreationists will continue to carry on our efforts to support law enforcement reform legislation as well as seek additional funding for better signage, maps and trail maintenance. Working with the Congress and our land agencies, we can create an environment where OHV recreation can continue to grow in popularity as more American families look to explore and enjoy the great outdoors.

68. CTVA believes the agency should develop travel management strategies as a solution to mitigate our access concerns and that those should be included in the planning process:

    a. **ML 3 Roads to Trails** - Reclassify ML3 roads to ML2 roads. Reclassify ML2 road to motorized trails or manage appropriate ML2 roads as "roads managed as trails." Manage appropriate ML1 roads as "motorized trails."

    b. **ML 2 Roads to Trails** - Convert "roads-to-single track trails" or "roads-to-motorized trails less than 50 inches in width" and "roads managed as motorized trails greater than 50 inches in width" as a tool to help the agency achieve its budget objectives while still providing a substantive and high quality recreational route network.

    c. **Single Track Trails** - 2005 Forest Service Travel Management Rule (TMR) Subpart B planning efforts in the Western States resulted in the loss of many, if not most, of our historic single-track motorcycle trails. Historic and legal motorized single-track opportunities such as enduro trails, old pack-mule/mining or pioneer trails were eliminated from consideration due to inadequate determination and analysis by the Agency.

    d. During those early planning efforts, agency representatives promised the OHV community that once these initial "foundational" route networks were established and

codified that they would work with the users to either bring some of these historic single-track opportunities "back onto the system" or construct new engineered single-track system trails.

e. CTVA believes that a strategy should be developed to replace the lost single-track experience. Retention or enhancement of high quality single-track dirt-bike trails is no different than keeping or enhancing "quiet" single-track hiking, equestrian, and mountain-bike trails.

f. **Wet Weather Closures** - Any TMR-based wet weather closure strategy should allow for native surfaced trails and roads to be open when soil conditions/lack-of-rainfall permits. If a wet weather closure is needed, the implementing Forest Order should be for the shortest period of time rather than a longer time period. In NEPA, it is always easier to extend a short closure versus repealing a longer closure.

g. **Mitigate Trail Impacts from Non-Recreation Projects** - The impacts from non-recreation projects often include obliteration of the trail or removal of water control structures such as rolling dips and catch basins. Those soil erosion measures can often cost $15,000 to $20,000/mile to install (or replace). Other sections such as at-risk species, water quality, and ecosystems have the same recreation mitigation deficiencies. CTVA recommends that "trail mitigation" guidelines be added to relevant non-recreation projects.

h. Review Non-Motorized Land Designations – We believe the Agency should review current non-Wilderness areas that could be reclassified, reopened, or have cherry-stemmed routes designated for connectivity and/or touring opportunities. Many 1980-1990s-era Plans used non-Wilderness "non-motorized" classifications to restrict or prohibit summer wheeled recreation. In many cases, OHV was simply not at the table or given substantive consideration during these programmatic planning efforts. In some areas these classifications such as "Near Natural" or "Semi-Primitive Non-Motorized" had the effect of functionally banning OHV use including designation of cherry-stemmed routes. The Planning Revision process is the appropriate planning tool to reclassify lands for managed OHV recreation.

69. The BLM public lands host over 55 million recreation visitors annually – an increase of over 80% since 1990. BLM estimates that 22 million of these visitors participate in motorized recreation. (http://www.blm.gov/wo/st/en/prog/Recreation/recreation_national/travel_management.print.html)

70. The Government Accounting Office (GAO) has recently released a report with recommendations on long- and short-term improvements that could reduce maintenance backlog and enhance the sustainability of trails on the public lands (http://www.gao.gov/products/GAO-13-618). Specific recommendations include Agency officials and stakeholders GAO interviewed collectively identified numerous options to improve Forest Service trail maintenance, including (1) assessing the sustainability of the trail system,

We are a locally supported assoc
recreationists through respons
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(2) improving agency policies and procedures, and (3) improving management of volunteers and other external resources. In a 2010 document titled A Framework for Sustainable Recreation, the Forest Service noted the importance of analyzing recreation program needs and available resources and assessing potential ways to narrow the gap between them, which the agency has not yet done for its trails. Many officials and stakeholders suggested that the agency systematically assess its trail system to identify ways to reduce the gap and improve trail system sustainability. They also identified other options for improving management of volunteers. For example, while the agency's goal in the Forest Service Manual is to use volunteers, the agency has not established collaboration with and management of volunteers who help maintain trails as clear expectations for trails staff responsible for working with volunteers, and training in this area is limited. Some agency officials and stakeholders stated that training on how to collaborate with and manage volunteers would enhance the agency's ability to capitalize on this resource. CTVA has a long history of collaboration on trail construction and maintenance projects that we would like to continue to build on.

71. Additionally, OHV recreation generates millions of dollars in OHV gas tax revenues which should be used to for trail maintenance (see additional comments and Oak Ridge National Laboratory, 1994, Federal Highway Administration, Report ORNL/TM-1999/100, Federal Highway Administration, An 80 page summary of the fuel used for OHV recreation, http://www-cta.ornl.gov/cta/Publications/Reports/ORNL_TM_1999_100.pdf). Unfortunately, these dollars are not being applied to OHV trails. Bringing volunteers together with funding would solve nearly all of our OHV trail maintenance needs.

72. Motorized trail maintenance and enhancement projects would make good stimulus projects and help preserve the human and natural environment. The agency has been allocated millions of dollars in stimulus funding but has not used it for motorized trail projects. We support and encourage the use of stimulus funding motorized trail projects.

73. Trail closures in semi-primitive motorized areas represent a significant amount of the total available both forest-wide and area-wide. These are the highest value routes to motorized recreationists and the impact would be significant. This impact is unacceptable unless these routes are mitigated with new routes of equal value.
74. There are compelling reasons to maintain and enhance the existing level of motorized access and motorized recreation in the project area.

75. Note that some new construction may be required to accomplish a reasonable system of loops. Therefore, new construction must be included in the scope of the project.

76. The preferred alternative must provide for an adequate number of routes as required to provide access to the many historic mines and cabins and an adequate number of dispersed campsites and trailheads.

77. We have been keeping observations of the types of visitors in multiple-use areas since 1999 and have found that 98% of the visitors are motorized recreationists. The agency does not have similar data. The public comments and votes by how they use the forest, and more motorized access and recreation is what they are asking for with every visit.

78. The resource management plan for the area must reflect that use and the needs of the public for motorized recreational opportunities in the area. Again, these are multiple-use lands and we ask that they remain viable multiple-use lands by not closing existing motorized routes.

79. With respect to the comment that there is not enough money to mitigate problems, we can work with the agency as partners in many different grant applications. Also see our comment in

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the attachment in regards to the significant levels of funding that are generated by motorized recreationists and would be available if the agency would pursue them and the system was working to distribute them equitably. Basically OHV recreationists generate a significant amount OHV gas tax. These monies should be used to maintain, develop, and mitigate issues but, unfortunately, it is being diverted elsewhere. This significant issue must be addressed.

80. The most common maintenance requirement for 4x4 and OHV routes is the construction and maintenance of water bars/dips/mounds to divert runoff from the route. This maintenance could easily be provided by running a SWECO trail machine with a trained operator over each route once every 5 years. OHV trail maintenance and gas tax monies are available to fund this maintenance. Each region could set up a program similar to the Trails Unlimited program (http://www.fs.fed.us/trailsunlimited/). AmeriCorps type labor could also be used. The SWECO could not be used on motorcycle single-track trails but they typically require less maintenance and water bars/dips/mounds can usually be constructed on these trails by hand work.

81. Many motorized clubs including CTVA have trained equipment operators available to provide trail maintenance if the Agency would provide access to mini-excavators and SWECO trail machines.

82. The Stream Systems Technology Center found that installing water bars at a reasonable spacing was a very effective way to reduce the sediment discharge from trails and roads (July 2007 Stream Notes at http://www.stream.fs.fed.us). Many other best management practices are available to control sediment production at demonstrated by the bibliography at http://www.fs.fed.us/t-d/programs/wsa/pdfPubs/road_bmp.pdf .

83. Wilderness trails including those in the Scapegoat, Bob Marshall, and Anaconda Pintlar have been constructed and maintained with water bars every couple of hundred feet and boardwalks across sensitive areas. These types of facilities are hardly ever seen on motorized trails and then erosion and environmental impacts are used as reasons to close motorized routes. This is an example of an obvious bias in the construction and maintenance of non-motorized trails versus motorized trails.

84. The National Forest has far less than the desired number of motorized trails. This creates two problems. First, the public will tend to “explore” closed routes in an attempt to salvage a decent outing. Secondly, it produces an unsatisfactory OHV experience.

85. In order to be responsive to the needs of motorized recreationists, the plan should specifically allow for amendments as required to create new trails, connect trails to create motorized loops, extend trails, make minor boundary adjustments to allow a motorized trail, etc.

86. The Government Accountability Office (GAO) report on OHV recreation has been prepared and released to the general public (http://www.gao.gov/Products/GAO-09-509). GAO investigators interviewed agency personnel, OHV rider and industry representatives and environmental group representatives. GAO issued a number of findings in terms of OHV recreation on public lands. GAO highlights include that OHV recreation is growing in popularity and that more Americans are seeking access to federal public lands via their OHVs. Second, the report found that the federal land agencies could do a better job of providing signage and general outreach to the recreating public so that visitors to public lands have a better understanding of where they can and cannot ride their OHVs. The report also focused attention on the inadequacies of law enforcement and the inconsistent scale of fines and penalties for inappropriate behavior on public lands. GAO found that the land agencies were stretched, both in terms of financial resources and personnel, and that other pressing concerns, such as fighting wildfires, apprehending drug criminals and border control issues kept agency personnel from devoting

the necessary time to make public lands more accessible to recreation visitors. GAO looked into the issue of environmental damage caused by OHVs and found such damage is far less than some observers believed to be the case. Another finding was that agency personnel work well with OHV user groups on trail maintenance projects. The report's conclusions confirm what we have known for a long time about OHV recreation on public lands and provide further reason to continue working on our priority issues. Motorized recreationists will continue to carry on our efforts to support law enforcement reform legislation as well as seek additional funding for better signage, maps and trail maintenance. Working with the Congress and our land agencies, we can create an environment where OHV recreation can continue to grow in popularity as more American families look to explore and enjoy the great outdoors.

87. The evaluation must adequately consider and address the fact that motorized access to the national forest is relatively limited as shown by the miles of roads versus the number of acres in the following table. The miles and percentage of non-motorized trails is excessive compared to the use that they receive and this does not consider the endless cross-country opportunities that available to non-motorized recreationists. The total route opportunity available to non-motorized recreationists is 510,575 miles, the total miles of exclusive non-motorized trails are 93,088 or 75% of the existing total. The miles of non-motorized cross-country opportunity are infinite. The total miles of roads open to motorized recreationists are 286,445 and the total miles of trails open to motorized recreationists are 31,853 or 25% of the existing total. The cross-country miles are or will be shortly equal to zero. Therefore, the overall allocation of non-motorized versus motorized access and trail riding opportunities in the national forest system is way out of balance with the needs of the public for motorized access and the recreational needs of motorized recreationists. Furthermore, we request, as a reasonable alternative, that the data in the next two tables be updated to reflect the significant reduction in miles of roads and motorized trails that decisions have produced since this data was assembled. This revised data should be used to guide the decision-making for the alternatives that adequately meet the needs of the public by increasing motorized recreational opportunities in the project area.

Region	Forest	District	NFS Acres	Current Status	Projected Date for Designation	Existing NFS Roads	Existing NFS Roads Open to Motor Vehicle Use	Existing NFS Trails	Existing NFS Trails Open to Motor Vehicle Use	Existing NFS Trails Open to Motor Vehicle Use (Single-Track)	Acres Currently Open to Cross-Country Motor Vehicle Use
		Totals	194,015,494			385,634	286,445	124,941	31,853	15,526	66,887,245
			Miles of Open Road per Square Mile =				0.74				
			Total Roads and Trails Open to Non-Motorized Use, Miles				510,575				
			Non-Motorized Trails, Miles =				93,088				
			Non-Motorized Trails, % =				74.51%				
			Motorized Trails, miles =						31,853	15,526	
			Motorized Trails, % =						25.49%		
			Trails Open to Motorcycles %							12.43%	
		http://www.fs.fed.us/recreation/programs/ohv/									
		http://www.fs.fed.us/recreation/programs/ohv/travel_mgmt_schedule.pdf									

NOTE: This data is out of date by at least 8 years and does not reflect significant motorized closures that have occurred since this table was put together.

88. There is a serious inaccuracy between the agency's representation of motorized versus non-motorized trail use and actual trail use that must be resolved. The routes in the project area are predominantly used by motorized recreationists. We see this actuality every weekend. Site specific trail use observations such as ours must be used and will easily justify motorized use of all existing routes.

89. The agency does not observe visitors on weekends and holidays and consequently is unaware of actual visitor usage. The agency simply needs to go out and count the different recreationists and mode of access on multiple-use lands on any weekend. This is what we have done and our data is an accurate representation of actual visitor usage on multiple-use lands.

Additionally, the public comments and votes by how they use the forest, and our observations document that more motorized access and recreation is what they are asking for with every visit.

90. We are quite confident that if agency staff rode a dual-sport motorcycle and hiked around the forest on multiple-use roads and trails during the weekends and recorded their observations that they could duplicate this data and the conclusions found in the table above. We feel very strongly that the current approach and data used by the agency to represent the historic public use of multiple-use lands does not provide an accurate representation and that the table of observations above is a more reasonable representation.

91. Surveys conducted by Citizens for Balanced Use (CBU) in Bozeman (available upon request) show that motorized users travel on average 50 miles per day per visit to our public lands while non-motorized travel on average 2 miles per day per visit. Therefore, a quality experience for motorized recreationists requires about 25 times the amount of trail needed for non-motorized recreationists. The results of this survey shows a definite need for more trails for the motorized community yet the agency is continuing to close trail after trail to motorized use. The ratio of motorized versus non-motorized trails should be 50 miles per day of use versus 2 miles per day of use or 25:1. Non-motorized proponents may say that the agency does not have an obligation to provide 25 times the miles of motorized trails. However, 95% of the visitors are motorized recreationists and the ratio of motorized versus non-motorized visitors is 95:5 or 19:1, so 25:1 is not an unreasonable goal.

92. A poll conducted by the BlueRibbon Coalition (http://www.sharetrails.org/uploads/PL/GMUG/GMUG_Survey_Key_Findings.pdf) found that the public widely opposed any further any further reductions in recreational access to the national forest. “Fully 73% of local residents say the Forest Service should not reduce public access on local National Forests. Sportsmen are particularly opposed, as 81% of the hunters and 76% of the anglers say the Forest Service should not change regulations to reduce access or increase roadless areas.

93. Idaho’s Trail Ranger program combined with cooperative management of National Forest lands provide over 9,000 miles of trail riding opportunities (http://www.idahoparks.org/rec/ranger1.html). This is provided as a good example of the level of OHV programs and recreational opportunities that motorized recreationists need in each state and we ask that this project adopt a similar goal.

94. The following are examples of adequate OHV trail systems that should be used to guide development of this project. The alternatives for this project should be compared to these OHV trail systems. Also, it would help the project team understand the needs of OHV recreationists by visiting these area and experiencing them on an OHV. Examples of the types of systems that should be developed in the project area include:

    o. Danskin Mountain in the Boise National Forest (http://www.stayontrails.com/assets/content/maps/Danskin-Mountains-map.pdf)
    p. South Fork Boise River in the Boise and Sawtooth National Forests
    q. Winom-Frazier in the Umatilla/Whitman National Forest
    r. Prospect OHV area in the Rogue River National Forest
    s. Paiute OHV System in the Fishlake National Forest
    t. East Fork Rock (http://www.fs.fed.us/r6/centraloregon/recreation/cohvops/efrindex.shtml),
    u. Mendocino National Forest (http://www.fs.fed.us/r5/mendocino/recreation/ohv/ , and

v. High Lakes and Blue Lake Trail System in the Gifford Pinchot National Forest (http://www.fs.fed.us/gpnf/recreation/trailbikes/documents/trails5269small.pdf).
w. Canfield Trail System near Coeur d'Alene, Idaho Panhandle National Forest, http://www.stayontrails.com/assets/content/maps/Canfield-Butte-trail-map.pdf
x. In order to meet the public's need for motorized recreational opportunities, the project area and every national forest and BLM district must have OHV systems comparable to these examples.

95. For the most part, adequate OHV opportunities do not exist. As OHV use becomes concentrated in smaller areas because of closures or restrictions, the frequency of encounters between motorized and non-motorized trail users increases dramatically. Resource damage can also results from use concentrated in smaller areas. Certainly with the acceptance of millions of acres of area closure by motorized recreationists, the use of the existing network of roads and trails including spurs for camping and exploring is reasonable. Additionally, we have seldom asked for any new routes and the level of use would justify many new routes.

96. We are concerned that the BLM and Forest Service has created unnecessary significant negative impacts on both the human and natural by their policies that seeks to close as many motorized routes and opportunities as possible over the past 30 years. The cumulative effect of this policy is to crowd motorized recreationists into a relatively small number of areas and trails such the Whitetail-Pipestone area versus widely dispersed and adequate motorized recreational opportunities. The limited opportunities and resulting concentrated use is not the best alternative for either the human or natural environment. The limited opportunities and resulting concentrated use is not equitable for the public and especially when considering that these lands are intended by Congress to be managed for multiple-uses.

97. Dispersed camping is widely enjoyed by the public and is a reasonable use of multiple use lands. Adequate dispersed camping depends on the network of existing motorized routes.

98. The public has a need for more motorized access to dispersed camping spots in the project area including access for RV's trailers, and tent camping.

99. The need for more non-motorized hiking trails has not been demonstrated or documented. Non-motorized hiking trails in the project are not over-used. At the same time there is need for more motorized access and motorized recreational opportunities yet the dominant thinking within the agency is to close motorized roads and trails and increase non-motorized recreational opportunities.

    We do not understand why the public's needs do not carry any weight in the process. Why is it acceptable to make decisions that fly in the face of public need? It appears to be done as conscious and organized efforts to eliminate a sector of the public from public lands. The needs of the public are being ignored in favor of a management agenda that is contrary to the needs of the public. Why are the needs of non-motorized recreationists given such priority? When it comes to assessing needs it seems that only non-motorized recreationists exist.

100. The problem is that you will only find what you are looking for and the agency is only looking for reasons to justify more and more non-motorized opportunities and less and less motorized opportunities. This condition has been documented as "confirmation bias" and it is a serious problem. It is closely related to "junk science" and "fake science". The priorities for management of public land have swung to this ridiculous extreme. We request that the hidden agenda of closure of motorized roads and trails which is so contrary to the needs of the public be addressed and corrected.

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101. There is a shortage of dispersed camping areas along all of our motorized routes. This can be confirmed by going out on any holiday weekend and trying to find a camp spot. In order to meet the needs of the public, camps spots and access to them must not be closed because of access and/or sanitation concerns. There are ways to mitigate any access concerns. Sanitation concerns can be addressed by constructing vault toilets or limiting camping to self-contained camping units which are the most popular means of camping now. Additionally, campers that are not self-contained can be required to pack wastes out by using porta-potties or similar devices.

102. In order to conserve energy, adequate motorized recreational opportunities are needed within a short distance of the cities and towns in our area. In order to conserve energy, we request, as a reasonable alternative, that all reasonable OHV routes within short distance of urban areas be developed and that urban OHV trail heads be developed where ever public right-of-way allows access to public land. The motorized trails and trailheads developed by the City of Boise (http://www.ridgetorivers.org/)are a good example of how motorized trails and connections can be incorporated into an urban situation.

103. The evaluation and decision-making must also take into account that millions of acres of public land near the project area are designated national parks, monuments, wilderness and non-motorized areas where motorized access and recreation is not allowed or severely restricted. Therefore, the project area includes a significant number of non-motorized recreational opportunities that can be quantified in many ways including acres, miles of trails, an infinite number of miles of cross-country travel opportunities, and acres per visitor. At the same time motorized access and recreation is limited to a relatively small corridor and network of roads and trails. We request that the difference in visitor use between designated wilderness/non-motorized/exclusive-use lands and multiple-use lands be acknowledged and adequately addressed in the evaluation. We also request a motorized recreation alternative with a recreation opportunity spectrum (ROS) comparable to the surrounding ROS available for non-motorized recreationists be adopted as the “proposed action”.

104. From our perspective the agency does not want to; (1) accept or acknowledge the public need for OHV recreation, and (2) the responsibility as a public agency to provide adequate management for that recreation. OHV recreation is something that the public wants and enjoys and the agencies must get off the fence and accept the responsibility to develop OHV recreational resources and manage public lands for OHV recreation.

105. Motorized recreation is recognized as the fastest growing activity on federal lands yet recreation opportunities for motorized recreationists are always being reduced. In order to be responsive and fair to the public, there should be, at the very least, no net loss of motorized recreational opportunities associated with resource management plans. Moreover, in order to be responsive to this growing public need, the resource management plan should allow for growth and enhancement of motorized recreational opportunities.

106. Motorized recreationists prefer an interesting assortment of loop and spur routes for a variety of purposes. Each road and trail should be inventoried and viewed on the ground to determine its recreational value and any significant problem areas that require mitigation measures. Each road and trail should be evaluated for its value as a motorized loop or connected route. Each spur road and trail should be evaluated for its value including: a source of dispersed campsite(s), exploration opportunities (especially for young and older riders), destination such as an old mine and viewpoint or as access for all multiple-use visitors. Every problem has a solution. Every impact has a mitigation measure. We request that travel management alternatives be developed with the objective of including as many roads and trails as possible and addressing as many problems as possible by using all possible mitigation measures.

107. Motorized trail recreationists have been very reluctant in the past to give up the "open" designation because we believe we may lose legitimate and historic trails that are located in "open areas" that are crucial to loop opportunities. Our fear has been, and remains, that the agency will define key trails we currently utilize as "user created" because they are not on a current travel plan or forest map and because they are not identified that they will be closed. Many of these trails are recorded on earlier maps but others are not. While in fact they may have been created to access an activity such as mining or logging in the late 1800's or early 1900's when these uses and activities were more popular.

108. The Recreation Opportunity Spectrum (ROS) for motorized recreationists should consist of an equivalent number, type and quality of opportunities as compared to non-motorized recreationists including access to back country recreation areas, long distance back country discovery routes, back country airstrips and destinations including historic areas, lakes, vistas, streams and rivers.

109. Any significant closing of motorized routes in the project area does not meet the basic requirement of the NEPA act of 1969 as stated in "Sec. 101 (b) (5) *achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities".* High standards of living and a wide sharing of life's amenities should include recognizing and meeting the need for motorized access and recreation opportunities in the project area. All visitors should be expected to share the project area with others and to tolerate the presence of others. We have met very few hikers on the multiple-use roads and trails that we use. We have not perceived any problems with the non-motorized visitors that we have met. We ask that the analysis and decision-making be based on sharing and tolerance and to avoid unreasonable accommodation of visitors to public lands that are not reasonably tolerant and sharing.

110. The first sentence on the inside cover of most federal environmental documents includes a statement similar to "*The United States Department of Agriculture (USDA) is a diverse organization committed to equal opportunity in employment and program delivery."* We are greatly concerned about the lack of equal recreation opportunity and quality within public lands. Everyone should have equal access and opportunity to enjoy the natural environment. There is a need for motorized recreation and access opportunities (areas and trails including inter-forest and interstate routes, OHV back country discovery routes, and OHV byways) equal to our non-motorized/wilderness opportunities (examples include the Lewis and Clark and Nez Perce National Historic Trail, Continental Divide Trail, Pacific Crest Trail, National Recreation Trails, and the recently created Pacific Northwest Trail). We request, as a reasonable alternative, actions that will develop regional (inter-forest and interstate connections) motorized recreational opportunities such as the Great Western Trail and Oregon Back Country Discovery Route. OHV back country discovery routes and OHV byways are required to provide opportunities for motorized recreationists equal to existing long-distance non-motorized opportunities.

111. Our vision for motorized recreation includes opportunities such as the Great Western Trail and Oregon Back Country Discovery Route, and other regional opportunities that include connections between forests and adjoining states. A system of OHV back country discovery routes and OHV byways could provide loops and interconnecting trails to points of interest including lakes, streams, rivers, ghosts towns, and scenic overlooks. This system of OHV routes could also include connections to small towns for access to motels and restaurants and could be a significant source of economic revitalization for the project area. OHV recreation and tourism could be a significant boost to many local economies. This potential has yet to be recognized and tapped. Examples of OHV tourism can be found at:

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http://www.visitid.org/Outdoor/ATV.html , http://www.marysvale.org/ , http://www.trailscout.com/ , http://www.transamtrail.com/main.htm , http://www.motorcycleexplorer.com/ , and http://www.visitnorthidaho.com/wallace.html . We request that the positive benefits of OHV recreation and tourism be considered as part of the evaluation and implemented for this action.

112. OHV recreation and tourism has not been reasonably addressed and promoted by both state and federal agencies as aggressively as recreation and tourism associated with fish and wildlife programs. Be clear that this is not a reflection on the dedicated OHV staff assigned to the MDFWP OHV program; rather it is a function of perceived conflicts of interest and lack of management directives that exists between the agencies with respect to OHV tourism. We request, as a reasonable alternative, that the agencies collaborate and actively promote OHV recreation and OHV tourism.

113. Inadequate attention and passive support of OHV recreation by agencies in a position to support and manage OHV recreation has contributed to the issues impacting OHV recreationists. Again, motorized access and motorized recreation including OHV recreation are the most popular, fastest growing and most fundable forms of recreation and should be given a much higher priority. We request that the cumulative negative impact on OHV recreation resulting from less than adequate and enthusiastic support from managing agencies be adequately evaluated in the document and adequately considered during the decision-making. Additionally, we request, as a reasonable alternative, that an adequate mitigation plan be included as part of this action to compensate for past cumulative negative impacts.

114. We request evaluation of the loss of opportunities for off-highway vehicles due to the lack of a continuous system of roads and trails on which off-highway vehicles can be legally ridden and the formulation of a preferred alternative to address that issue. In areas where OHVs must use a roadway, we request that a reasonable travel management alternative be developed that includes the designation of a reasonable network of dual-use roads to allow inter-connection access to OHV recreational resources.

115. The preferred travel management alternative should maintain existing travel ways that provide motorized access to recreational loops and destinations. We also request that the preferred alternative avoid cutting off access to motorized looped trail systems, exploration opportunities, destinations, and motorized access areas located outside the project area. The cumulative negative effect and lack of motorized access to loop trail systems and destinations outside of the project area should be adequately addressed in the analysis and decision-making.

116. A reasonable travel management alternative is needed in order to avoid contributing to the significant impacts that motorized recreationists have experienced from the cumulative effect of all closures. A reasonable alternative would incorporate all existing motorized roads and trails and restrict motorized travel to those travel ways. Under the requirements of NEPA, all reasonable alternatives should be addressed in the environmental document and decision-making. In order to avoid contributing to further cumulative negative impacts, we request that an alternative based on incorporating all existing motorized roads and trails and restricting motorized travel to those travel ways be included in the analysis and selected by the decision-makers.

117. Identify any reroutes that are part of the travel plan proposal because the reroutes are often of lesser quality and the reduction in quality needs to be mitigated.

118. The analysis and decision must recognize that semi-primitive motorized opportunities are the highest quality and most sought after experiences.

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119. We ask that trails being rerouted not be closed until the reroute is complete so that the public can continue to use the much needed motorized recreational opportunity.

120. We ask that an alternative that includes the conversion roads to atv trails instead of closing the roads be included. Each road should evaluate on a site specific basis. The alternative should also include new construction to connect and complete atv loops where reasonable.

121. Unfortunately rules oftentimes go to the lowest common denominator, i.e., the guy doing the most irrational things. Agencies are encouraged to keep rules as simple as possible and focused on addressing problems that are common and not the exceptions. Motorized recreationists can be called upon to help address the exceptions.

122. Agencies are encouraged to keep all existing trail systems open to motorized visitors.

123. Agencies are encouraged to add all existing road ands trails that are not on the trail system inventory to the roads and trail inventory.

124. Agencies are encouraged to return trails that used to be on trail inventories to the current inventory.

125. Where possible, agencies are encouraged to provide trailheads for motorized trails that are convenient to urban areas.

126. Where possible, agencies are encouraged to provide trailheads for motorized trails that are located at the boundary of urban areas and trails that connect urban areas to public lands and form motorized recreation opportunities similar to the Paiute Trail in Utah (http://www.marysvale.org/paiute_trail/contents.html).

127. Agencies are encouraged to insure that access to trails is not blocked by private lands and that private landowners do not have special access privileges. Where private landowners have elected to block public access to public lands, the boundary between that landowner and public land should be closed to motorized access using a “boundary closure” in order to avoid special access privileges for private landowners onto public land. Motorized access for the public on the public lands side should remain open to the boundary closure and the acquisition of public right-of-way should be pursued with the private landowner.

128. Agencies are encouraged to keep motorized access through private land open to the public. Every public access closure through private land should be challenged and protected by asserting legal right-of-ways. The cumulative negative impact of this lack of action has created private motorized reserves on public lands or defacto wilderness/non-motorized/exclusive-use areas accessible only to private landowners.

129. Agencies are encouraged to acquire private land and right-of-ways to provide access to public land that is now blocked off to the public. This action is necessary to reverse the prevailing trend over the past 35 ± years of less access to public land and the significant impact that the cumulative effect of closure after closure has had motorized access and motorized recreation.

130. Implement seasonal closures, where required, with input and review by OHV recreationists that will: (1) provide the maximum amount of OHV recreational opportunity during the summer recreation season in order to disperse all forms of trail use and thus minimize impacts to trail users; (2) provide winter OHV recreation opportunities in low-elevation areas that are not critical winter game range; (3) provide OHV recreation and access during hunting season by

keeping major roads and OHV loops open while closing spur roads and trails necessary to provide reasonable protection of game populations and a reasonable hunting experience; and (4) provide OHV recreation opportunities during spring months in all areas where erosion and wildlife calving conditions reasonably allow.

131. Existing seasonal closures tend to separate the motorized and non-motorized peak use seasons. One size does not necessarily fit every circumstance but standardize or simplify seasonal closure dates as much as possible. The number of different closures periods should be kept to a maximum of two, if possible, in order to avoid confusion and resulting misunderstandings.

132. Motorized recreationists would be willing to accept area closure when necessary to protect the natural environment in exchange for a reasonable network of OHV roads and trails.

133. In areas where OHVs must use a roadway, resource management plans should include the designation of dual-use roads to allow OHV's to move from one trail segment to another.

134. Provide open or play areas for motorized recreation opportunity and trials bikes where acceptable in selected areas.

135. Motorcycle trail riders enjoy riding single-track trails. Motorized single-track recreation trails are limited at this time and continue to decline. Some BLM and FS districts do not differentiate between ATV and motorcycle trails in their travel plans. Evaluations and travel plans should differentiate between ATV and motorcycle trails.

136. We have observed that single-track motorcycle trails require less maintenance for erosion and use. We have also observed that ATV enthusiasts do a good job of clearing downed trees from trails. These characteristics must be adequately considered.

137. Single-track trails that are not appropriate for ATV use should be kept open for motorcycle use.

138. Trails designated for motorized single-track use but do not physical features to prevent ATV use should include adequate signing and barriers to inform ATV enthusiasts and prevent inadvertent use.

139. The number of "single track" motorcycle trails that motorcycle riders seek has been significantly reduced over the last 35 years.

140. The integrity of the "loop" trail system should be maintained. Loop systems minimize the number of on-trail encounters because non-motorized trail users don't encounter motorized users going both directions, as they do on non-loop trails. Loop trails also offer trail users a more desirable recreational experience. Agencies are encouraged to provide opportunity for "motorized loop trail systems" to lessen impacts and to provide a better recreational experience. Spurs are useful for exploration and reaching destinations.

141. Agencies are encouraged to allow use of specific roads for OHVs that are not licensed for the street use in order to develop a network of roads that tie OHV trails together.

142. Agencies are encouraged to utilize standardized trail signing and marking in order to lessen confusion. Trails closed unless otherwise marked open are not reasonable. Trails, when closed, should be signed with an official, legitimate reason. Monitoring should be implemented to justify the reasons stated.

143. Agencies are encouraged to utilize all trail maintenance and upgrading management techniques, such as, bridging, puncheon, realignment, drains, and dips to prevent closure or loss of motorized trail use. Trails should not be closed because of a problem with a bad section of trail. The solution is to fix the problem area or reroute the trail, not to close it. If funding or manpower is a problem, then other resources should be looked to including local volunteer groups, state or national OHV funding.

144. Agencies are encouraged to develop OHV programs that address more than law enforcement needs. OHV programs should actively promote the development, enhancement, and mitigation of OHV recreation opportunities.

145. Agencies are encouraged to develop and use State Trail Ranger Programs similar to Idaho's program through the State OHV Fund, as well as volunteer trail maintenance programs.

146. Agencies are encouraged to clear trails early in the year to insure maximum availability and reduction of diversion damage caused by routing around obstacles.

147. Agencies are encouraged to avoid yearlong trail closures if wildlife concerns are valid only during certain seasons. In these instances, closures should be seasonal only with the dates consistent with the requirements to protect wildlife.

148. Agencies are encouraged to avoid trail closures associated with other actions including timber sales, mining, and livestock grazing. Corrective action should be taken where trail closures in the past have resulted from these sorts of past actions. Loss of motorized trails because of past timber sales should be mitigated by connecting old and new travelways to create looped trail systems.

149. Agencies are encouraged to re-establish and/or relocate all trails and roads disturbed by other actions such as timber harvest, mining, and livestock grazing.

150. Agencies are encouraged to seek outside review and input by OHV recreationists on all proposed management decisions affecting motorized recreation opportunities including closures.

151. Agencies are encouraged to establish greater credibility with motorized recreationists by having motorized recreation planners on the interdisciplinary team and a board of motorized recreationists.

152. Agencies are encouraged to align non-motorized area boundaries so that they do not encroach or eliminate trails located at the edge of the boundaries.

153. Agencies are encouraged to provide for motorized trails and vista points on the boundaries outside of the non-motorized areas so the motorized visitors can view those areas.

154. Agencies are encouraged to establish OHV census collection points at road and trail collection points. Include an OHV category on all trail and road census sheets.

155. Agencies are encouraged to treat hiking, horses and mountain bikes as a form of transportation, just as motorized recreation is a form of transportation.

156. Agencies are encouraged to correct the signing at trailheads that suggests that motorized visitors are more damaging than other visitors.

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157. Agencies are encouraged to keep trails in proposed non-motorized/wilderness/roadless areas open. Motorized-use on trails in these areas does not detract from the wild characteristics in the proposed non-motorized/wilderness area. Additionally, the Roadless Rule specifically allows for OHV activity in Roadless areas.

158. Agencies are encouraged to provide good statistics on the level of use by the various public land visitors and use these statistics in the decision processes.

159. Agencies are encouraged to avoid the closure of trails to motorized use as the "easy way out" in dealing with issues created by non-motorized users.

160. Agencies should recognize that many roads and trails were not originally laid out with recreation in mind and that changes should be made in some road and trail segments to address environmental and safety problems. In most cases, problems can be mitigated to a reasonable level and closures can be avoided.

161. Agencies are encouraged to recognize, in the form of access, groups who expend effort and money in maintaining and improving roads and trails.

162. Agencies are encouraged to promote multiple-use and not exclusive-use. Exclusive-use is the antithesis of public access and recreational opportunities within public lands. Management for exclusive-use runs counter to Congressional directives for multiple-use.

163. Agencies are encouraged to make Travel Plan maps more readily available. Vending machines could be placed in areas that are accessible at any time of the day or week at BLM and FS offices.

164. Agencies are encouraged to publish all Travel Plan maps in the same format and in an easy to read format. The Travel Plan map and Visitors map should be the same. All visitors need to clearly understand what areas, roads or trails are open for motorized travel and what areas, trails, or roads are closed to motorized travel. Current maps lead to misunderstandings by both non-motorized and motorized visitors.

165. Agencies are encouraged to implement a standard signing convention that is easily understood. For example, there are often misunderstandings about seasonal motor vehicle restrictions due to the “No” symbol with the actual closure period shown below in small text that is often not seen or understood. In this example, the road or trail is open except during the period below but it is often misinterpreted as closed.

166. There needs to be better coordination between adjoining National Forest and BLM lands when making maps, laying out trails, and establishing travel plans. In some cases a trail is open in one jurisdiction but becomes closed when it crosses over the boundary to another jurisdiction resulting in an overall loss of motorized recreation opportunity.

167. Agencies should not use motorized access in areas closed to motorized access by the public because: (a) the public will see the tracks and could become upset that the motorized closure is being violated and/or (b) the public will see the tracks and conclude that motorized access is acceptable.

168. The difficulty of a particular route required can be identified by a signing system similar to ski runs so that recreationists are made aware of the skill levels required and so that a wide variety of routes for all skill levels can be enjoyed.

169. Winter ATV riding has become very popular and winter ATV areas should be considered as part of the proposed action.

170. A new standard for motorized recreational trails could be developed that would be more beneficial for the environment and motorized recreationists. This new standard would be as non-linear as possible (as curvilinear as possible). The original system of roads and trails was constructed with the shortest distance from point A to point B in mind. The new standard for motorized recreational trails would not necessarily follow the shortest distance and would include many curves to keep the speed down and increase the fun factor. Advantages of this approach would include: routes could easily be moved to avoid cultural resources and sensitive environmental areas; less visible on the ground and from the air; aesthetically pleasing; lower speeds and greater safety; easily incorporates dips and swales for diversion of water from the route (environmental protection) and greater enjoyment by motorized recreationists. These sorts of trails could be built as mitigation for any motorized closures required as part of an action. Please contact Doug Abelin of CTVA for more information on the non-linear approach to trail construction.

171. Ruts caused by ATVs in corners are often due to the solid drive axles which do not allow the wheels to turn at different speeds due to the difference in between outside and inside curve radiuses. These ruts could be significantly reduced by encouraging all manufacturers to develop machines with differential axles that allow the outside and inside tires to turn at different speeds.

172. We have seen a low level of use used as a factor to close motorized routes. This criterion should also be applied equally to non-motorized routes. For example, a low level of use by motorcycles was used as a reason to close the Nez Perce trail in the Beaverhead-Deerlodge National Forest. This same reason should be used to open up non-motorized trails experiencing a low level of use to motorized use.

173. When considering the level of use for either keeping a road or trail open or closed, the evaluation must recognize that motorcycle use and tracks are far less obvious on the ground than ATV tracks.

174. The underlying strategy of past travel management actions has been to eliminate as many motorized recreational opportunities as possible and to avoid the creation of any new motorized opportunities. We request that the underlying principle of all new travel management actions be to maintain the existing level of opportunities for motorized visitors. We also request that the document and decision-making; (1) evaluate the cumulative negative effect of past strategies to eliminate motorized recreation opportunities including the conversion of multiple-use lands to all designations of non-motorized areas including pre-Columbian scheme, monuments, wilderness, wilderness study areas, roadless areas; and (2) enact actions that will offset the cumulative negative effect of past strategies to eliminate motorized recreational opportunities.

175. A new strategy for travel management actions should be to enhance the level of opportunities for motorized visitors in order to be responsive to the needs of the public. Enhancement could include roads and trails systems with loops, exploration destinations such as lakes, mines, scenic overlooks, and inter-connections to other public lands and regional trails. We request that the preferred alternative include the enhancement of motorized recreational opportunities.

176. The environmental document should consider the following visitor profiles in addition to OHV enthusiasts as motorized visitors who use roads and trails within public lands. People out for weekend drives, sightseers, picnickers, campers, hunters, hiking, rock climbing, target

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shooters, fisherman, snowmobile enthusiasts, woodcutters, wildlife viewing, berry and mushroom pickers, equestrians, mountain bikers, and physically challenged visitors who must use wheeled vehicles to visit public lands. All of these multiple-use visitors use roads and motorized trails for their recreational purposes and the decision must take into account motorized designations serve many recreation activities, not just recreational trail riding. We request that the significant impact from all cumulative statewide-motorized closures on all of these visitors be included in the environmental document. A statewide analysis is required because cumulative negative effects are forcing all motorized visitors to travel farther and farther to fewer and fewer places to find motorized access and recreation opportunities.

177. We request an adequate evaluation of the cumulative negative impact on motorized recreation and access opportunities that occurs when motorized routes are converted to non-motorized routes to establish the CDNST because we believe that they are significant. We request, as a reasonable alternative, a network of national recreation trails for motorized recreationists equivalent to the Continental Divide Trail (CDT), Pacific Crest Trail, National Recreation Trail and other national non-motorized trails that travel a long distance and interconnect with other forests such as the Michigan Cross Country Motorcycle Trail 1200 miles (http://www.fs.fed.us/r9/hmnf/pages/Recreation/Baldwin/bwc_Oo_atvmoto_txtonly.pdf), Pacific Crest Quest (http://www.advrider.com/forums/showthread.php?t=111885), Lassen Backcountry Discovery Trail (http://www.backcountrydiscoverytrail.com/index.html and http://www.intergate.com/~sue/4wd_Trails/cbdt_lassen/lassen_cbdt.htm), the Modoc Backcountry Discovery Trail (http://www.fs.fed.us/r5/modoc/recreation/ohv/mbcdt.shtml and http://www.intergate.com/~sue/4wd_Trails/cbdt_modoc/modoc_cbdt.htm), and the Arizona Peace Trail (http://arizonapeacetrail.org/). The interest and adventure of long-distance cross-country trips is captured in trip reports including http://www.quadtrek.net/ (click English) and http://www.advrider.com/forums/showthread.php?t=147232 .

178. If motorized recreationists had trails of regional and national significance, they would see considerable use. Non-motorized recreationists have considerably more national trail recreation opportunities than motorized recreationists. We request, as a reasonable alternative, that the needs of motorized recreationists for regional and national travelways be evaluated. We request an evaluation of the cumulative negative impacts and environmental justice issues surrounding the lack of regional and national motorized trails for motorized recreationists. We request, as a reasonable alternative, that regional and national motorized recreational trails be identified and actions be taken to implement those trails.

179. Electric motorcycles and electric mountain bikes are here and will completely take the sound issue off the table. This planning action must adequately accommodate the future use of electric motorcycles and mountain bikes on **all** existing single track trails as a reasonably foreseeable development.
    https://www.altamotors.co/redshiftsm/
    http://www.ktm.com/e-ride/
    http://www.trekbikes.com/us/en_US/bikes/collections/electric-bikes/c/B507/

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2. Must Adequately Address the Need for Motorized Access and Motorized Recreation for Youth

180. One measure that must be adequately addressed is the hours of motorized recreation lost due to the closure of OHV routes. These hours must be broken down by age class ranging from teenage visitors (important for areas that younger people can use) to senior and disabled individuals and veterans.

181. The previous travel plans have included significant motorized closures that have left the public with an inadequate network of OHV routes OHV recreationists including the youth are now forced a significant distance in order to enjoy OHV opportunities at a significant cost in time and money. This lack of adequate and reasonable OHV opportunities through cumulative impact has become a significant issue that must be addressed and mitigated in the Travel plan.

182. The travel plan must adequately consider the need for motorized access and motorized recreational opportunities close to communities.

183. There is a significant need for Youth Loops. Youth Loops would include a small area of several acres, either contained by fencing or clearly marked boundary, with short, tight trail system that is designed to entertain kids under adult supervision. The youth loop offers an alternative to unauthorized routes near camp areas and riding in campgrounds. A good example to refer to is the youth loops found in the Lewis and Clark National Forest Travel Plan for the Little Belts. This need and providing for it was not adequately addressed.

184. There is no place close to communities where motorized recreationists can go including high school kids and the older generation. The travel plan must adequately address and mitigate the loss of motorized opportunities close to communities.

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3. Must Adequately Address the Need for Motorized Access and Motorized Recreation for the Elderly and Disabled.

185. Excessive restrictions such as motorized closures of existing routes and the August 31st closure date does not provide equal access to enjoy the beautiful fall period including handicapped, disabled, retirees, veterans, and elderly who must use ATVs and UTVs for access. This significant issue was not adequately addressed in the travel plan document.

186. Consideration of both the 30' and 70' rule on the needs of the handicapped, elderly, retirees, veterans and disabled citizens has not been adequate. The unique needs of this group require more room to safely camp, picnic, park and recreate.

187. The socio-economic benefit of OHV recreation in the Project Area has not been given a hard look in the travel plan document. CTVA comments submitted for the public record have identified numerous socio-economic benefits and significant socio-economic issues that were not adequately considered with site-specific data and evaluation. This information and evaluation would justify a Pro-Recreation Alternative and the lack of it led to an uninformed decision. Adequate consideration of the needs, historic use, and culture of motorized recreationists would result in a more balanced preferred alternative that would be far better accepted by the public. Our heritage is based on access and enjoyment of our public lands. One measure that must be adequately addressed is the hours of motorized recreation lost due to the closure of OHV routes in the both national forests. These hours must be broken down by age class ranging from teenage visitors (a significant issue for areas that both young and older people can use) to retired, senior, disabled individuals, retirees, handicapped, and veterans.

188. There are far more non-motorized trail opportunities. They are endless. The BLM states that it is an equal opportunity provider and employer. The motorized access and motorized recreational needs of retired, senior, disabled individuals, retirees, handicapped, and veterans has not been given a hard look in the travel plan portion of the document.

189. Retired are the largest population group are the retired (http://www.census.gov/population/age/data/2012.html) and their needs for motorized access and motorized recreational opportunities are the greatest. The travel plan document misses this fact and need. The semi-retired and retired have worked incredibly hard all of their lives with the dream of retiring and enjoying their OHVs. The travel plan must adequately consider and provide for this need.

190. The needs of the aging baby boomer population and their desire for adequate motorized access and motorized recreation is a significant issue that is brought up continually at our monthly meetings and in many discussions with other motorized recreationists. This significant issue must be recognized and given a hard look in the Purpose and Need, adequately addressed as part of the human environment and adequately addressed by the development of a reasonable Pro-Recreation alternative.

191. The evaluation must adequately consider the growing popularity of motorized recreation, the aging population and their needs for motorized access, and the increased recreation time that the aging population has and looked forward to enjoying public lands in their motor vehicles.

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192. Many handicapped, elderly, or physically impaired citizens can only access and recreate on public lands by using motorized roads and trails. The needs of these citizens should be adequately considered. On November 10th, 1998, President Clinton signed Public Law 105-359, requiring the Secretary of Agriculture and the Secretary of the Interior to conduct a study to improve access for persons with disabilities to outdoor recreation opportunities made available to the public. This law states: *(a) STUDY REQUIRED. – The Secretary of Agriculture and the Secretary of the Interior shall jointly conduct a study regarding ways to improve the access for persons with disabilities to outdoor recreational opportunities (such as fishing, hunting, trapping, wildlife viewing, hiking, boating and camping) made available to the public on the Federal lands described in subsection (b).*

(b) COVERED FEDERAL LANDS. – The Federal lands referred to in subsection (a) are the following:

(1) National Forest System lands.
(2) Units of the National Park System.
(3) Areas in the National Wildlife Refuge System.
(4) Lands administered by the Bureau of Land Management

The Study prepared to address P.L. 105-359 (Improving Access to Outdoor Recreational Activities on Federal Land, prepared by Wilderness Inquiry, June 27, 2000) found and recommended the following areas of action:

1) Agencies must re-dedicate their efforts to achieve the goal of equal opportunities for access to outdoor recreation by persons with disabilities.

2) Agencies should conduct baseline assessments of existing facility and programmatic accessibility, and develop and implement transition plans for facilities and programs that are not now accessible to bring them into compliance.
3) Increase accessibility related awareness and educational opportunities for agency personnel,
service providers, and partners.
4) Increase funding to federal land management agencies for accessibility.

5) Increase accountability and oversight in implementing accessibility initiatives.
6) Improve communications about opportunities for outdoor recreation to persons with disabilities.
7) Clarify the balance between resource protection and accessibility.

193. We request, as a reasonable alternative, that the proposed action adequately address and comply with the recommendations of the Study conducted to address P.L. 105-359 including items 1 and 7.

194. We are extremely concerned about the loss of access and impact on the handicapped, elderly, and physically impaired produced by each motorized closure to historic sites and traditional use areas. The proposed closures deny these citizens access to public lands that are especially important to them. We request, as a reasonable alternative, that all the roads, trails, and features of interest be analyzed for the access and recreation opportunity that they provide for handicapped, elderly, and physically impaired visitors.

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4. Must Adequately Address the Impacts On and Benefits of Motorized Recreation on the Human Environment

195. Our pursuit of happiness has been significantly impacted by all of the motorized closures.

196. The agency must give a hard look at the impact of motorized closures on the human environment. Per CEQ guidance, NEPA documents are to be driven by significant issues. Motorized closures and the lack of adequate motorized opportunities have a significant impact on motorized recreationists. The impact of motorized closures on the health of our members and the loss of the benefits of OHV recreation are significant issues to motorized recreationists. In order to make a reasonable decision, the agency must adequately considers the issues and impacts associated with motorized closures on the mental and physical health of the public. These issues are critical due to the cumulative effect of all motorized closures. As one example, consider the motorized closure of the Scratch Gravel Hills near Helena. Members of our group collected over 300 signatures on a petition protesting that closure. Many of the signatures were from high school students. Now there is no place close to Helena that young people can go. What are they doing now? It is not as positive as riding their dirt bike or ATV in the hills. Now multiply that by the thousands of miles of roads and trails that have been closed to the public. The following health issues and benefits of OHV recreation must be addressed in order to arrive at a reasonable decision for this action.

A. Sadly, one indicator of the condition of the human environment in Montana is the suicide rate. Montana ranks number 2 in the nation (http://www.suicide.org/suicide-statistics.html). This significant problem has been specifically identified as requiring special attention by the Department of Health and Human Services http://www.dphhs.mt.gov/amdd/statesuicideplan.pdf . Motorized recreation is popular and it is a very healthy and positive human activity that can help address this significant human issue (http://www.marketwire.com/press-release/The-Results-Are-in-Off-Road-Vehicle-Riding-is-Good-for-Your-Body-and-Soul-1310189.htm). The Agency can help address this significant problem by providing an adequate quantity and quality of motorized recreational opportunities. We ask that you adequately address this significant issue associated with the human environment.

At a rate of 23.4 deaths per 100,000 people, Montana's suicide rate continues to be nearly twice the national average. Nevada and other western states along with Montana continues to post the higher suicide rates in the nation. http://helenair.com/lifestyles/health-med-fit/montana-suicides-continue-to-creep-up-rate-remains-twice-the/article_fd11ebda-c84f-51ba-9940-4d692ecf2bd3.html?print=true&cid=print

B. Videophilia - the new human tendency to focus on sedentary activities involving electronic media has become a significant social problem in the U.S. (Pergams, O. R. W. and P. A. Zaradic. 2006. Is love of nature in the US becoming love of electronic media? 16-year downtrend in national park visits explained by watching movies, playing video games, internet use, and oil prices. Journal of Environmental Management 80:387-393). The study shows that people in the US and other developed nations are spending far less time in nature than ever before. The study tested trends in nature participation in 16 time series in the categories of visitation to various types of public lands in the US, Japan, and Spain; number of various types of game licenses issued; amount of time spent camping; and

amount of time spent backpacking or hiking. The four activities with the greatest per capita participation were visits to Japanese National Parks, US State Parks, US National Parks, and US National Forests, with an average individual participating 0.74-2.75 times per year. All four are in downtrends and are losing between 1% and 3% per year. The longest and most complete time series show that these declines in per capita nature participation typically began between 1981 and 1991, are losing about 1% per year, and have so far lost between 18% and 25%. At the same time, the interest and desire to participate in OHV recreation in the outdoors is increasing and strong as previously documented. OHV recreation is a reasonable alternative to increase participation in outdoor activities. We request that this issue and solution be adequately addressed by this plan by implement more OHV opportunities.

C. In the past 30 years, the prevalence of overweight and obesity has increased sharply for both adults and children. Between 1976–1980 and 2003–2004, the prevalence of obesity among adults aged 20–74 years increased from 15.0% to 32.9%. This increase is not limited to adults. Among young people, the prevalence of overweight increased from 5.0% to 13.9% for those aged 2–5 years, 6.5% to 18.8% for those aged 6–11 years, and 5.0% to 17.4% for those aged 12–19 years. (Reference: http://www.cdc.gov/nccdphp/dnpa/obesity/). This disturbing trend has prompted the President to promote a health and fitness initiative (http://www.whitehouse.gov/infocus/fitness/toc.html) and OHV recreation is an activity that meets the physical requirements of the President's fitness program and counters the epidemic of videophilia.

D. Research by the Ontario Federation of Trail Riders studied 310 off-road motorcycle enthusiasts and found that the physical exertion was on the order of 60% of VO2max, or 80% HRmax, or 9.3 METS which is slightly greater than jogging (Characterizing the Physical Demands of Off-Road Motorcycling, Executive Summary, Jamie Burr, Norman Gledhill, Veronica Jamnik, Ontario Federation of Trail Riders, February 2007, http://www.oftr.org/OFTR_Fitness_Study.pdf).

E. The July 2010 issue of Medicine & Science in Sports & Exercise, the Official Journal of the American College of Sports Medicine (ACSM), "Physiological Demands of Off-Road Vehicle Riding") focuses specifically on the physiological demands of off-road vehicle (OHV) riding, compares them to the demands of other recreational activities, and explores the health and fitness benefits that OHV participation can provide (http://www.nohvcc.org/Tools/TopicLibraries/Health.aspx). The study concluded that the health benefits of OHV recreation include:

- Off-road vehicle riding was found to require "a true physiological demand that would be expected to have a beneficial effect on health and fitness according to Canada's current physical activity recommendations".

- Off-road vehicle riding was determined to be a recreational activity associated with moderate-intensity cardiovascular demand and fatigue-inducing muscular strength challenges, similar to other self-paced recreational sports such as golf, rock-climbing and alpine skiing.

- Oxygen consumption, which is an indicator of physical work, increased by 3.5 and 6 times the resting values for ATV and ORM riding respectively – which falls within moderate intensity activity according to the American College of Sports Medicine guidelines and is in line with Canadian physical activity recommendations.

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• The duration of a typical ride (2-3 hours for ATV, 1-2 hours for ORM) and the frequency of the rides (1-2 times a week) create sufficient opportunity to stimulate changes in aerobic fitness which falls within the physical activity guidelines (American College of Sports Medicine recommends between 450 – 720 MET minutes per week).

• Using heart rate measurements alone, the demands of riding belong to the category of "hard" exercise – this increase of intensity may be linked to heightened psycho emotional responses (i.e. adrenalin), an effect of heat stress while riding, or a response to repeated isometric squeezing of the handlebars.

• When considering muscular force and power involvement, study results indicate a greater impact on muscular endurance as opposed to an increase in strength.

• Off-road vehicle riders perform considerable physical work using their arms and upper body. This upper body strength requirement "could lead to beneficial training increases in musculoskeletal fitness".

• Study findings also picked up on the psycho-social effects of riding – the "enhanced quality of life and stress reduction effects of off-road riding".

• Findings also reflect the importance of alternative physical activity such as off-road riding to promote physical activity in a group who might otherwise forego exercise altogether.

F. Research by a leading neuroscientist has determined that riding a motorcycle helps keep riders young by invigorating their brains. The brain functions was measured by devices put on the heads of 22 males while riding motorcycles. The researchers found that the riders brains prefrontal areas became highly activated. This is the area of the brain that covers memory, information processing and concentration functions. The research was conducted by Ryuta Kawashima, the scientist behind popular "Brain Training" computer software at Nintendo.

One experiment involved 22 men, all in their 40s and 50s, who held motorcycle licenses, but had not taken a ride for at least a decade. They were randomly split into two groups. The first group was asked to resume riding motorcycles in everyday life for two months, the other group was asked to kept driving their cars or trucks. "The group that rode motorbikes posted higher marks in cognitive function tests," Kawashima said.

Another test, required the men to remember a set of numbers in reverse order, "the riders' scores jumped by more than 50 percent in two months, while the non-riders' marks deteriorated slightly," said Kawashima. It should also be noted that the riders in the study mentioned that they made fewer mistakes at work and felt happier.

"Mental care is a very big issue in modern society," says Kawashima . "I think we made an interesting study here as the data shows you can improve your mental condition simply by using motorbikes to commute." The study goes on to display that a motorcycle rider's brain becomes more tense and is in a heightened alertness in order to process information actively during riding. The obvious payoff is that riding a motorcycle helps keep riders young by invigorating their brains.

http://www.dijtokyo.org/events/SMP_DAY1_Kawashima.pdf

http://motocrossactionmag.com/Main/News/MOTORCYCLES-MAKE-YOU-SMARTER-Japanese-Study-Discov-5756.aspx

We have observed that the same benefits that Kawashima has documented for motorcyclists also extends to all OHV recreation. We ask that the tremendous value of OHV recreation for both mental and physical health benefits be recognized in the evaluation and used to justify an increase in motorized recreational opportunities.

G. Wind in her hair: 86-year-old Darby woman has been riding motorcycles for 70 years. http://helenair.com/news/local/wind-in-her-hair--year-old-darby-woman-has/article_2f235871-baa3-5747-9a9d-3c6c77e7ef2c.html

197. The positive economic impact on the economy of the area is another socio-economic factor that must be adequately considered in the decision-making and especially during this times of economic recession. Arizona State Parks has prepared a good example of an economic analysis of OHV recreation for Coconino County, AZ (http://www.gf.state.az.us/pdfs/w_c/OHV%20Report.pdf). The economic impacts of OHV recreation in one county are significant with $258.3 million statewide impact and a $215.3 million impact locally that supports 2,580 jobs. Off-highway vehicle recreation activity is an immensely powerful part of the Arizona collective economic fabric, generating nearly $3 billion in retail sales during 2002 (http://www.gf.state.az.us/pdfs/w_c/OHV%20Report.pdf).

198. An adequate system of roads are needed to provide the public with an adequate level of fire protection. Risk of fire is at an all-time high. Reasonable management would keep all existing roads and trails open to motorized use so that they can provide adequate fire access and firefighting protection.
    a. In 2011 two-thirds of Americans, or nearly 212 million, lived in counties beset by wildfire smoke two years ago, according to the analysis by the Natural Resources Defense Council. "It affects a much wider area of the United States than people realize," says author Kim Knowlton, an NRDC senior scientist and Columbia University health professor, adding the smoke can drift up to hundreds of miles. She says the smoke contains fine-particle air pollution and can not only cause asthma attacks and pneumonia but also worsen chronic heart and lung diseases. The health impacts can be dire. The 2003 wildfire season in southern California resulted in 69 premature deaths, 778 hospitalizations, 1,431 emergency room visits and 47,605 outpatient visits, according to a study led by Ralph Delfino of the University of California, Irvine. http://www.usatoday.com/story/news/nation/2013/10/24/wildfires-smoke-climate-change-harm-health/3173165/

199. Smoke from forest fires is reducing the lifespan of the public. The lifespan lost in person-years must be estimated and adequately considered in the evaluation. This loss of life and pursuit of happiness must be compensated by offering new motorized recreational opportunities to the public.

200. The access and fuel breaks provided by motorized roads and trails help to manage wildfires and lessen the impact on the human environment.

201. The Outdoor Industry Association estimates that off-highway-vehicle enthusiasts add more than $66 billion in direct economic activity to local economies, supporting more than 650,000 jobs (page 18 https://outdoorindustry.org/pdf/OIA_OutdoorRecEconomyReport2012.pdf). Because the economy and job creation are crucial issues, CTVA stresses the financial benefits of off-highway motorcycle and all-terrain-vehicle recreation and tourism when countering

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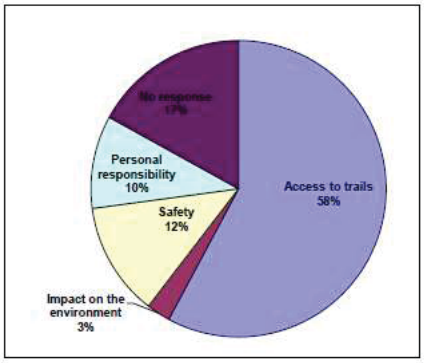
arguments from those attempting to deny access to public lands or otherwise restrict OHV recreational opportunities.

202. "About 77,200 off-highway vehicles (OHVs) were registered for off-highway use in Montana during 2013. These vehicles are used both for pleasure and work. OHV-owning households own an average of two machines, and two family members usually participate in outings. Montana OHV users spend between 4.2 million and 5.9 million days recreating. Residents spend about $208 million per year on OHV activities, and nearly all their entire out-of pocket trip costs are for gasoline. We estimate that OHV users buy about 6.6 million gallons of gasoline per year. With a base tax of $0.27 per gallon, resident OHV users in Montana generate over $1.8 million in revenue for the state highway trust fund."

Figure 4: The Most Important Issue Facing Off-Highway Recreation?



(Source: http://www.bber.umt.edu/search/..%5Cpubs%5Csurvey%5CMontanaOHVStudy2013.pdf)

203. Motorized recreationists carry chainsaws and keep trails open for everybody. This is a significant point given the amount of beetle killed trees that are falling across trails. On a recent ride on the CDNST between Champion Pass and Lowland Campground, motorized recreationists had recently cleared over 100 fallen trees from the trail. On a following weekend motorized recreationists cleared over 200 fallen trees from the CDNST near Bull Ranch. Our observations indicate that if motorized recreationists are not allowed to clear the trails through their use then the trail will be largely closed by downfall within two years.

204. Small towns surrounded by wilderness areas such as Lincoln, Montana are struggling with the existing economic conditions which confirm that an economy based largely on wilderness recreation will be limited. Further decisions that force the economy to rely solely on wilderness and non-motorized recreation will move Lincoln in a direction that will result in further economic hardship. At the same time, Lincoln is surrounded by a significant amount of land intended for multiple-use. Managing for reasonable multiple-use on all federal lands would allow the Lincoln to further develop an economy based on snowmobile recreation in the winter and OHV recreation in the summer which would bring better economic conditions to the area. This concept would not infringe on wilderness and is an entirely reasonable alternative. Therefore, a Pro-Recreation Alternative must be developed for the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS. Towns in or near the project area could become as successful Marysvale, Utah area (http://www.marysvale.org/) which is based on the Paiute trail and the Caliente and Pioche, Nevada area which is based on the Chief Mountain and Silver

State Trail systems (http://nvtrailmaps.com/trail.php?trail=708). These trail systems bring in thousands of motorized recreationists who buy lodging, meals, parts, fuel, and goods in adjacent towns. The lack of adequate OHV and snowmobile access and opportunities in the project area is demonstrated by the use of the highway borrow ditches. When snowmobiles and OHVs are forced to use the highway borrow ditches confirms that there are inadequate motorized recreational opportunities in the area. This is not a desirable nor equitable situation and especially when considering the thousands of acres of multiple-use land designated in the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS Project Area. These and other reasons support a hard look at a reasonable Pro-Recreation Alternative for the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS.

205. Therapy – The treatment of stress or disorders, as by some remedial, rehabilitating, or curative process. Unfortunately, there is a significant need for OHV opportunities for therapy for our wounded warriors. We have found that riding OHVs can be some of the best therapy available for those that have served our country in the armed forces and now have a need for a curative process.

206. The positive economic benefit of OHV recreation in Montana is significant as documented by Montana Fish Wildlife and Parks in their report Montana Off-Highway Vehicles 2008 published in January 2009 (www.bber.umt.edu/pubs/survey/MT_OHV_2008.pdf). This report was prepared by James T. Sylvester, Bureau of Business and Economic Research, The University of Montana-Missoula and found that total OHV recreation expenditures by Montana residents was $122,900,000 in 2008. There is also a significant out-of-state expenditure that was not evaluated by this investigation. This is an especially significant issue during these tough economic times. OHV recreation based on a network of trails that attracts visitors to the area will produce a significant positive economic impact that must be given a hard look during the development of alternatives and the evaluation.

207. Allowing travel up to 300 feet off of a designated route, both roads and trails, is an absolutely necessary opportunity for reasonable use of the area by the public. This access is needed for retrieval, woodcutting, and to reach dispersed campsites and the public's use of the area would be unreasonably compromised without this access. The use of this access can be qualified to restrict it in situations where it results in unreasonable resource damage.

208. The following definition of "sense of magnitude" needs to be incorporated into the analyses and decision-making. In theory a motorized recreational activity might produce some level of negative impact but when employing a "sense of magnitude" the impacts are compared to the impact of reasonable benchmarks including impacts associated with naturally occurring processes. If a purported impact associated with motorized recreation is compared to the natural level and found to be less, then that recreational impact is not significant and would be reasonable to accept. For example, the annual amount of erosion directly attributable to motorized recreation is not significant when compared to the annual level of naturally occurring erosion. For example, the mortality of fish and wildlife from OHV recreation is negligible and especially when compared to natural levels of fish and wildlife mortality. For example, the loss of vegetation from OHV recreation is insignificant when compared to the impacts of beetle epidemics and fires. Additionally, positive impacts associated with motorized recreation must be evaluated with a sense of magnitude. For example, a 100 miles of motorized trail and dispersed camping opportunities provide valuable recreation opportunity for the public which is estimated at 12,000 visitor hours (1500 visitor days times 8 hours), 100,000 miles of trail use and 1,000 days of camping and trail riding with family and friends with a value to the economy of well over $2,500,000. Not employing a sense of magnitude when evaluating motorized recreation impacts contributes to significant discrimination and arbitrary and capricious decision-making.

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209. Dispersed campsites are very desirable camp sites. Closure of these sorts of dispersed campsites would have a very significant impact on the public. We request, as a reasonable alternative, that they remain open. If water quality concerns are the basis for these closures, then there are reasonable alternatives to mitigate these concerns, such as allowing only self-contained camping units to use them. Additionally, a sense of magnitude needs to be applied when assessing the water quality impacts from camping. For example, it appears that cattle grazing along the stream have a much greater impact than any camp site that we observed. Now don't get us wrong, we support all reasonable multiple-uses of the forest including cattle grazing. We are concerned that the incremental impacts on the public of closing dispersed camp sites are relatively significant while the real improvement to the environment will be relatively insignificant. Again, we request that all reasonable camp sites located along water courses remain open.

210. If dispersed camp sites are proposed to be closed based on water quality concerns, then the analysis must include a water quality monitoring program to establish the baseline water quality prior to the closure of dispersed camp sites and continue that program after the closure to establish whether any significant water quality improvement was realized. The decision should also include a provision to re-open closed camp sites when no significant improvement in water quality was realized by the closure.

211. In general there is a very high demand for camp sites and especially dispersed camp sites. If a dispersed camp site is closed, then we request, as a reasonable alternative, that the closure be mitigated by creation of new camp sites on at least a 1:1 basis in order to avoid a significant cumulative effect on the public of too few camp sites.

212. The negative social and economic impact experienced by motorized recreationists when motorized recreational opportunities do not exist in nearby public lands must be adequately evaluated and considered in the decision-making. This is especially significant now that fuel is over $2.00 per gallon. These impacts include the complete loss of recreational opportunities and the cost of having to travel farther and farther in search of fewer and fewer motorized recreational opportunities in times of increasing travel costs. For example, the lack of adequate OHV systems in the Helena National Forest requires us to travel at least 180 miles to adjacent national forests and many more miles to other states including Idaho and Utah. A 180 mile roundtrip costs at least 3 hours and $70 and that cost will increase substantially in the future. This added cost is a waste of time and energy resources and has not been adequately considered by the agency.

213. Additionally, OHV routes in adjacent forests are being reduced at an alarming rate and are compounding the cost in time and energy even further. We request the evaluation of the economic cost of fewer motorized recreation opportunities on motorized recreationists and the significant cumulative negative effect of all travel management decisions that contribute to these social and economic impacts on motorized recreationists be adequately evaluated.

214. The different management plans being developed by the BLM and Forest Service are using generated, estimated and inadequate data to forward an agenda of eliminating access and motorized recreation from public lands. The economic impact of these closures will be devastating to small communities throughout the West. Models can be manipulated to predict any result. Economic models such as Implan should not be used when the input data is estimated and not factual or actual. Adequate effort must be exercised by the agencies to gather true on the ground data from businesses and individuals that use our public lands. We request that the economic analysis use actual local data to determine the true economic and social impact of proposed motorized access and closures on the public.

215. While we respect other perspectives, one must also realize that the extreme ideals of the environmental groups such as the public should not be able to enjoy and use public lands, that everything should be wild, and that their use is the only reasonable use are not generally acceptable ideals for public policy nor are they supported by the laws. We are practical environmentalists who believe in a reasonable balance between the protection of the natural environment and the human environment and we believe that the laws are intended to support this ideal. Our position is to restore balance, practicality and fairness to the system.

216. All of the existing motorized routes are very important resources to us. For example, we have enjoyed trips to project area and these have usually been extended weekend trips that are special events for us. We have ridden over most of the open routes in the project area and have thoroughly enjoyed them but we could not accurately draw lines on a map to describe where we have been and what routes we want to remain open. We are puzzled by this requirement. We have never had to identify and inventory backpacking routes that we wish to remain open. Additionally, most motorized recreationists do not have the expertise or equipment required to provide a comprehensive inventory of roads and trails. We are very concerned about the burden and disadvantage that is placed on motorized recreationists by this procedure and we request that it be changed.

217. We are very concerned that motorized recreationists must identify and inventory specific routes that we want to remain open. These resources are there now and they are being used by the public and in almost all cases, it is entirely reasonable type and level of use. Motorized recreationists should not have to identify and inventory motorized routes as part of the process. This is the work of the agency. No other visitor group is saddled with this requirement. Our concern is that the agency is using public involvement in a discriminatory way to establish which motorized routes will remain open. For example, the Agency has concluded that the level of use by motorcycles is low based on the level of public participation in the EA process. There is no actual data or comparison of motorcycle use to hiking use or direct discussion with motorized recreationists to substantiate this.

218. We respectfully maintain that the agency cannot establish the motorized routes to remain open based solely on formal written public input because the process did not have a high enough level of participation by motorized recreationists to develop meaningful input. Therefore, the needs of motorized recreationists are not adequately or accurately represented. Our comments submitted during the EA further explain why this condition exists but basically the process, as practiced, is overwhelming and intimidating to the public. There are ways to more directly involve motorized recreationists including interviews at club meetings and interviews on the trails and at trailheads. Continuing to use the practice of formal written comments to establish the need for motorized routes will leave motorized recreationists with only a few main roads and with no high quality motorized trails. We object to this process and respectfully request that it be corrected. Additionally, the current practice is discriminatory because non-motorized recreationists are not required to submit written formal comments that identify and defend each and every recreational opportunity that they want to enjoy in the future. Again, we respectfully ask that this practice be corrected.

219. Similar to non-motorized recreationists, motorized recreationists also like plenty of dispersed recreational opportunities and the current trend is limiting motorized recreationists to a very few locations. Additionally, eliminating dispersed motorized recreational opportunities and concentrating the few remaining motorized recreational opportunities in relatively small areas significantly increases negative impacts on both the natural and human environments to the point that the impacts become unacceptable and this trend is neither reasonable nor equitable. The following are some typical comments found on the different OHV forums: *This area gets a*

lot of traffic. I wouldn't dare go on a weekend, it's almost like Hollister with the crowds. Just too small of an area for the amount of riders.

220. Requiring motorized visitors to identify and inventory roads and trails is seen as part of a strategy to reduce the number of motorized routes because the public cannot undertake this huge effort. Additionally, NEPA requires site-specific planning be analyzed at a number of different scales and across different boundaries. Site specific planning includes an adequate evaluation by the agency of all of the impacts being experienced by motorized recreationists including motorcycle trail riders in both the project area and the surrounding region. The scale and boundaries of impacts being experienced by motorized recreationists are discussed in throughout these comments. Site specific analysis was an important part of NEPA. The agency should commit the resources and has an obligation to evaluate the needs of OHV recreationists at a least the same level of detail as key wildlife and natural resource areas. Site specific analysis includes adequate identification and inventory of all existing motorized routes and adequate evaluation of the public's need for those routes. An example of adequate site specific analysis to be used as a guideline are the comments dated May 1, 2004 and prepared by John Borg for the Caribou Travel Plan Revision. A copy of these comments can be obtained from the project record for the Caribou Travel Plan Revision or at www.mtvra.com.

221. Another example of predisposition in the current setting includes the fact that motorized recreationists endorsed and accepted millions of acres of area closure under the National OHV Policy decision as a positive action to control impacts but we have not been given credit for that action and have only been penalized for our past cooperation and initiative. The preferred alternative must adequately consider that past cooperation and it must move in a direction that gives motorized recreationists credit for their cooperation and the environmental improvements that resulted.

222. The National OHV Policy describe the second level of planning involving the analysis and implementation of management practices referred to as "site-specific" planning. Site specific planning detailed information including the location, condition, and current uses of individual roads and trails, and the identification of when and where individual roads and trails will be open or closed to various types of use. We supported the restriction of cross-country travel because we felt the document assured the identification of on the ground trails and their consideration as designated routes.

223. A reasonable test of significance of impacts from motorized closures on motorized recreationists must be used. A reasonable test would include evaluation of indicators including:
1. Where else can motorized recreationists go within a reasonable distance and with equal recreation value?
2. Do motorized recreationists have an adequate selection of the recreational resources with the proposed motorized closure(s)?
3. What is the balance of recreational opportunities in the area and region as demonstrated by the information developed from the outline shown in Table 3?
4. Are the existing motorized recreational opportunities sufficient for the needs of the public?
5. Are there documented user conflict and can the recreational resources be reasonably shared? Note that it is not reasonable to define user conflict a merely seeing someone else on a trail.
6. What are the cumulative effects of this motorized closure combined with all other motorized closures?

224. In order to adequately evaluate and disclose motorized and non-motorized recreational resource and opportunity information to the public, the following information using tables and maps must be used and presented in an accurate and concise manner.

Table 3
Comparison of Non-motorized and Motorized Opportunities

1. the miles of non-motorized recreational opportunities available in the project area including all possible cross-country routes and the number of acres available for cross-country non-motorized recreation under the existing condition (it is infinite),
2. the miles of roads and trails and number of acres to be closed to non-motorized recreationists in the proposed condition,
3. the miles of existing motorized roads, atv trails, and motorcycle trails in the project area meeting the definitions of the different types of routes in used and needed,
4. the acres within the project area open to motorized recreationists under existing and proposed conditions,
5. the percent of motorized and non-motorized recreational opportunities in the project area,
6. the miles of atv trails, motorcycle trails and roads and acres closed to motorized recreationists under both existing and proposed conditions,
7. the cumulative miles of roads, atv trails, motorcycle trails meeting the definitions and number of acres closed to motorized recreationists over the past 35 years at 5 year intervals in both the project area and regional area.

Once this information is adequately and concisely presented, one can easily see that motorized recreational opportunities are limited in the existing condition and then severely reduced in the proposed condition. This information must be presented in order to understand the significant imbalance of recreational opportunities that exists and the decision is deficient without this information.

225. The evaluation of a balance of opportunities should also include an accounting and comparison of facilities including trailhead facilities at wilderness areas versus trailhead facilities at OHV areas. Most wilderness trailhead facilities include parking lots, horse handling facilities, kiosks with information, campgrounds, and restrooms and they are funded without any direct connection to the users. Motorized recreationists generate more than adequate gas tax and OHV sticker revenues (over $500,000 in FY 2003 in Montana, FWP OHV program and RTP) but have few facilities to show for it versus a great need for facilities. Additionally, another $311,274 that was designated for motorized programs and that could have been spent on badly needed motorized recreational facilities were instead spent on non-motorized facilities. We request an adequate evaluation and consideration of these imbalances be made part of this project and actions taken that will correct these imbalances.

226. The reason often given by the agency that motorized trail projects including those using OHV grant money cannot be undertaken is that there is a current travel planning process under way or one about to begin or that NEPA compliance must be undertaken. There is a continuous cycle of travel planning undertaken and the public is not able to undertake NEPA compliance. The result is that motorized RTP funding is often under-utilized. At the same time, there is a tremendous need to projects on motorized routes. We need to find a way to break this Catch-22 situation.

227. Because of the cumulative negative effects of the motorized closure trend, the resource base for motorized recreationists is generally be reduced to a limited number of motorized routes and the lesser used routes are becoming hard to find and, therefore, they must be considered invaluable to motorized recreationists. The level of use should be evaluated along the logic that the most valuable motorized routes now days are the ones that are remote and see less use. Therefore, barely visible 2-track roads and single-track trails are invaluable to motorized

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recreationists and must be evaluated as such. It is not fair that motorized recreationists practice "tread lightly" principles and are then penalized for that practice. This is another example of predisposition.

228. Throughout this document we may refer to motorcycle trail riders and atv riders as motorized recreationists because the relationship between them are inter-twined. For example, many trails that were once single-track have become atv trails. Additionally, the trend of motorized trail closures affects all OHV recreationists and puts additional demands on the few motorized recreational opportunities that remain. However, motorized single-track trails are a uniquely different resource and experience compared to atv trails and must be recognized as such.

229. Existing single-track trails or potential single-track trails were not adequately identified and included in the project. There are many single-track "cow" trails that motorcycle trail riders could use in the project area. It is critical to preserve the integrity of the existing motorized single-track trails. Single-track trails offer a highly desirable experience for trail bike riders, equestrians, hikers, and bicyclists. They offer a different, more primitive experience than ATV trails or forest roads.

230. Motorcycle trail riders were the original motorized trail users and have a long history of trail maintenance and trail etiquette. The availability of motorized single-track trails has declined dramatically. At the same time, nearly all of the single-track trails see very little hiking or other use. Therefore, it is a reasonable alternative to designate all single-track trails on multiple-use lands open to motorcycle use. The South Fork of the Boise River in the Sawtooth National Forest is specifically referenced as the best example of an excellent multiple-use single-track trail system that is open to mountain bikes, equestrians, hikers, and motorcyclists. It is also an excellent example of a reasonable travel plan process (http://www.fs.fed.us/r4/sawtooth/projects/). We commend the Sawtooth National Forest for providing such a valuable recreation resource and for taking such a reasonable approach to travel planning that both perpetuates existing motorized access and recreational opportunities and also provides for enhancement and growth. The project team is encouraged to visit and observe the use of this area and to follow a similar travel plan process.

231. There is no significant impact from the level of dispersed motorcycle trail use in the project area. There is no legitimate or documented conflict of uses between motorcyclists and other uses on single-track trails in the project area. Note that it is not reasonable to define user conflict a merely seeing someone else on a trail. There is a significant need for an adequate number of miles of single-track for existing and future motorcyclists. There is no legitimate reason why the single-track trails in the multiple-use areas of the project should not be shared between motorized and non-motorized recreationists to a much greater extent. This reasonable alternative must be included.

232. Motorcyclists have co-existed for years with other recreationists in the project area. There is no documentation of a wide-spread problem with this multiple-use. We do not believe that it is reasonable to suddenly consider this multiple-use a problem.

233. Mountain bikes and motorcycle use should be considered compatible uses. Both are mechanized and both prefer a single-track or narrow trail. Additionally, motorcyclists have been keep single-track trails that mountain bikers have recently discovered, open for many years.

234. As part of the planning process, the agency is requiring motorized recreationists to provide an inventory of motorized routes that are important to them. It is not reasonable to expect motorized recreationists to inventory all existing motorized access and motorized recreational opportunities that they would like to use over the course of a lifetime. For example, motorized recreationists may be planning to visit an area that is 200 miles away for a week long summer vacation to enjoy motorized routes or we know people from several hundred miles away that routinely hunt in the fall and use many of the primitive roads and trails within the project area. They are not aware of the planning process and, even if they did, would not be able to inventory all of the primitive roads that they use. They simply expect the agency to look after their needs and that these motorized access and recreational resources will always be there for them. They will be extremely disappointed when they go out to their favorite hunting camp and find 50% of the access closed. This is also an example of why the results of travel planning are generally poorly supported by the public.

235. Under the current process if motorized recreationists are not involved in the planning process for that area they will undoubtedly lose use of one-half of the existing routes and be extremely disappointed when they do visit in the future. Given the significant number of actions as demonstrated in Table 2, it is impossible for motorized recreationists to participate in each action and provide inventories of routes for each action, so motorized recreationists are destined to lose because the agency will not adequately consider our needs unless we provide inventories of routes. Again, a significant predisposition exists because the needs of non-motorized recreationists are given significant consideration without the requirement for inventories and identification of resources, i.e. non-motorized recreationists are not subjected to the same requirement to identify trails now in order to keep them open for future use and generations.

236. The amount of use that a route receives is not a criterion for non-motorized routes (see later comment about solitude on CDNST) and should not be a requirement for motorized routes. Solitude, challenging, and remote motorized routes are highly valued by motorized recreationists also.

237. The document and decision must clearly disclose on maps and tables and summaries all existing areas, and existing roads and trails that would be closed to motorized access and motorized recreationists. Summaries should include overall closures percentages. Otherwise public disclosure has not been adequately provided and the public will not be informed and the public including motorized recreationists will not be able to adequately participate and comment.

238. All of the motorized routes that are important to the public cannot be identified by clubs and individuals. Everyone that visits our public lands has a special road or trail that they like to visit. Getting everyone to participate and identify all of these routes is neither practical nor reasonable. All of the existing routes exist because they are important access and recreational opportunities. Therefore, all existing routes without significant environmental considered as the preferred alternative. Additionally, all available mitigation measures must be adequately considered for those routes with environmental concerns. We strongly support mitigation before motorized closure and, in fairness to the public, encourage the agency to adopt this policy also.

239. Due to the trend of motorized closure after motorized closure, the prevailing question is not will we lose access and recreation opportunities but rather how much will we lose in each action. Motorized recreationists are the only group to lose in every action on local, regional and

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national levels, yet the cumulative negative effect of this significant negative impact has never been tabulated or addressed**.** This obvious predisposition must be adequately addressed. The magnitude of these undisclosed cumulative negative impacts on multiple-use interest including motorized recreationists has increased to the point where the livelihood and recreation of nearly everyone has been significantly impacted yet an adequate assessment has not been conducted nor included in the decision-making. Allowing the cumulative effects of the closure trend to continue over and over without any consideration of impacts or mitigation will certainly allow the cumulative effects to eliminate any meaningful motorized recreation. The burden of establishing the cumulative negative effect of all motorized access and motorized recreational closures should not fall on motorized recreationists. Table 2 is a partial listing of projects that have had a negative impact on motorized recreationists**.** All of these actions and others must be included in the tabulation and evaluation of cumulative negative effects on motorized recreationists**.** Most of these projects have not adequately disclosed the true number of miles of roads and trails and recreational opportunities that were in use by the public and then closed to motorized use as part of their implementation. This lack of disclosure is not acceptable. We request that the lack of disclosure be addressed by establishing the true magnitude and cumulative negative effect of all motorized access and motorized recreational closures. When tabulated, this cumulative negative effect must be considered in the evaluation and decision-making for this action. Additionally, adequate mitigation must now be implemented to counter the cumulative negative effects that motorized recreationists have experienced.

240. If the loss of motorized routes cannot be mitigated within the project area, then a Motorized Access and Recreation Mitigation Bank must be established. This mitigation bank would keep an overall accounting of the miles and acres of motorized access and recreational opportunities closed and the new motorized access and recreational opportunities created to offset that loss. It would be the responsibility of a cooperative group of public land management agencies to monitor the balance sheet and work towards no net loss/closure of motorized access and motorized recreation. Similar to other mitigation banks, motorized access and routes closed to motorized use would be replaced with equivalent routes on a one to one basis. Where equivalent routes cannot be found, then mitigation would be provided at 2 to 4 times the length of the closed route. Where equivalent access and/or areas cannot be found, then mitigation would be applied at 2 to 4 times the area closed depending on the quality of the closed route or area.

241. Dr. Martin E.P. Seligman has identified that learned helplessness or *the belief that your actions will be futile* is an epidemic affecting the nation (page 70, ISBN 0-671-01911-2). The evaluation of social issues must also include an evaluation of conditions contributing to learned helplessness including the lack of recognition and attention to the needs of motorized recreationists and the significant social problems that result from these conditions.

242. Over the past 35 years (and it is accelerating in recent years), motorized recreationists have had to bear a disproportionate share of the negative consequences on the human environment resulting from the significant closure of motorized access and motorized recreational opportunities by federal land management actions and policies. We continue to ask for a reasonable explanation of "Why are we the only ones to lose in every action?" And yet the trend of motorized closures continues at an ever increasing pace. There are tens of thousands of "Closed To All Motorized Use" signs. The time has come for the agency to place an **equal** number of the following signs:

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243. A recent study by David Sunding, an associate professor of natural resource economics, David Zilberman, a UC Berkeley professor of agriculture and resource economics, and graduate student Aaron Swoboda to the California Resource Management Institute found that the economic impacts from designation and preservation of special plant and animal habitat areas continue to cost society hundreds of millions of dollars because of delays, court fees and opportunities forgone. Sunding's report, released Feb. 20, found that agencies had underestimated the actual economic and social impact by seven to 14 times.
Certainly, natural resource decisions cannot and should not be made entirely on economic impacts. However, NEPA requires that both economic and environmental facts should be considered in the final land management decisions. The U.C. Berkeley study displays the fact that the full economic and social facts and impacts are not being adequately considered by the federal land management agencies. We request adequate evaluation of the economic and social impacts of this proposed action be considered in the analysis and decision-making. Additionally, we request that the cumulative negative impact resulting from inadequate evaluation of economic and social impacts in past actions are considered in the analysis and decision-making and that an adequate mitigation plan be included as part of this action to compensate for past cumulative negative impacts.

244. We request that the analysis include an adequate benefit-cost analysis of non-motorized versus motorized trail use. This analysis should include the annual cost of the non-motorized trails per the actual and documented number of non-motorized trail user. The economic analysis should also compare the annual benefit-cost per non-motorized user versus the annual benefit-cost per motorized user if the trails and funding were used as multiple-use/motorized trails. Motorized trail users out-number non-motorized trail users at least 25 to 1 (see summary of local observations). Motorized recreationists need approximately 5 times the miles of trail per day compared to non-motorized recreationists (CBU analysis). Therefore, motorized recreationists need 125 times (25 x 5) the miles of trails as do non-motorized recreationists. However, the current allocation of resources in the forest is significantly weighted towards non-motorized and is nowhere near this ratio. Additionally, the allocation is moving in the wrong direction towards more non-motorized opportunities with each decision (refer to Table 2 past and current actions). An increased allocation of exclusive non-motorized trails is not a good use of the taxpayer's money. Additionally, non-motorized trails benefit a very limited number of recreationists who already have more than adequate recreational resources when compared to motorized recreationists. It is more reasonable for the decision to focus on multiple-use trail projects and invest our limited financial resources in those types of projects.

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The benefit-cost analysis should also recognize the significant economic benefit associated with motorized recreation. Motorized economic benefit far exceeds the economic benefit of non-motorized recreation because there are more motorized recreationists and they have a considerable investment in their recreation. Economic benefits to the local economy associated with motorized recreation include sale of OHVs, parts and service; sale of tow vehicles, parts and service; sale of camping units, parts and service; fuel; meals; motels, etc.

245. The positive economic impact on the economy of the area must be adequately considered in the decision-making. Arizona State Parks has prepared a good example of an economic analysis of OHV recreation for Coconino County, AZ (http://www.gf.state.az.us/pdfs/w_c/OHV%20Report.pdf). The economic impacts of OHV recreation in one county are significant with $258.3 million statewide impact and a $215.3 million impact locally that supports 2,580 jobs. Off-highway vehicle recreation activity is an immensely powerful part of the Arizona collective economic fabric, generating nearly $3 billion in retail sales during 2002 (http://www.gf.state.az.us/pdfs/w_c/OHV%20Report.pdf).This evaluation should be used as guideline to evaluate the existing and potential positive economic impacts associated with OHV recreation in the project area. Additionally, the study does a good job assessing the activities and reasons that recreationists enjoy using off-highway vehicles. Another study found that the total estimated itemized expenditures by households participating in OHV Recreation in Colorado in 2000 was $519,333,239. Additional information on the importance of OHV recreation to the economy of the project area can be found at:

a) Gilmore Research Group, 1989, Washington DNR, Assessment of ORV impact and use in Roslyn-Cle Elum, WA.
b) Haas, Glenn et al, 1989, Colorado Sate University, Estimated CO recreational use and expenditures for OHV in FY 1988.
c) Tyler & Associates, 1990, CA DOT, A study of fuel tax attributable to OHV and Street Licensed vehicles used for recreation off-highway.
d) CA OHMVR Division , 1994, CA Department of Parks and Recreation, A 26 page study of the $3 Billion economic impact of OHV use in CA.
e) Oak Ridge National Laboratory, 1994, Federal Highway Administration, Report ORNL/TM-1999/100, Federal Highway Administration, An 83 page summary of the fuel used for OHV recreation, http://www-cta.ornl.gov/cta/Publications/Reports/ORNL_TM_1999_100.pdf .
f) CA OHMVR Division, 1991, CA Department of Parks and Recreation, A 119 page summary of the status of OHV recreation in CA.
g) Schuett, Michael , 1998, West Virginia University, 14 page report on OHV user values and demographics.
h) Motorcycle Industry Council (MIC), 1998, 20 page statistical report of motorcycle population, sales and usage.
i) Generoux, John & Michele, 1993, Minnesota DNR, 33-page report on feasibility of Iron Range OHV Rec'n Area.
j) Hazen and Sawyer, 2001; Colorado Off-Highway Vehicle CO, 144-page analysis of economic impact of OHV recreation in Colorado which is estimated at $230 million, (http://cohvco.org/economics/main.html).
k) Tennessee OHV Economic Impact, A $3.4 Billion Industry, http://www.state.tn.us/environment/ohv/ohvimpacts.pdf, http://www.state.tn.us/environment/ohv/econimpact.pdf .
l) March 2003 Presentation at the National OHV Managers Meeting in Charlotte, North Carolina, http://www.etra.net/Newsletters/2003/July2003.htm.
m) Nelson, C.M., Lynch, J.A., & Stynes, D.J. 2000. Michigan Licensed Off-Road Vehicle Use and Users, 1998-99. East Lansing, MI: Department of Park, Recreation and

Tourism Resources, Michigan State University, http://www.prr.msu.edu/miteim/orvspend.pdf .
n) Jonathan Silberman, PhD. The Economic Importance Of Off-Highway Vehicle Recreation, Economic data on off-highway vehicle recreation for the State of Arizona and for each Arizona County Study, Prepared by School of Management, http://www.gf.state.az.us/pdfs/w_c/OHV%20Report.pdf
o) Hazen, S. (2001). Economic Contribution of Off-Highway Vehicle Use in Colorado, Colorado Off-Highway Coalition.
p) Ingrid E. Schneider, Ph.D. and Tony Schoenecker, Graduate Research Assistant, All-terrain Vehicles in Minnesota: Economic impact and consumer profile, University of Minnesota Tourism Center, 2005. http://www.tourism.umn.edu/research/ATVReport.pdf
q) http://sundaygazettemail.com/section/News/2007062328
r) Economic Value of Off Highway Vehicle Recreation 2007-Journal of Leisure Research http://www.trailsintrouble.org/References/EconomicValueOfOHV-2007.pdf
s) Colorado Off-Highway Vehicle Coalition, www.cohvco.org , Economic Contribution of Off-Highway Vehicle Recreation in Colorado https://cohvco.org/forms/2009_Economic_Contribution_Full_Report.pdf

246. A common theme with the public and local and state governments has been the need for more economic development in the area and they are searching for ways to expand and enhance the local economy. OHV recreation is a significant part of the existing economy. Any reduction in OHV recreational opportunities will hurt the local economy. Additionally, the enhancement of OHV recreational opportunities in the project area will provide a badly needed enhancement of the overall local economy as well.

247. Agency staff has told us that they intend to focus on resource management issues. Issues related to the management of natural resources have received most of the attention during the evaluation while socio-economic issues surrounding motorized access and recreation are largely ignored. This lack of adequate recognition has led to the creation of significant socio-economic issues affecting the quality of the human environment for motorized recreationists. Land management agencies must acknowledge that public land has significant meaning and socio-economic value to the public. We request that all significant issues involving the human environment for motorized recreationists be adequately considered during the evaluation and decision-making process.

248. Travel management documents have historically over-emphasized the potential positive impacts to some resource areas and under-emphasized the impacts to other resource areas both in numbers of pages devoted to a resource and in the conclusions. For example, in the Clancy-Unionville FEIS and DSEIS there are about 100 pages discussing potential positive impacts to wildlife and fisheries and less than 2 pages discussing negative impacts to motorized recreationists. This emphasis in the process has pre-determined that the human environment will be sacrificed for incrementally small benefits to some resources. The emphasis in the analysis does not reasonably consider incrementally small improvements (0-5%) to the natural environment against an incrementally significant impact (50%) to the human environment. We request that significant human environment issues involving motorized recreationists be adequately considered and weighed in the travel management process.

249. The existing level of motorized access and recreation was developed by the community through years of involvement in direct relation to the need for motorized access and recreational opportunities. The community is accustomed and relies on this level of access and recreation. We request that the project area remain open to multiple-use and the public and

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that a reasonable preferred alternative be based on the existing level of motorized access and motorized recreation.

250. Why use so many indirect attempts such as public meetings and open houses to gather feedback from motorized recreationists? Why not just go directly to motorized recreationists in the field and at club meetings and ask them? NEPA encourages direct coordination with the impacted public instead of a process tailor made for special-interest environmental groups.

251. The following statement on Page 117 of the Big Snowy EA is made in regards to cumulative negative effects and OHV recreation; "*It would appear that the combination of all these actions by land management agencies may have a cumulative effect on opportunities for OHV recreation. It is impossible to quantify the effect, because the Forest Service does not have a State-wide tally of number of miles of roads and trails open to OHVs. Likewise, no one has an estimate of numbers of miles of roads and trails needed to meet the demand for motorized OHV recreation.*"

Page 262 of the Supplement to Big Snowy EA. "*In looking deeper into the issue of equitable opportunities, we found that the Forest Service reported 133,087 miles of trail nationally in 1996, but unfortunately there is no breakdown of how many miles of these trails are open to motorized travel versus non-motorized travel."*

Page 263 of the Supplement to Big Snowy EA. "*Region 1 of the Forest Service reports 18,024 miles of trail within just Montana. Unfortunately, none of these reports break down the information into miles of road or trail open to motorized use."*

These statements in the Supplement indicate that the agency was not able to assess whether the needs of motorized recreationists are being met because data does not exist. It appears that OHV user data is not being collected because the agency does not want to quantify or recognize OHV use and popularity. Our observations of recreationists on multiple-use public lands from 1999 through 2006 (available upon request) indicate that 97% of the visitors were associated with multiple-uses involving motorized access and/or mechanized recreation. This is also consistent with the Social Assessment for the Beaverhead-Deerlodge National Forest which reported that 97.45% of the visitors to Region 1 in year 2000 enjoyed recreation opportunities found in multiple-use areas.

These statements also indicate that the agency was not able to assess the cumulative negative impacts on motorized access and recreationists because data does not exist. This lack of information is a significant reason why motorized recreationists are suffering such significant reductions in recreation opportunity. Because data does not exist, agencies cannot quantify the individual and cumulative negative impacts of each motorized access and recreation closure on motorized recreationists. This lack of data and consideration is being used to the advantage of non-motorized interests because the agency is not recognizing the significant need for multiple-use opportunities including motorized access and motorized recreation.

If the present trend continues for a few more years, the loss of motorized access and recreation will be so significant that the collection of meaningful data will be precluded because motorized opportunities will be largely eliminated and motorized visitors will be permanently displaced (absent from public lands). Based on our observations, we estimate that motorized access and recreation opportunities have been reduced by at least 50% since the 1960's by the significant cumulative negative effect of wilderness designations, wilderness study areas, national parks, monument designations, roadless designations, non-motorized area designations, travel management, wildlife management areas and other restrictive management designations.

Motorized visitors are continually losing significant recreational opportunities by conversion of multiple-use areas to non-motorized areas. This is a significant impact that has occurred cumulatively by a process of thousands of individual closures. The lack of data does not justify imposing a significant impact on motorized recreationists. We request that this cumulative negative impact be addressed by the collection of data and the fair evaluation of the need for motorized access and motorized recreation. Additionally, we request, as a reasonable alternative, that an adequate mitigation plan be included as part of this action to compensate for past cumulative negative impacts.

252. Mailings and telephone interviews as done in past studies do not accurately locate the people visiting public lands. Our field observations of trail use in multiple-use areas and the Social Assessment for the Beaverhead-Deerlodge National Forest have found that over 97% of the visitors were associated with multiple-uses that involved motorized access and/or mechanized recreation. We request that effective methods be developed to involve and account for motorized access and mechanized recreationists.

253. Examples of the positive benefits OHV recreation on the human environment can be found in ride reports including the following:
    a. http://ktmtalk.com/index.php?showtopic=319611
    b. http://www.chadman.net/upload/Ouray2008.wmv
    c. http://ktmtalk.com/index.php?showtopic=317728
    d. http://www.wsatva.org/id4.htm
    e. http://ktmtalk.com/index.php?showtopic=311192
    f. http://ktmtalk.com/index.php?showtopic=260664
    g. http://www.advrider.com/forums/showthread.php?t=402442&highlight=montana

254. The use of the existing network of motorized roads and trails is part of local culture, pioneer spirit, heritage and traditions. All of these values have ties to the land. Visitors to public lands benefit from all of the motorized roads and trails that exist today. The quality of life for the multiple-use public is being impacted by the cumulative negative effects of all motorized and access closures. The significant closing of motorized routes in the project area does not meet the basic requirement of the NEPA act of 1969 as stated in "Sec. 101 (b) (5) *achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities".* We request that the criteria for high standards of living and a wide sharing of life's amenities include the preservation of motorized roads and trails based on the recognition of the values (ties to the land) that they provide to local culture, pioneer spirit, heritage, traditions, and recreation.

255. The proposed action promotes management of our public lands as if they are public lands close to the large urban areas in California. If and when the population in Nevada is equal to California, then an alternative could reasonably consider requirements necessary to manage urban impacts. Until then, local standards and culture should be the over-arching criterion.

256. The prevailing trend of the past 35 ± years has been to close motorized recreation and access opportunities and not create any new ones. Additionally, roads or trails closed to motorized access are seldom, if ever, re-opened. The underlying objective of the Bureau of Land Management and Forest Service has been to restrict the public to a few major roads within public lands. We request that the cumulative negative effects of these policies be thoroughly evaluated so that a reasonable travel management decision is made. The evaluation of cumulative negative impacts should include all associated impacts such as social, economic,

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cultural, and the recreation needs of motorized visitors. It should also address the dilemma facing motorized recreationists after so many closures, i.e., Where can motorized visitors go when a functional network of roads and trails is eliminated? How can the public enjoy public lands when there is a lack of adequate access and recreational opportunities? Where can our children and grandchildren recreate?

257. We are concerned about the preservation of historic mines, cabins, settlements, railroads, access routes and other features used by pioneers, homesteaders, loggers, settlers, and miners. These are important cultural resources and should not be removed from the landscape. Western culture and heritage has been characterized by opportunities to work with the land and preservation of all remnants of this culture and heritage is important. Current management practices are not adequately protecting western culture and heritage including the opportunity to work with the land. We request that the ties to the land that are part of our local western culture and heritage be protected and that the preferred travel management alternative include opportunities to visit these features as part of motorized interpretative spur destinations and loops.

258. We live in this area and accept the economic compromises of living here so that we can access and recreate on our public lands. We are fortunate to have an abundance of public lands and there is no valid reason why we should not have reasonable opportunity to enjoy them. Our local culture is built on the foundation of access to visit and use these lands. Now travel planning and other initiatives are severely restricting that access and recreational opportunities. We have only one lifetime to enjoy these opportunities and these opportunities are being systematically eliminated. The impacts of lost opportunities on motorized recreationists are significant and irretrievable and irreversible. We won't be living this life again. NEPA requires adequate evaluation and consideration of irretrievable and irreversible impacts. We request that the evaluation and decision-making adequately identify and address these impacts. NEPA also requires adequate mitigation of irretrievable and irreversible impacts. We request that the decision-making provide for adequate mitigation to avoid the irretrievable and irreversible impacts of lost opportunities on motorized recreationists.

259. The roads and trails in the project area are not new or "user created" travelways. These roads and trails have existed for many years. The public has relied on them for access for many years and for many purposes. This pattern of use is well established. A reasonable travel management alternative would use area closure to prevent the creation of unwanted trails by visitors and, at the same time, allow the public to use all of the existing motorized routes. Too many management actions have been enacted without the development of this reasonable alternative. The cumulative negative impact of the travel management process on motorized access and recreation opportunities has been significant. We request that the preferred alternative be based on the existing motorized routes that are considered important resources by motorized recreationists.

260. A reasonable Travel Management alternative would maintain existing travelways that provide motorized recreationists with a system of loops and destinations. The preferred alternative should provide access to motorized looped trail systems, spurs for exploration and destinations, and motorized access to areas located outside the project area. We request that the cumulative negative effect of reduced recreation and access opportunities for motorized visitors within the project area be adequately considered in the document and decision-making. The cumulative negative effect of eliminating motorized access to loop trail systems, provide

exploration opportunities and destinations outside of the project area should also be adequately considered in the document and decision-making.

261. Current management trends are attempting to restrict public access to narrow corridors along major roads. This management trend is widespread among all agencies. If allowed to continue, this trend will concentrate over 95% of the visitors to less than 10% of the area. The cumulative negative impact from concentrating visitors to narrow corridors will result in poor management of public lands and unreasonable access to public lands and recreational opportunities. We request the evaluation of the cumulative negative impacts from management goals that tend to concentrate visitors to narrow corridors and reduce recreation opportunities for motorized visitors. Other associated negative impacts that should also be evaluated include loss of dispersed recreation opportunities, reduced quality of recreation, loss recreation diversity, and

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see other visitors on the trails – shared trail area"; "Report violations to 1-800-TIP-MONT"; etc.

i. Trailhead signs should not only list restrictions but should also tell visitors what to expect. Signs that say "expect to see other trail users" with universal symbols indicating the uses they can expect to see would work well. This approach is used successfully in nearly every forest across the country except those in Forest Service Region 1.
j. Reinforce travel allowed and restricted at intersections.
k. Reinforce important messages; say the same thing in a different way.

266. Along with the standardization of signs, there is also a significant need to standardize or simplify seasonal closure dates as much as possible. We suggest that the number of different closures periods should be kept to a maximum of two, if possible, in order to avoid confusion and resulting misunderstandings.

267. We request that the process include consideration of the negative impacts that proposed motorized road and trail closures will have on fire management, fuel wood harvest for home heating, and timber management. The analysis should include an analysis of the benefits to the public from the gathering of deadfall for firewood from each of the roads and trails proposed for closure. These analyses are especially significant following a devastating fire season and a period of rising energy costs. The need for firewood gathering is increasing given the increasing energy costs (http://www.helenair.com/articles/2003/11/02/montana/a01110203_05.txt) and we have noticed a significant increase in firewood gathering this past year. The closure of roads and trails is occurring at a large scale on all public lands. Therefore, the analysis should also evaluate the cumulative negative impacts of motorized road and trail closures and the conversion of multiple-use lands to limited-use lands on fire management, timber management, and firewood gathering.

268. We are unaware of any documented or justifiable reports of user conflict in the project area. We request copies of any documentation of user conflicts in the area and request that it be categorized and weighed against the overall number of visitor-days to the area. Additionally, a difference in opinion about whether certain recreationists should be able to visit multiple-use public lands should not be considered a user-conflict.

269. We are now seeing significant negative impacts from past travel plan decisions. For example on two consecutive weekends we observed campers getting out to Helena National Forest and Beaverhead Deerlodge National Forests on a Friday afternoon and not able to find an open camp spot. All campground and dispersed sites were occupied and these people went back home. What should have been a relaxing weekend was an awful non-recreational experience.

270. We are now seeing significant negative impacts from past travel plan decisions. We are asked over and over where can we go to ride our OHVs. We are also asked over and over whether such and such trail is still open? No, that trail is closed now. This is a completely unreasonable situation and especially given the amount of multiple-use land that should be managed for the public's enjoyment instead of locking them out.

271. Both the House and the Senate have passed the Outdoor Recreation Jobs and Economic Impact Act of 2016 (H. R. 4665/S. 2219). This is an important legislative step to properly recognize the value of outdoor recreation. Private economic studies funded by the recreation industry indicate that the economic value of outdoor recreation exceeds $646 billion annually with motorized recreation making up at least 40% of that number. This is significant value and a

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significant issue to motorized recreationists. The new legislations will provide a more complete picture on the value of outdoor recreation on our national economy and are a reasonably foreseeable action that must be adequately considered. We have always felt the value of motorized recreation was huge and now the data will prove it. This information will be helpful as priorities are established on the best uses of our public lands for years to come and will easily justify more motorized recreational opportunities and not less as proposed by this action.

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5. Must Not Over-Represent the Public's Need for More Wilderness

272. The majority of the population in the United States lives in big city urban settings and their definition and understanding of "wilderness" is settings like Central Park. Therefore, the work "wilderness" is used by the majority of the public to describe any outdoor setting.

273. Ninety-nine percent of the self-reported hikes are taken either on a road or motorized trail or within a mile of a road. Actual wilderness visits and hikes are very limited in number. Most wilderness areas are not accessible to the public. The evaluation and decision must adequately recognize this condition and the important that roads and motorized trails play for the majority of the public.

274. The current allotment of recreation resources on all Forest Service lands is way out of balance with 44,919,000 acres out of 192,300,000 acres or 24% in wilderness designation while no more than 2.55% of the visitors are wilderness visitors. Designation as wilderness is further out of touch with the needs of the public because recreation is not a stated purpose of the wilderness act and, therefore, recreation in wilderness area cannot and should not be emphasized. Note that we could oppose any recreation development in wilderness areas in retaliation to non-motorized groups that go after our recreation opportunities but we have chosen not to do so. Recreation is a stated purpose in the multiple-use laws and, therefore, should be emphasized in the purpose and action.

275. If Roadless acres are included in this total, it becomes even more unbalanced with at total of 103,437,000 acres or 54% in wilderness or roadless designation while only 2.55% of the visitors are wilderness visitors.

276. The evaluation must adequately consider and address the fact that motorized access to the national forest is relatively limited as shown by the miles of roads versus the number of acres in the following table. The miles and percentage of non-motorized trails is excessive compared to the use that they receive and this does not consider the endless cross-country opportunities that available to non-motorized recreationists. The total route opportunity available to non-motorized recreationists is 510,575 miles; the total miles of exclusive non-motorized trails are 93,088 or 75% of the existing total. The miles of non-motorized cross-country opportunity are infinite.

277. The total miles of roads open to motorized recreationists are 286,445 and the total miles of trails open to motorized recreationists are 31,853 or 25% of the existing total. The cross-country miles are or will be shortly equal to zero. Therefore, the overall allocation of non-motorized versus motorized access and trail riding opportunities in the national forest system is way out of balance with the needs of the public for motorized access and the recreational needs of motorized recreationists.

Furthermore, we request that the data in the next two tables be updated to reflect the significant reduction in miles of roads and motorized trails that decisions have produced since this data was assembled. This revised data should be used to guide the decision-making to travel plan and travel plan alternatives that adequately meet the needs of the public by increasing motorized recreational opportunities in the national forest system.

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Region	Forest	District	NFS Acres	Current Status	Projected Date for Designation	Existing NFS Roads	Existing NFS Roads Open to Motor Vehicle Use	Existing NFS Trails	Existing NFS Trails Open to Motor Vehicle Use	Existing NFS Trails Open to Motor Vehicle Use (Single-Track)	Acres Currently Open to Cross-Country Motor Vehicle Use
		Totals	194,015,494			385,634	286,445	124,941	31,853	15,526	65,887,245
					Miles of Open Road per Square Mile =		0.74				
					Total Roads and Trails Open to Non-Motorized Use, Miles			510,575			
						Non-Motorized Trails, Miles =		93,888			
						Non-Motorized Trails, % =		74.51%			
							Motorized Trails, miles =		31,853	15,526	
							Motorized Trails, % =		25.49%		
								Trails Open to Motorcycles %		12.43%	

http://www.fs.fed.us/recreation/programs/ohv/
http://www.fs.fed.us/recreation/programs/ohv/travel_mgmt_schedule.pdf

Note that this data was assembled in 2006 does not reflect the motorized closures that have occurred in the last 11 years due to lack of adequate evaluation and disclosure by the agencies. The percentage of non-motorized trails is even higher than 65.88% now.

278. The evaluation must adequately consider and address the fact that motorized access to the national forest in Region 1 is relatively limited as shown by the miles of roads versus the number of acres in the following table. The miles and percentage of non-motorized trails is excessive compared to the use that they receive and this does not consider the endless cross-country opportunities that available to non-motorized recreationists. The total route opportunity available to non-motorized recreationists in Region 1 is 73,348 miles; the total miles of exclusive non-motorized trails are 14,521 or 66% of the total existing miles of trail. The miles of cross-country opportunity are infinite.

The total miles of roads open to motorized recreationists are 26,259 and the total miles of trails open to motorized recreationists are 7,521 or 34% of the total existing miles of trail. The miles of cross-country opportunity are or will be shortly equal to zero. Therefore, the overall allocation of non-motorized versus motorized access and trail riding opportunities in Region 1 is way out of balance with the needs of the public for motorized access and the recreational needs of motorized recreationists.

Region	Forest	District	NFS Acres	Current Status	Projected Date for Designation	Existing NFS Roads	Existing NFS Roads Open to Motor Vehicle Use	Existing NFS Trails	Existing NFS Trails Open to Motor Vehicle Use	Existing NFS Trails Open to Motor Vehicle Use (Single-Track)	Acres Currently Open to Cross-Country Motor Vehicle Use
		Totals	26,254,657			51,306	26,259	22,042	7,521	5,052	4,352,849
					Miles of Open Road per Square Mile =		0.51				
					Total Roads and Trails Open to Non-Motorized Use, Miles			73,348			
						Non-Motorized Trails, Miles =		14,521			
						Non-Motorized Trails, % =		65.88%			
							Motorized Trails, miles =		7,521	5,052	
							Motorized Trails, % =		34.12%		
								Trails Open to Motorcycles %		22.92%	

http://www.fs.fed.us/recreation/programs/ohv/
http://www.fs.fed.us/recreation/programs/ohv/travel_mgmt_schedule.pdf

NOTE: This data is out of date by at least 8 years and does not reflect significant motorized closures that have occurred since this table was put together and must be updated by the Forest Service.

279. Additionally, specific NVUM data for Montana National Forests shows that there were 10,055,000 total site visits to the forest and only 304,000 wilderness visits (http://www.fs.fed.us/recreation/programs/nvum/revised_vis_est.pdf). Therefore, wilderness visits in Montana are only 3.02% of the total visits yet past decisions have produced both a disproportionately large and an increased number of recreation opportunities for non-motorized

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and wilderness visitors and at the expense of the multiple-use and motorized visitors. The remaining 96.98% of the visitors are for the most part associated with multiple-uses. The public comments and votes by how they use the forest, and more motorized access and recreation is what they are asking for with every visit regardless of whether they provide comments in a cumbersome NEPA process.

Table of Wilderness Visits to Montana National Forests versus Multiple-Use Visits

Forest	All Site Visits (000's)	Wilderness Visits (000's)	Wilderness Visits (%)	Multiple-Use Visits (%)
Beaverhead-Deerlodge	1,377	15	1.09%	98.91%
Bitterroot	731	122	16.69%	83.31%
Custer	845	12	1.42%	98.58%
Flathead	1,514	24	1.59%	98.41%
Gallatin	1,650	46	2.79%	97.21%
Helena	508	3	0.59%	99.41%
Kootenai	1,400	32	2.29%	97.71%
Lewis & Clark	536	26	4.85%	95.15%
Lolo	1,494	24	1.61%	98.39%
Total	**10,055**	**304**	**3.02%**	**96.98%**
http://www.fs.fed.us/recreation/programs/nvum/revised_vis_est.pdf				

280. Additionally, specific NVUM data for the Helena National Forest shows that there were 508,000 total site visits to the forest and only 3,000 wilderness visits (http://www.fs.fed.us/recreation/programs/nvum/revised_vis_est.pdf). Therefore, wilderness visits in the Helena National Forest are 0.59% of the total visits yet past decisions in Region 1 and the proposed plan by the Helena National Forest have produced both a disproportionately large and an increased number of recreation opportunities for non-motorized and wilderness visitors and at the expense of the multiple-use and motorized visitors. The remaining 99.41% of the visitors are associated with multiple-uses. The public comments and votes by how they use the forest, and more motorized access and recreation is what they are asking for with every visit regardless of whether they provide comments in a cumbersome NEPA process.

281. The NVUM and Southern Research Station reports cited prove that there are 146,000 (508,000 forest visitors x 29.1% OHV) OHV visitors to the Helena National Forest and 3,000 wilderness visitors. The ratio of trail users is 49 motorized to 1 non-motorized yet the balance of existing trails is 21% motorized versus 79% non-motorized. Clearly there is an imbalance of opportunity that justifies more (not less) motorized recreational opportunities.

282. As demonstrated by Table 3, the ratio of acres available to wilderness/non-motorized visitors versus the acres available to multiple-use visitors is way out of balance in the existing condition with 39 acres per wilderness visitor and 1.70 acres per multiple-use visitor for a ratio of about 23:1. The proposed action to designate all roadless areas non-motorized areas makes this inequity even worse by providing 187 acres per wilderness visitor and 0.82 acre per multiple-use visitor for a ratio of about 228:1.The available multiple-use (MU) acres and acres per MU visitors is less than this example because even though lands are designated as MU by congress the agency is effectively managing many multiple-use acres as non-motorized/defacto wilderness. Therefore, the acres per MU visitor are significantly less than shown and the imbalance of the ratio of defacto wilderness acres per visitor to MU acres per visitor is significantly greater than this example.

Table 3 Acres per Forest Visitor and Ratio

Total Annual Forest Visitors =	508,000
Wilderness Visitors =	3,000
Multiple-use Visitors =	505,000
Forest Acreage =	977,000
Existing Wilderness Acreage =	117,000
Existing Multiple-use Acreage =	860,000
Proposed Defacto Wilderness Acreage =	445,000
Total Proposed Defacto Wilderness =	562,000
Total Proposed Multiple-use Acreage =	415,000
Existing Acres/Wilderness Visitor =	39.00
Proposed Acres/Wilderness Visitor =	187.33
Percent Increase =	380%
Existing Acres/Multiple-use Visitor =	1.70
Proposed Acres/Multiple-use Visitor =	0.82
Percent Decrease =	-52%
Existing Ratio of Defacto Wilderness to MU Acres per Visitor	22.90
Proposed Ratio of Defacto Wilderness to MU Acres per Visitor	227.96
Note 1: Total Proposed Defacto Wildernss includes all Roadless Areas which the Agency is inappropriately managing as non-motorized.	
Note 2: The available multiple-use (MU) acres and acres per MU visitors is less than this example because even though lands are designated as MU by congress the agency is effectively managing many multiple-use acres as non-motorized/defacto wilderness. Therefore, the acres per MU visitor is significantly less than shown and the imbalance of the ratio of defacto wilderness acres per visitor to MU acres per visitor is significantly greater than this example.	

We recognize the desire for a quiet experience in the forest as a legitimate value. To varying degrees, we all visit the forest to enjoy the natural sounds of streams, trees, and wildlife. Forest visitors who require an absolutely natural acoustic experience in the forest should be encouraged to use the portions of the forest which have been set aside for their exclusive benefit where they are guaranteed a quiet experience, i.e, wilderness areas. Given the demonstrated underutilization of existing wilderness areas, it is entirely reasonable to conclude that there is adequate wilderness area. Given that vast areas of our forests have been set aside for the exclusive benefit of this relatively small group of quiet visitors, it is not reasonable to set aside more areas and trails for their needs.

283. There is no need for additional Wilderness for recreational usage based on the following information. Wilderness also includes all defacto Wilderness areas (in practice but not ordained by law) such as non-motorized Roadless areas and designated non-motorized areas such as proposed for the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS.

a) The huge lack of wilderness use is documented in an article on a 20 day, 200 mile hike through the Bob Marshall and Mission Mountains in the Montana Standard (http://mtstandard.com/lifestyles/outdoors/photographer-retraces-bob-marshall-s-epic-hike-in-spirit/article_a84bfa47-f841-5ae8-9f95-a9fc08e20a07.html). "Other than some scattered encounters, he found the solitude remarkable. On the Swan Crest, he only saw only four hikers on 40 of the 48 miles before reaching the Jewel Basin. In the Bob Marshall portion, he saw only four hikers in 90 miles, not counting outfitters and horse riders."

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b) Twenty percent of USFS trails are in Wilderness areas (Source #1 below), and these areas receive only 4% of all visitor days to USFS lands (Source #2). Routes in Wilderness areas are difficult and exceptionally expensive to maintain, due to strict management limitations (Source #3). Teams of horses and mules can move large amounts of materials but are not cost effective when compared to a pickup truck, and the maintenance equipment cannot be left on the mules overnight.
   i. #1. United States Government Accountability Office Report GAO-13-618; Forest Service Trails; Long- and Short-Term Improvements Could Reduce Maintenance Backlog and Enhance System Sustainability; June 2013 at page 30. Complete report is available here: http://www.gao.gov/assets/660/655555.pdf
   ii. #2. USDA Forest Service; National Visitor Use Monitoring Results USDA Forest Service National Summary Report Data collected FY 2008 through FY 2012 Last updated 20 May2013; at page 8.
   iii. United States Government Accountability Office Report GAO-13-618; Forest Service Trails; Long- and Short-Term Improvements Could Reduce Maintenance Backlog and Enhance System Sustainability; June 2013 at page 30.

c) The Government Accountability Office (GAO) recently identified that motorized users are the only ones who "pay to play" on USFS trails. And even with this funding, only 25% of all routes are financially sustainable due to high percentages of routes in Wilderness designations (Source #4). If motorized funding is not available for management of dispersed recreational opportunities, the resources available to maintain any trail greatly diminish and possible impacts expand.
   i. #4. United States Government Accountability Office Report GAO-13-618; Forest Service Trails; Long- and Short-Term Improvements Could Reduce Maintenance Backlog and Enhance System Sustainability; June 2013 at page 30.

d) The true economic driver for local economies is multiple-use recreation on public lands. USFS comparisons of user group spending profiles, made as part of the National Visitor Use Monitoring process, estimate that the motorized user spends 2 to 3 times the amount of money spent by non-motorized users (Source #5). This compounds the possibility of negative economic impacts to local communities from significantly lower levels of visitation after Wilderness designations.
   i. #5. USDA Forest Service; White and Stynes et al; Updated Spending Profiles for National Forest Recreation Visitors by Activity November 2010 at page 6.

e) Many Wilderness Proposals erroneously rely on the newly released Outdoor Industry Association (OIA) Report that concluded that $646 billion is annually spent on outdoor recreation. Wilderness Proposals frequently assert this was the result of quiet use recreation. This is simply incorrect, as the 2012 OIA study included motorized usage in their analysis (Source #6). Previously, versions of the OIA study attempted to only include non-motorized usage.
   i. #6 Outdoor Industry Association; The Outdoor Recreation Economy; Take it Outside for American Jobs and a Strong Economy; 2012 report.

f) A recent USFS report to Senator Mark Udall (D-CO) specifically stated that Wilderness Areas are a significant factor contributing to poor forest health and the outbreak of mountain pine beetle throughout the western U.S. (Source #7). This position has been repeatedly stated by the Forest Service, which has found management restrictions in Wilderness Areas have caused significant outbreaks of Spruce Beetle infestations

(Source #8). USFS guidelines for management and protection of watersheds identify the critical need for active management of watersheds to insure water quality (Source #9). This management is impossible in a Wilderness Area. Limited forest management is specifically identified as a major factor negatively impacting endangered species such as the Canadian lynx (Source #10).

i. #7. USDA Forest Service; Review of the Forest Service Response: The Bark Beetle Outbreak in Northern Colorado and Southern Wyoming; September 2011; at pages i, 5, 12. Complete report is available here: http://www.fs.usda.gov/detail/barkbeetle/home/?cid=stelprdb5340741

ii. #8. Colorado State Forest Service; 2012 Report on the Health of Colorado's Forests; Forest Steward Ship through Active Management; at page 5. A copy of this report is available here: http://csfs.colostate.edu/pdfs/137233-forestreport-12-www.pdf .

iii. #9 Executive Summary; PROTECTING FRONT RANGE FOREST WATERSHEDS FROM HIGH-SEVERITY WILDFIRES AN ASSESSMENT BY THE PINCHOT INSTITUTE FOR CONSERVATION FUNDED BY THE FRONT RANGE FUELS TREATMENT PARTNERSHIP. A complete copy of this report is available here. http://www.pinchot.org/gp/Colorado_watersheds

iv. #10 Interagency Lynx Biology Team. 2013. Canada lynx conservation assessment and strategy. 3rd edition. USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Forest Service Publication R1-13-19, Missoula, MT. 128 pp. at page 75.

g) The critical need for motorized access to multiple-use recreation was recently identified by the National Shooting Sports Foundation (NSSF). It found that a lack of motorized access was the largest single barrier to those wanting to hunt and fish (Source #11). A lack of multiple-use access is also identified as a significant limitation to herd management and herd health (Source #12).

i. #11. National Shooting Sports Foundation; Issues Related to Hunting Access in the United States; Final Report November 2010 at page 7, 13, 56.

ii. #12National Shooting Sports Foundation; Issues Related to Hunting Access in the United States; Final Report November 2010 at page 11.

h) Agency inventories and determinations on possible designations of Roadless Areas are not management decisions, but are rather inventories of characteristics of that area. Roadless areas are still governed by multiple-use management and changes to management require NEPA analysis or Congressional action. There are significant limitations on the scope of the Roadless Rule, as it only applies to new road construction or major reconstructions. Trails, even those over 50 inches wide, are not impacted by the Roadless Rule. Many areas that are involved in citizen Wilderness Proposals have been inventoried and found to be unsuitable for Roadless designation and this should weigh heavily against any suitability for Wilderness designation.

284. The Forest Service and BLM do not have the authority to create de-facto wilderness. It is critical that the agency differentiate between the powers of rule promulgating and enforcement agencies (like the BLM and Forest Service) and our federal rulemaking body (Congress). Rulemaking agencies cannot create areas that are wilderness in all but name. Wilderness study areas and non-motorized areas are managed as wilderness areas and are simply a mechanism to evade the measures set forth in the Wilderness Act. If these lands are important wilderness-type lands, then the agency must follow the laws set forth in the Wilderness Act (Public Law 88-577 - 16 U.S. C. 1131-1136) including: *Presidential recommendation to Congress. The President shall advise the United States Senate and House of Representatives*

of his recommendations with respect to the designation as "wilderness" or other reclassification of each area on which review has been completed, together with maps and a definition of boundaries...Congressional approval. Each recommendation of the President for designation as "wilderness" shall become effective only if so provided by an Act of Congress.

285. There simply is no justification for creating more wilderness or defacto wilderness areas on our forests. If forest management continues to allow anti-access groups to use the travel planning process to further their agendas the travel plan will certainly fail! It should not be the purpose or intent of the travel planning process to exclude OHV travel or to crowd these users into small areas. To do so will produce unacceptable impacts on the forest and ultimately result in inappropriate use brought on by the travel plan itself.

286. Further evidence that the public widely supports multiple-use management of roadless areas was demonstrated by a ballot initiative in Montana. Flathead County voters have once again shown that they want federal roadless areas managed for multiple-uses, with 65 percent saying roadless lands "should be managed for multiple use purposes including motorized recreation and roaded timber production." With most of the votes counted, 7,796 voters supported that option, while 4,321 supported the alternative of managing roadless areas "for non-motorized recreation and roadless timber production." (http://www.dailyinterlake.com/articles/2006/06/07/news/news06.txt)

287. Additionally, general public support for motorized access and recreation is demonstrated by the Flathead County Natural Resources Plan which has objectives of keeping at least 75% of the roads and trails outside of Wildernesses open at least seasonally to motorized access. (http://www.co.flathead.mt.us/fcpz/Natural%20Resource%20DOC.pdf See Recreation section on page 43).

288. The Debate section of the April 2008 issue of Costco Connection (http://www.costcoconnection.com/connection/200901/?u1=texterity) asked the question "Are we doing enough to protect our national wilderness?" Results were reported in the May 2008 issue with 75% of the respondents answering Yes and 25% responding No. Clearly this demonstrates that the overall public opinion is that an adequate amount of our wilderness areas are protected under current conditions.

289. Additionally the decision must consider that non-motorized recreationists have the opportunity to go not only to designated wilderness areas but anywhere while the opportunities for motorized recreationists are limited to designated routes in a small portion of multiple-use areas.

290. The current allotment of recreation resources on all Forest Service lands is way out of balance with 44,919,000 acres out of 192,300,000 acres or 24% in wilderness designation while no more than 2.55% of the visitors are wilderness visitors. Designation as wilderness is further out of touch with the needs of the public because recreation is not a stated purpose of the wilderness act and, therefore, recreation in wilderness area can not and should not be emphasized. Note that we could oppose any recreation development in wilderness areas in retaliation to non-motorized groups that go after our recreation opportunities but we have chosen not to do so. Recreation is a stated purpose in the multiple-use laws and, therefore, should be emphasized in the purpose and action.

291. If Roadless acres are included in this total, it becomes even more unbalanced with at total of 103,437,000 acres or 54% in wilderness or roadless designation while only 2.55% of the visitors are wilderness visitors.

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292. We recognize the desire for a quiet experience in the forest as a legitimate value. To varying degrees, we all visit the forest to enjoy the natural sounds of streams, trees, and wildlife. Forest visitors who require an absolutely natural acoustic experience in the forest should be encouraged to use the portions of the forest which have been set aside for their exclusive benefit where they are guaranteed a quiet experience, i.e, wilderness areas. Given the demonstrated underutilization of existing wilderness areas, it is entirely reasonable to conclude that there is adequate wilderness area. Given that vast areas of our forests have been set aside for the exclusive benefit of this relatively small group of quiet visitors, it is not reasonable to set aside more areas and trails for their needs.

293. It is more reasonable and fair to allow continued motorized use of existing routes in inventoried roadless and wilderness study areas until such time as congress approves the area as wilderness. The courts have already established this precedent as supported in Judge Molloy's ruling in 2001 on the Montana Wilderness Study Act and the Big Snowy Mountains travel plan which was upheld in 2006.

294. With regard to wilderness areas, roadless areas, national recreation areas, natural landmarks and monuments, and wild, scenic, and recreational rivers, the Bureau of Land Management and Forest Service are only authorized to delineate such areas and report such findings to Congress. Unless and until Congress actually designates such areas under applicable law, such delineations should have no effect on the multiple use and sustained yield mandates for management of public lands.

295. With regard to research and natural areas and scenic by-ways, the BLM and FS can designate such areas; however such designation should have no effect on the multiple use and sustained yield mandates for management of those public lands. Finally, with regard to critical waterways, geological areas, unroaded areas, botanical areas, and national scenic areas, the BLM and FS have no statutory authority to designate and manage such areas. Any such designations can by law have no effect on the multiple use and sustained yield mandates for management of national forests. Accordingly, these "special designations" should be deleted from the proposed alternative.

296. Current land management trends are applying wilderness standards and criteria to lands intended for multiple-use. For example, total National Forest area equals 191,856,000 acres (http://roadless.fs.fed.us/documents/feis/data/sheets/acres/appendix_forest_acres.html). Total designated wilderness/protected areas equal 42,351,000 acres or 28% of the total forest area. Additionally, there are other non-motorized designations that effectively eliminate motorized access and motorized recreation in large areas of the forest.

    Other designations that preclude unrestricted multiple-uses include roadless areas which total 54,327,000 acres or 22% of the total forest area. First, the rules governing identified roadless areas clearly allow motorized recreation and roadless areas currently provide many important motorized recreational opportunities. However, in practice roadless areas are managed with restrictions that severely restrict multiple-use and access of those areas by the public. Therefore, the national forest area with severe access and use restrictions totals at least 96,678,000 acres or 50% of the total forest area.

    Similar trends have occurred on lands managed by the Department of Interior (DOI) which total 507 million acres which is about one-fifth of the land in the United States. Acreages managed by each Interior agency include: 262 million acres managed by the Bureau of Land Management, 95 million acres managed by the Fish and Wildlife Service, 84 million acres managed by the National Park Service, 8.6 million acres managed by the Bureau of Reclamation, and 56 million acres managed by the Bureau of Indian Affairs. Statistics

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summarizing acres of multiple-use and restricted-use on DOI lands are not readily available to the public, however, a significant portion of these lands have limited motorized access and limited motorized recreational opportunities. DOI should adequately disclose these land use statistics to the public including motorized recreationists as quickly as possible.

Therefore, the cumulative negative effect of the pre-Columbian scheme, wilderness designations, wilderness study areas, national parks, monument designations, roadless designations, non-motorized area designations, travel management, wildlife management areas and other restrictive management designations over the past 35 ± years have restricted the public land area (USDA and DOI) available to multiple-use visitors seeking motorized access and/or mechanized recreational experiences (over 95% of the public land visitors) to less than 50% of the total national forest and public land area.

It is not reasonable to close this area to the majority of uses. In order to be responsive to the needs of the public all of the remaining (100%) multiple-use public lands should be managed for multiple-uses including motorized access and motorized recreation. Therefore, all public lands such as those in this project area must remain open as multiple-use lands in order to avoid contributing to the significant cumulative negative effect associated with the trend of converting multiple-use lands to limited-use lands. We request that the document and decision adequately evaluate the needs of multiple-use and motorized recreationists and adequately evaluate the cumulative negative impacts that have resulted from inadequate evaluations in past actions. We also request that an adequate mitigation plan be included as part of this action to compensate for past cumulative negative impacts.

297. Sign-in kiosks are routinely provided at wilderness trailheads to record the use of wilderness areas. We have never seen an equivalent facility or program and this lack of data puts motorized recreation at a disadvantage.

298. The wilderness designation is not good for recreation and an alternative designation is needed. Many U.S. citizens do not trust our federal land managers to manage our natural resources responsibly. Wilderness advocates have taken advantage of this situation to promote the Wilderness designation and now the Roadless designation as a means to protect these areas. Wilderness designation was originally conceived, by the Wilderness advocates involved in the passage of the 1964 Wilderness Act, as appropriate for about ten million acres of administratively designated Primitive Areas. Present day Wilderness advocates have since expanded the concept to a system of over one hundred million acres and they say we need much more.

299. An alternative land designation is needed to resolve the Wilderness and Roadless area debate. Off-highway motorcycles, aircraft, snowmobiles, 4X4s, mountain bikes, ATVs, and personal watercraft are not allowed in designated Wilderness areas. Therefore, these popular recreation pastimes are severely impacted by the Wilderness and Roadless designation. Motorized uses that have been grand fathered into some Wilderness areas, such as use of aircraft and powerboats, are subjected to harassment. Horseback riders, hunters and other non-motorized recreationists are also increasingly under attack from Wilderness advocates who push more restrictive regulations in existing Wilderness areas and those areas proposed for that designation.

The U.S. Congress should act on legislation establishing a federal designation that is less restrictive to recreational use than Wilderness and the Roadless designation. It should be called "Back Country Recreation Area" (http://www.sharetrails.org/index.cfm?page=39 and

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http://www.sharetrails.org/index.cfm?page=40). This designation should be designed to protect and, if possible, enhance the backcountry recreation opportunities on these lands while still allowing responsible utilization of these areas by the natural resource industries.

This designation should be used for those areas currently identified by the federal land management agencies as "roadless" and thus currently under consideration for Wilderness designation. Areas considered may or may not be recommended for Wilderness designation or classed as Wilderness Study Areas. In addition, the Forest Service (FS) and Bureau of Land Management (BLM) have administratively developed non-Congressionally designated Wilderness-like reserves or buffer zones. The Forest Service's buffers are called natural and near-natural areas. The BLM's reserves are named primitive and semi-primitive. These non-Congressionally approved land classifications should be receive the Back Country Recreation Area (BCRA) designation.

Many roadless areas have been under consideration for Wilderness designation for over 35 years. The opposition to Wilderness designation in many of these areas has been largely from recreationists whose preferred form of recreation isn't allowed in Wilderness areas. Recreational resources need not be sacrificed for responsible resource extraction. The BCRA designation will encourage cooperation, not only between diverse recreation interests, but also between recreationists and our resource industries.

A recent public opinion survey shows majority support for a Backcountry Recreation Area alternative to a proposed 300,000 acre Wilderness Bill in Northern California (http://www.sharetrails.org/index.cfm?page=42&magazine=50). In Del Norte County, 66 percent of people surveyed supported a Backcountry alternative instead of a Wilderness designation. Fifty-three percent of respondents in Humboldt County said it was wiser to designate land as a Backcountry Recreation Area. We request that all "roadless" federal lands, not currently designated as Wilderness, be reviewed for their importance to back country recreationists and designated as Back Country Recreation Areas.

300. Page 215 of the Supplement to Big Snowy Mountains EA. *Solitude is a personal, subjective value defined as isolation from the sights, sound and presence of others, and the development of man.* We acknowledge the value of solitude and point out that there are many acres of wilderness/non-motorized/exclusive-use available to provide that solitude. Our concern is in regards to the diminishing amount of multiple-use lands and the unreasonable concept that multiple-use lands should be managed as wilderness/non-motorized/exclusive-use lands. Managing multiple-use lands by wilderness criteria and for perfect solitude does not meet the communal needs of the public and is not a reasonable goal for multiple-use lands.

301. The opportunity for solitude must be reasonably balanced with the multiple-use needs of the public. For example, the Montana Standard in an article on December 14, 2000 reported that hikers on the Continental Divide trail “walked for 300 miles without seeing another human being”. This article illustrates a significant long-distance interstate recreational opportunity available to non-motorized visitors and the negligible use that it sees. Additionally, we have been camping in the Telegraph Creek drainage for 27 years and we have met only 2 people using the CDNST in that area. In contrast, a long-distance interstate recreational opportunity similar to the CDNST does not exist for OHV recreationists.

302. It is not equitable to provide recreationists seeking solitude and wilderness experiences exclusive access to tens of millions of acres and thousands of miles of non-motorized trails while restricting the public seeking multiple-use opportunities access to an inadequate road and trail system. In other words, it is not reasonable to allow a very limited group of individuals who

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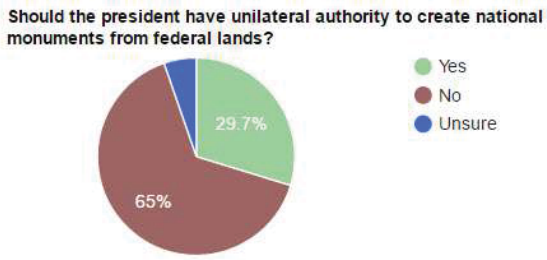
do not want to meet other people to displace thousands of other people. We request an equitable and balanced allocation of motorized access and recreational opportunity.

303. The need for more wilderness is not backed up by facts, site specific studies, data, and monitoring, and overall public need and must not be used as a ploy to close motorized recreational opportunities.

304. Additionally, the public does not support the use of Presidential orders to create monuments and other non-motorized, defacto wilderness designations as demonstrated by a recent poll in the Helena Independent Record:



6. Must Properly Consider Roadless Areas

305. Over 50% of the public land is managed by wilderness, wilderness study area, national park, monument, roadless, non-motorized area, wildlife management, and other restrictive management criteria that eliminates most or all motorized access and motorized recreation. The Final Roadless Rule published on January 5, 2001 (http://roadless.fs.fed.us/documents/rule/roadless_fedreg_rule.pdf) specifically stated "The proposed rule did not close any roads or off-highway vehicle (OHV) trails". The agency must honor this commitment. This commitment was recently upheld as part of appeal Number 07-05-10-0005 dated January 10, 2008 for the Smith River NRA travel management plan in the Six Rivers National Forest filed by Blue Ribbon Coalition (http://www.sharetrails.org/releases/media/?story=556 and www.sharetrails.org/files/SmithRiverNraBrcAppealDecisionJan14.pdf). Therefore, all (100%) of the remaining public lands including roadless areas must be managed for multiple-uses in order to avoid further contributing to the excessive allocation of resources and recreation opportunities for exclusive non-motorized use.

306. Jim Angell, the Denver-based Earth Justice attorney, says that's why it's too simplistic to liken roadless protections to those of full-blown wilderness designations - which take an act of Congress. "And it didn't bar things like oil and gas, which often takes place without the building of roads by angling the drilling from elsewhere; it didn't apply to ORV use which can continue without any stop," Angell says. http://www.publicbroadcasting.net/kunc/news.newsmain/article/1/0/1622248/Regional/Oral.Arguments.Heard.in.Roadless.Appeal

307. The evaluation and decision-making must take into account that the total area of the National Forest equals 192,300,000 acres and out of that total 44,919,000 acres or 23.36% is already designated wilderness. Current planning actions seek to convert roadless lands to defacto wilderness even though they are designated multiple-use lands. Therefore, this percentage will be even more lopsided toward non-motorized opportunities at 53.79% assuming that 58,518 acres of roadless areas are converted to defacto wilderness areas and managed for non-motorized recreation. We maintain that the management of all of the remaining 147,381,000 congressionally designated multiple-use acres (including roadless) or 76.64% of the forest should be managed for multiple-uses. Every multiple-use acre must remain available for multiple-uses in order to meet the needs of 96.41% of the public who visit our National Forests for multiple-uses. Every reasonable multiple-use acre must remain available for multiple-uses in order to maintain a reasonable balance of opportunities. The proposed plan does not meet the basic needs of the public for multiple-use opportunities, does not provide a proper allocation of multiple-use recreation opportunities and does not meet the laws requiring multiple-use management of these lands.

308. The current allotment of recreation resources on all Forest Service lands is way out of balance with 44,919,000 acres out of 192,300,000 acres or 24% in wilderness designation while no more than 2.55% of the visitors are wilderness visitors. Designation as wilderness is further out of touch with the needs of the public because recreation is not a stated purpose of the wilderness act and, therefore, recreation in wilderness area can not and should not be emphasized. Note that we could oppose any recreation development in wilderness areas in retaliation to non-motorized groups that go after our recreation opportunities but we have

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chosen not to do so. Recreation is a stated purpose in the multiple-use laws and, therefore, should be emphasized in the purpose and action.

309. If Roadless acres are included in this total, it becomes even more unbalanced with at total of 103,437,000 acres or 54% in wilderness or roadless designation while only 2.55% of the visitors are wilderness visitors.

310. Over 50% of the public land is managed by wilderness, wilderness study area, national park, monument, roadless, non-motorized area, wildlife management, and other restrictive management criteria that eliminates most or all motorized access and motorized recreation. The Final Roadless Rule published on January 5, 2001 (http://roadless.fs.fed.us/documents/rule/roadless_fedreg_rule.pdf) specifically stated “The proposed rule did not close any roads or off-highway vehicle (OHV) trails”. The agency must honor this commitment. This commitment was recently upheld as part of appeal Number 07-05-10-0005 dated January 10, 2008 for the Smith River NRA travel management plan in the Six Rivers National Forest filed by Blue Ribbon Coalition (http://www.sharetrails.org/releases/media/?story=556 and www.sharetrails.org/files/SmithRiverNraBrcAppealDecisionJan14.pdf). Therefore, all (100%) of the remaining public lands including roadless areas must be managed for multiple-uses in order to avoid further contributing to the excessive allocation of resources and recreation opportunities for exclusive non-motorized use.

311. Note that the Final Roadless Rule published on January 5, 2001 (http://roadless.fs.fed.us/documents/rule/roadless_fedreg_rule.pdf) included the following directive “The proposed rule did not close any roads or off-highway vehicle (OHV) trails”. The agency must honor this commitment**.** The Roadless Rule is all about preventing new roads from being constructed; it is not about banning motorized use of existing motorized roads and trails. United Four Wheel Drive Associations reached a settlement agreement with the Federal Government prohibiting the US Forest Service from categorically closing roads or using the term "unroaded" in establishing roadless areas for Wilderness designation. Under the terms of the settlement agreement the Forest Service is banned from using the Road Moratorium to close a single mile of road". United obtained evidence that many, if not all, of the national forests were using the Temporary Road Moratorium to create de facto wilderness areas as part of forest planning. Carla Boucher of United predicted in early 1998 that this was the plan of the Forest Service all along. “This agreement prevents the creation of de facto wilderness, protecting nearly 347,000 miles of access for motorized recreationists", remarked Boucher. Additionally, the ruling in the State of Wyoming v. USDA by U.S. District Court Judge Clarence Brimmer blocked implementation of the Roadless Area Conservation Rule. This project must include proper interpretation of the Roadless Rule and the roadless rule should not be used to close existing motorized routes in roadless areas.

312. In 1924, the Forest Service established the first de facto wilderness area; by 1964, it had created 88 de facto wilderness areas totaling 15 million acres. In 1964, Congress dealt legislatively with the issue of wilderness: creating wilderness areas, reserving for itself the designation of wilderness areas, and setting a deadline for the study of potential new wilderness areas.

“In 1964, Congress adopted the Wilderness Act, pursuant to which it designated areas of federal land as wilderness; this is the only manner in which such a classification may be attached to federal land,” said William Perry Pendley of Mountain States Legal Foundation. “In addition, Congress reasserted its constitutional authority over federal lands and put a clock on when, if ever, federal lands might be designated as wilderness. That clock has run, which

requires that lands not designated by Congress as wilderness be managed as non-wilderness and open to all of the American people."

In 1973, the Forest Service completed Roadless Area Review and Evaluation I (RARE I) to recommend land for further evaluation as potential wilderness areas. RARE I failed when courts ruled that the Forest Service had failed to comply with environmental study requirements. Later, the same fate befell RARE II when federal courts ruled the process violated the National Environmental Policy Act (NEPA). Nonetheless, in 2001, the Clinton Administration, relying on these flawed studies, issued the Roadless Area Conservation Rule by which nearly 60 million acres of Forest Service lands were closed to access.

The Clinton roadless rule was challenged in nine lawsuits across the country, including in Wyoming where the federal district court held that the rule was an attempt to circumvent the Wilderness Act of 1964. In 2005, the Forest Service published the State Petition Rule for Inventoried Roadless Area Management by which governors may recommend the management scheme for "roadless" areas of Forest Service lands within their States.

Mountain States Legal Foundation, which has made numerous appearances before the U.S. Supreme Court and federal courts of appeals, filed comments with the Colorado Roadless Areas Review Task Force and has advised "The U.S. Forest Service may not manage federal land as wilderness unless Congress has designated that land as wilderness". This legal opinion must be considered adequately and made part of this proposed project.

A decision by U.S. Magistrate Judge Elizabeth Laporte in the Forest Service Roadless Rule on September 20, 2006 sets aside the 2005 State Petition Rule as unlawful. The decision concludes the State Petition Rule, which provided a redundant opportunity for State Governors to petition the Forest Service on how roadless areas in their state are managed, violated the National Environmental Policy Act and Endangered Species Act by failing to sufficiently analyze the removal of any protections provided by the prior 2001 Roadless Rule.

313. Page 279 of the Supplement to Big Snowy EA. *As previously stated in our response to 3c – Roadless/Wilderness comments, we fail to see how the Roadless Rule has a cumulative effect on multiple-use recreationists. The Roadless Area Conservation Strategy did not prohibit motorized use on roads and trails that already exist within inventoried roadless areas. It also did not prohibit construction of new motorized trails. It did not designate the areas as wilderness. It did not prohibit the Forest Supervisor from making local decisions about motorized travel within roadless areas. Therefore, we consider this comment beyond the scope of the project.*

We disagree with the conclusion that the Roadless Rule will not have a cumulative negative effect on motorized recreationists. The Final Roadless Rule published on January 5, 2001 included the following directive "The proposed rule did not close any roads or off-highway vehicle (OHV) trails". Even though motorized recreation is allowed by the Roadless Rule, non-motorized groups will contest every inch of motorized trail in roadless areas. The comments submitted by non-motorized use groups as part of this proposed action are representative of their position. All too often, the preferred alternative implements a significant reduction in motorized access and recreation. Every action involving travel management in the region has had significant motorized access and recreation closures associated with it. There is no evidence that future actions will be any different.

Montana has a total of 16,843,000 acres in National Forests. Of that area, 3,372,000 acres or 20% are designated wilderness. Areas subject to the Roadless Rule total 6,397,000 acres or

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38% of our National Forest area. Therefore, 9,769,000 acres or 58% of the National Forest in Montana is either wilderness or subject to the Roadless Rule. This number of acres must be balanced with the fact that wilderness visits account for only 2.55% of the visits to public land (Table 2-7 in the Social Assessment of the Beaverhead-Deerlodge National Forest dated October 2002). Therefore, nearly all (97.45%) visitors to public lands benefit from land management for multiple-use and benefit from motorized access and mechanized recreational opportunities.

Based on our experience with past actions and current proposed actions, motorized recreationists will lose significant recreational opportunities and suffer cumulative negative impacts from the Roadless Rule. Therefore, we disagree that this issue is out of scope. We request that the cumulative negative impact of the Roadless Rule, past actions and future actions be considered a significant issue and adequately considered in the document and decision-making. Additionally, we request that an adequate mitigation plan be included as part of this action to compensate for past cumulative negative impacts.

314. The need to protect and create more roadless is not backed up by the law, facts, site specific studies, data, and monitoring, and overall public need and must not be used as a ploy to close motorized recreational opportunities.

7. Must Adequately Consider Cumulative Impact of All Motorized Closures

315. Our pursuit of happiness has been significantly impacted by all of the motorized closures.

316. One of the specific requirements under NEPA is that an agency must consider the effects of the proposed action in the context of all relevant circumstances, such that where "several actions have a cumulative . . . environmental effect, this consequence must be considered in an EIS." Neighbors of Cuddy Mountain v. U.S. Forest Serv., 137 F.3d 1372, 1378 (9th Cir. 1998) (quoting City of Tenakee Springs v. Clough, 915 F.2d 1308, 1312 (9th Cir. 1990)). A cumulative effect is "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."18 40 C.F.R. § 1508.7. 3. The cumulative effect of all motorized closures has been significant and is growing greater every day yet they have not been adequately addressed. Ignoring cumulative effects allows the agency to continue to close motorized routes unchecked because the facts are not on the table. CEQ guidance on cumulative effects was developed to prevent just this sort of blatant misuse of NEPA.

317. Because of the cumulative effects on motorized recreationists from all past and reasonably foreseeable closures and the growing need for motorized access and motorized recreational opportunities, there can be no net loss of these opportunities with this action. This can be accomplished by implementing a route designation for all existing routes.

318. This following table is only a partial list that is meant to demonstrate that a significant impact and a significant issue exist. The Agency must prepare their own table and evaluation that is complete with all planning actions that have impacted motorized access and motorized recreation in the project area and region. The last 20 years has been a very aggressive program to take away, take away, take away motorized recreational opportunities from the public. A starting list of actions that should be evaluated in a cumulative effect analysis include:

Table 2
Partial list of Current and Immediate Past Actions With
Significant Cumulative Impact on Multiple-Use/Motorized Recreation

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Table of Cumulative Effects on Motorized Recreationists

Action	Acres Affected	Miles before	Miles after	Miles closed	% closed	Mitigation of Motorized Losses	Agency	Year
Iron Mask, Butte BLM	26,235	19.3	0.6	18.7	96.89%	No	BLM	2015
Sleeping Giant BLM	7,900	29.0	21.6	7.4	25.52%	No	BLM	2004
Elkhorn Management plan	300,000			75*	50%*	No	FS	1996
Clancy-Unionville TP	33,000	136.0	108.0	28.0	20.59%	No	FS	2001
North Belts TP	250,000	370.4	164.9	205.5	55.48%	No	FS	2005
South Belts TP	83,000	173.6	140.2	34.0	19.59%	No	FS	2008
Beaverhead-Deerlodge FP	3,364,000						FS	2009
Roads		4,157.0	4,053.0	104.0	2.50%	No		
Motorized trails		1,237.0	1,037.0	200.0	16.17%	No		
Gallatin NF TP	1,807,000						FS	2006
4x4 Roads		417.0	347.0	70.0	16.79%	No		
ATV and motorcycle trails***		680.0	145.0	535.0	78.68%	No		
Little Belt, Castle, and Crazy TP	1,050,000						FS	2007
Roads		1,546.7	740.3	806.4	52.14%	No		
ATV trails***		226.0	208.0	18.0	7.96%	No		
Motorcycle trails		658.0	443.0	215.0	32.67%	No		
Rocky Mountain Front TP	391,700						FS	2007
Motorized Trails		209.0	74.0	135.0	64.59%	No		
Badger-Two Medicine TP	130,000	190.6	8.6	180.0	94.44%	No	FS	2009
Dillon RMP BLM	901,000	2,102.0	1,342.0	760.0	36.16%	No	BLM	2004
Butte RMP BLM	307,300	629.3	416.9	212.4	33.75%	No	BLM	2009
Helena area		52.2	9.8	42.5	81.42%	No		
Blackfoot TP	376,000	***	*	*	over 50%	No	FS	2017
Divide TP	155,000	***	*	*	over 50%	No	FS	2016
Custer NF Beartooth TP	580,000						FS	2007
Roads		225.0	210.0	15.0	6.67%	No		
Motorized trails		341.0	267.0	74.0	21.70%	No		
Custer NF Ashland TP and Forest Plan	437,000	**	??	??	??	No	FS	Ongoing
Custer NF Sioux TP and Forest Plan	436,000	**	??	??	??	No	FS	Ongoing
Bitterroot NF TP	1,589,000	**	*	*	over 75%	No	FS	2015
Upper Missouri River Breaks RMP	378,000	592.0	404.0	188.0	31.76%	No	BLM	2008
Whitetail-Pipestone TP	185,700	679.0	406.0	273.0	40.21%	No	BLM	2007
Bruce Creek to Napa Point TP	141,990	60.0	40.0	20.0	33.33%	No	FS	2009
Keep Cool Hills Management Plan	14,500	20.0	0.0	20.0	100.00%	No	FS,FWP	2008
Owyhee Front Travel Plan BLM	484,873	834.0	398.0	436.0	52.28%	No	BLM	2009
Salmon Challis NF Travel Plan	4,359,000						FS	2009
Motorized trails		1,110.0	838.0	272.0	24.50%	No		
Tellico OHV area	6,000	39.5	24.0	15.5	39.24%	No	FS	2009
Moab RMP BLM	1,822,562	6,199.0	3,693.0	2,506.0	40.43%	No	BLM	2007
Monticello RMP BLM	1,800,000	3,069.0	2,820.0	249.0	8.11%	No	BLM	2007
Richfield RMP BLM	2,100,000	4,315.0	3,739.0	576.0	13.35%	No	BLM	2007
Greater Yellowstone Grizzly Bear Plan	5,893,000				25%*	No	FS	2006
Cabinet-Yaak-Selkirk Grizzly Plan	2,918,400	3,008.0	2,811.0	197.0	6.55%	No	FS	2008
Big Snowy Mountains TP*	150,000			100*	50%*	No	FS	2002
Targhee NF TP	1,789,000						FS	1997
Inyo National Forest TP	1,977,000	3,725.0	2,934.0	791.0	21.23%	No	FS	2009
Kootenai NF Three Rivers RD*****	638,000						FS	2009
Roads		2,222.0	500.0	1,722.0	77.50%	No		
Trails		161.0	0.0	161.0	100.00%	No		
KIPZ Forest Plan	5,513,000	**	**	**	**	No	FS	Ongoing
Lolo Forest Plan	2,083,000	**	**	**	**	No	FS	Ongoing
WMPZ Forest Plan	6,043,000	**	**	**	**	No	FS	Ongoing
Subtotal	**50,494,925**	**39,413.3**	**28,343.3**	**11,068.7**	**28.08%**	**No**		
Other Significant Measures of Closed Motorized Opportunities								
Yellowstone NP snow machines****		1400	318	1082	77.29%	No	NPS	2009
National Forest Cross Country opportunity (acres)	192,300,000	192,300,000	0	192,300,000	100%	No	FS	2005
BLM Cross Country opportunity (acres)	258,000,000	258,000,000	100,000*	257,900,000	99.40%	No	BLM	2006
All completed, ongoing and reasonably foreseeable FS Travel Plans	192,300,000	192,300,000	??	??	??	No	FS	
All completed, ongoing and reasonably foreseeable BLM RMP and Travel Plans	258,000,000	258,000,000	??	??	??	No	BLM	

Notes:

* estimated impact, Inadequate public disclosure by a public agency, public does not have access to the overall data

** underway with expected significant impact

*** additional impact associated with significant loss of quality trails and substitution with roads

**** number of snow machines

***** All motorized trails closed

?? Needs to be identified and tabulated and disclosed by the agencies per NEPA disclosure requirements, actual cumulative effect of all closures is greater than 11,068 miles and 28.08% when full disclosure is made.

319. Past actions that have had a significant impact on motorized recreationists as shown in the table above. Reasonably foreseeable actions including travel plans, forest plans and resource management plans will produce additional significant impacts. These actions have produced or will produce a significant debt in the mitigation bank for motorized recreational opportunities in the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS project area and immediate surrounding areas and this issue must be adequately addressed.

320. New information from the Montana Environmental Quality Council (EQC) shows that, accounting for roads that have been decommissioned along with roads considered "unauthorized," the mileage of road closures on U.S. Forest Service (USFS) land in Montana balloons to 21,951 miles. A study (http://mediatrackers.org/assets/uploads/2015/09/MT-National-Forest-Roads.pdf) commissioned by the state legislature in 2015 and reported to the EQC found that 9,784 — or nearly 31 percent — of the nearly 32,000 miles of roads in Montana managed by the USFS were "level 1 roads," meaning they are closed to motorized traffic and only open for "administrative use." However, the 32,000 total miles of roads does not include the 5,796 miles of officially decommissioned roads or the estimated 6,191 miles of "unauthorized" roads. Counting the decommissioned and unauthorized roads in the total, there are almost 44,000 miles of open and closed roads in Montana and 21,951 miles of those roads on USFS managed land are CLOSED. The report states that there are 22,047 miles of roads open to motorized traffic. By this measure, 50% of the road mileage under the control of the USFS is CLOSED. Based on our observations, a similar percentage of motorized trails have been closed. A similar percentage of roads on BLM managed lands have been closed and the BLM rarely identifies motorized trails. The cumulative effect of all motorized closures is significant and cannot be ignored. The public does not want any more motorized closures.

321. All travel plans in Nevada and surrounding states have included significant motorized closures that have left the public with an inadequate network of OHV routes. OHV recreationists are now forced a significant distance in order to enjoy OHV opportunities at a significant cost in time and money. This lack of adequate and reasonable OHV opportunities through cumulative impact has become a significant issue that must be addressed and mitigated in the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS.

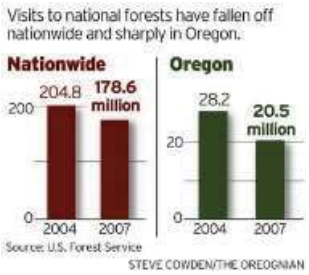
322. Cumulative effects of locked gates that now prevent public motorized access. This is an ever increasing issue that now significantly affects the public.
http://helenair.com/news/state-and-regional/locked-gates-prevent-access-to-national-forest/article_0428b09d-0fa2-516c-a989-e5738c8aee9a.html?print=true&cid=print
http://helenair.com/news/local/road-accessing-national-forest-land-gated-locked/article_f9d0dbde-4655-11e2-a8d3-0019bb2963f4.html?print=true&cid=print

323. Motorized recreationists are being squeezed out of the high quality places on our public lands including high elevation mountains, high elevation lakes, and other scenic areas. This trend has created significant socio-economic issues including equal access and cumulative effects that must be adequately addressed and mitigated as part of this action.

324. Since 1988, forest fires have eliminated many motorized roads and trails. These losses have occurred due to deadfall, re-growth, and loss of trail tread associated with the forest fire. These losses are occurring with every fire. For example, the motorcycle single-track trail #418 from Snowbank Lake to Stonewall Mountain and road #771 the Snow-Talon fire area in the Lincoln Ranger District of the Helena National Forest has been lost to motorized use. Motorized losses due to forest fires are occurring in every National Forest in our area. The loss of motorized opportunities from fires has become a significant cumulative impact and issue to motorized recreationists. The cumulative loss and negative effect on motorized recreationists due to loss

of recreational opportunities due to fires within the project area, forest and region is a significant issue that must be evaluated as part of this travel plan. The evaluation should also address mitigation measures necessary to reduce the significant impact of losses due to fires on motorized recreationists.

325. The current trend of excessive motorized access and motorized recreational closures is having a significant impact on the number of visitors to the forest as shown in the recently released NVUM report (http://www.fs.fed.us/recreation/programs/nvum/nvum_national_summary_fy2007.pdf, http://billingsgazette.net/articles/2008/12/04/features/outdoors/18-woods.txt) and the following graphic based on that data. This trend has created a significant issues in regards to adequate public access and adequate motorized recreation which much be analyzed adequately during the process.



Forest Service Region	National Forest Visits 2004 (000s)	National Forest Visits 2007 (000s)	Change in Visitation (000s)	% Change
01 Montana, Northern Idaho, Northeast Washington, North Dakota	13,200	11,265	-1,935	-15%
02 Colorado, Kansas, Nebraska, South Dakota, Wyoming	32,500	31,025	-1,475	-5%
03 Arizona, New Mexico	20,500	20,502	2	0%
04 Nevada, Utah, Southern Idaho	23,300	21,315	-1,985	-9%
05 California	30,700	28,702	-1,998	-7%
06 Oregon, Washington	28,200	20,495	-7,705	-27%
08 Southeastern US, Puerto Rico	31,000	25,867	-5,133	-17%
09 Northeastern US	22,500	17,033	-5,467	-24%
10 Alaska	2,900	2,421	-479	-17%
TOTAL	204,800	178,625	-26,175	-13%

326. Federal actions are systematically eliminating western culture with its ties to the land. The significant negative cumulative impact of actions that reduce the public's access to and use of federal land including travel planning, forest planning, resource management planning, grazing permits, minimal timber harvest activity, reduced mineral, oil, and gas leases, and actions associated with endangered species, must be adequately evaluated and significant cumulative impacts must be mitigated. This analysis and recognition has yet to be done in any action and must be given priority.

327. One of the specific requirements under NEPA is that an agency must consider the effects of the proposed action in the context of all relevant circumstances, such that where "several actions have a cumulative . . . environmental effect, this consequence must be considered in an EIS." Neighbors of Cuddy Mountain v. U.S. Forest Serv., 137 F.3d 1372, 1378 (9th Cir. 1998) (quoting City of Tenakee Springs v. Clough, 915 F.2d 1308, 1312 (9th Cir. 1990)). A cumulative effect is "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."18 40 C.F.R. § 1508.7. 3. The cumulative effect of all motorized closures has been significant and is growing greater every day yet they have not been adequately addressed. Ignoring cumulative effects allows the agency to continue to close motorized routes unchecked because the facts are not on the table. CEQ guidance on cumulative effects was developed to prevent just this sort of blatant misuse of NEPA.

328. The cumulative negative impact of multiple-use and motorized recreational closures (in acres of unrestricted area, miles of roads and trails, and recreational opportunities) by all past decisions including plans, and the creation of wildlife areas, wilderness, wilderness study areas, roadless areas, monuments, national parks and non-motorized areas has not been

adequately recognized and it is significant. We have not seen the agencies tabulate the amount of motorized recreational opportunity lost during the past 35 ± years. Additionally, most of the past actions that have involved motorized closures have not included a comprehensive route inventory. Therefore, many motorized closures have occurred because the routes were not identified during the process and the process ended with a closed unless posted open conclusion. We have experienced the significant cumulative loss first hand. We estimate that today's motorized recreational opportunities are less than 50% of the level available in 1970.

Now consider the 3 inch document that goes with each action and the involvement required to participate in the scoping process, review of draft EIS and comments, review of final EIS and comments, and review of the record of decision. It is simply impossible to keep up with. The motorized closure movement has the upper hand given the process and volume of actions and is effectively eliminating motorized access and motorized recreation at an astounding rate.

The projects listed in Table 2 have typically proposed to or have reduced motorized recreation from 20% to 100%. Additionally, each time an action involving travel management is updated it typically closes another 20% to 50% to motorized access and motorized recreation. The cumulative negative effect of past actions has contributed to a reduction in motorized access and motorized recreational opportunities over the past 35 ± years that is greater than 50%. The magnitude of the cumulative effect of the motorized closure trend must be identified and evaluated as a significant impact on motorized visitors.

329. We request an adequate evaluation of the significant cumulative loss in miles, acres, and quality of motorized recreation and access opportunities within public lands as required under 40 CFR 1508.7 and 1508.25, and guidelines published by the Council on Environmental Quality "Considering Cumulative Effects Under the National Environmental Policy Act". Table 2 is provided as a starting point of the projects that need to be considered as part of that evaluation.

330. Past actions that have had a significant impact on motorized recreationists as shown in the Cumulative Effects Table 2. Reasonably foreseeable actions including travel plans, forest plans and resource management plans will produce additional significant impacts. These actions have produced or will produce a significant debt in the mitigation bank for motorized recreational opportunities in our National Forest and this issue must be adequately addressed.

331. What is the cumulative effect on the public of this motorized access and motorized recreational closure combined with all other motorized access and motorized recreation closures in the state and nation?

332. The action must develop a preferred alternative that mitigates the significant impacts on the public from the loss of motorized access and motorized recreational opportunities from the proposed action and the combined cumulative effect of all other actions in the state.

333. Because of the cumulative negative effects of the motorized closure trend, the recreational opportunities for motorized recreationists is dramatically being reduced to a limited number of motorized routes and the lesser used routes are becoming hard to find and, therefore, they must be considered invaluable to motorized recreationists. The level of use should also be evaluated along the logic that the most valuable motorized routes now days are the ones that are remote and see less use. Therefore, barely visible 2-track roads and single-track trails are invaluable to motorized recreationists and must be evaluated as such. Motorized recreationists are struggling to keep a reasonable spectrum of opportunities available and one piece of that spectrum are remote and lesser used routes. In a constantly losing scenario, every remaining motorized recreational opportunity is important to motorized recreationists.

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334. We were again reminded recently of the cumulative effects of all forms of closures that are impacting motorized recreationists. We recently visited a site in the Flint Creek Range that we have been visiting for years. In the past there has only been 1 other group camping in this area. This past weekend there were over 15 groups (over 100 motorized recreationists) camping in the area and most of them were from Missoula (70 miles one-way). When we asked some of them why they chose this area they responded that they did not have any where else to go in the immediate Missoula area and that the word was out on this particular area. This is happening in too many places and in the end the current closure trend will concentrate everyone in a few locations. We believe, that in the end, the current motorized closure trend will produce an undesirable experience for the forest visitor and for the environment. We respectfully submit that the current management trend of motorized closures at every opportunity is not in the best interest of the public and the environment in the long-term.

335. Motorized closures are being enacted incrementally and without adequate disclosure and consideration of the cumulative effects. Travel plans are created or revised every 10 years. If 25 to 50% of the existing motorized recreational opportunities are closed in each successive travel plan (a typical range), then over the course of 3 travel planning cycles or about 30 years in a given area, only 13 to 42% of the original motorized recreational opportunities will remain at the end of the third cycle. This trend is being ignored at all levels including the actions listed in Table 2. The plan for this project area does not recognize and address this trend. The current management trend and planning actions do not adequately recognize and address this trend. The national planning policy does not recognize and address this trend. Therefore, this cumulative effect is being effectively ignored and that failure to notice will result in the ultimate loss of any meaningful motorized recreational opportunities and the creation of defacto wilderness from large blocks of multiple-use lands. *Facts do not cease to exist because they are ignored*.--Aldous Huxley. We ask that this significant negative cumulative effect on motorized recreationists be adequately recognized, evaluated and mitigated at all levels starting with this project.

336. The cumulative negative effects of more restrictive travel plan decisions include the concentration of use on fewer miles of road and trail, such that traffic density is increased and recreation enjoyment is reduced. As shown in Table 2, the magnitude of this impact is significant and yet it is ignored. To experience the cumulative effects of motorized closures first hand one can visit the Whitetail-Pipestone area on Memorial Day and Copper Creek near west of Phillipsburg on July 4th and see hundreds to thousands of multiple-use recreationists forced into small areas with limited opportunities by the cumulative effects of many motorized closures produced by planning actions and travel plans. Travel decisions affecting public lands that restrict motorized recreation in one area may consequently increase motorized use in another where site-specific travel plans are not yet in place. Cumulatively then, this "leapfrog" effect may increase resource damage, create more law enforcement problems, generate discord between motorized and non-motorized recreationists, and make future site-specific travel planning more difficult. This cumulative negative effect must be adequately considered as part of this project.

337. The list of projects in Table 2 demonstrates that motorized routes are all too commonly closed for exclusive non-motorized use. The proposed action continues this massive trend. The Agency looks out for the interests and needs of non-motorized interests and is willing to create many miles of new non-motorized trails as demonstrated by a number of projects such as the CDNST. We request the same cooperation between the Agency and a recreation group be extended to motorized recreationists. We request that the Agency provide the same attention to our needs. Now it is time for a route to be closed for exclusive use by motorcycles. We request

that trails be closed for exclusive use by OHVs and that 100 miles of new motorized recreational opportunity be created as a demonstration of equal opportunity.

338. There has never been an accounting of the cumulative negative impact of all motorized closures that have occurred over the past 35 years. Actions that have contributed to the significance of the cumulative negative impact on motorized recreation include millions of acres and thousands of miles of roads and trails associated with Endangered Species Act; Continental Divide National Scenic Trail; forest fires; timber harvests, forest plans; view shed plans; resource plans; watershed plans; roadless plan; creation of wildlife management areas, monuments, non-motorized areas, wilderness areas, and wilderness study areas; area closures, and last but certainly not least, travel plans. This cumulative negative impact has not been quantified and it is significant.

339. In order to evaluate this cumulative negative effect, an accounting of all motorized closures must be done at 5-year increments going back to the creation of the wilderness act. This accounting needs to be done on a local forest or district level in addition to statewide and regional levels. For example, loss of motorized access and motorized recreational opportunities since 1986 in our immediate area (Helena National Forest) include: 18 separate closures in the Big Belts with the loss of over 100 miles; 130 miles in other areas of the forest; closure of 191,000 acres and 75 miles in the Elkhorn Mountains; and closure of 625,447 acres in the remainder of the forest. Both adjoining public lands and public lands further away have experienced similar trends. Therefore, the cumulative negative impact of all motorized access and recreational closures is significant. Simply, there are very few places left where motorized recreationists can recreate and yet the trend continues. This stealthy attack on motorized recreational opportunities must be acknowledged. Please quantify and consider these cumulative negative impacts and develop a preferred alternative that will mitigate the significant impact on motorized recreationists that has occurred.

340. We are concerned that the lack of accounting for the cumulative negative impact of all forms of motorized closures over the past 35 years is an undisclosed strategy to squeeze motorized recreationists into the smallest possible area. Once this is accomplished, then the agencies will take the position that the impacts on that small area left for use is significant and everything will be completely shut down. All of the plans, strategies, actions, and evidence support this concern.

341. One agency cannot ignore the cumulative negative impact that another agency's actions are having on motorized access and motorized recreation. For example, the BLM cannot ignore cumulative negative impact of all of the closures that have occurred in the Helena National Forest during the evaluation of BLM projects in the area and vice versa.

342. If allowed to continue the trend of closure after closure of motorized access and motorized recreational opportunities will result in an extremely limited number of motorized access and motorized recreational opportunities. If allowed to continue to that end as proposed by current management schemes, motorized access and motorized will become so concentrated that the impacts on natural resources will become significantly greater than the alternative of continuing to allow a reasonable level of motorized access and motorized recreation on all multiple-use lands. We believe that it is time that this trend to terminate motorized access and motorized recreation on public be evaluated. We request that the trend of cumulative closures, the cumulative negative impacts associated with that trend and the reasonable alternative of maintaining the existing level of motorized access and motorized recreation must be adequately addressed. We also request that the proposed action include an adequate mitigation plan to compensate for the significant impact from the cumulative effect of all past actions that have affected motorized access and motorized recreationists.

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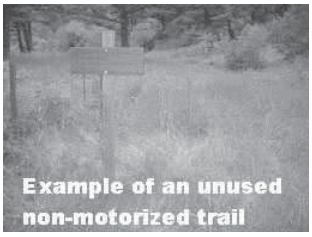
343. Motorized visitors are continually losing significant recreational opportunities by conversion of multiple-use areas to non-motorized areas. We are greatly concerned about the cumulative negative impact associated with the reduction of multiple-use and OHV recreation opportunities because it is significant. We do not expect to have the freedom to go anywhere and do anything that we want. However, we are losing the basic opportunity to travel to places and experience outdoor recreation that we have enjoyed for decades. We are losing routes that fathers have taught sons and daughters and even grandchildren to ride on. People are calling us and asking where they can go to ride. What are we supposed to tell them? The continual loss of motorized access and recreational opportunities is seriously degrading the local culture and quality of life. Public land is a cultural resource and access to the project area for many uses is part of the local culture. The decision for this project must consider the impacts that any closures will have on this culture.

344. We are opposed to any proposed action that further contributes to this cumulative negative impact on multiple-use and OHV recreationists because it is already significant. Recreation opportunities for multiple-use and OHV recreationists are being significantly reduced at a time when the need for these categories of recreation is growing. There is no reasonable justification for closing these lands to multiple-uses. Management of public lands for multiple-use is the most equitable and responsive approach available to meet the needs of all citizens including motorized recreationists. We request that the evaluation and proposed action adequately address this condition and not contribute further to this cumulative negative impact because it is already having a major impact on motorized recreationists.

345. The trend of closure after closure after closure after closure of motorized access and motorized recreational opportunities and the associated cumulative negative impacts of that trend is no longer acceptable without adequate mitigation. A reasonable mitigation plan must be developed for each action in order to avoid contributing to significant cumulative impacts on motorized access and motorized recreationists.

346. The cumulative negative effect of management trends over the past 35 ± years has significantly increased non-motorized recreational opportunities while motorized recreational opportunities have been significantly decreased. Non-motorized recreationists have many choices while motorized recreationists have few choices. We request that the document evaluate the significant cumulative negative effects of this trend and that the decision be based on correcting this trend in order to equitably meet the needs of motorized recreationists.


Example of an unused non-motorized trail

347. We are greatly concerned about the prevailing management trend for public lands that has significantly reduced or eliminated motorized recreation and access opportunities. Why does the closure of public lands permeate the current management mind set? This mind set is not in line with the best interests of the public. The closure of any existing motorized trail will add to the significant cumulative loss of motorized recreation and access opportunities that has occurred within public lands during the past 35 ± years. In order to avoid contributing further to the significant cumulative loss of motorized recreation and access, we request, as a reasonable alternative, that the closure of a motorized trail or access should be offset by the creation of a new motorized trail or access of equal value.

348. The elimination of public access to public lands through private property has also contributed to the loss of motorized access and motorized recreation opportunities. We request, as a reasonable alternative, that agencies acquire private land and right-of-ways to provide access

to public land that is now blocked off to the public. This action is necessary to reverse the prevailing trend of significantly less public access to public land over the past 35 ± years and the cumulative negative impact of that trend on multiple-use recreationists.

349. If a private property owner closes a historic motorized access or route to public land through their property, then in order to be fair, to avoid special privileges; the public routes should be closed at the private property line to all motorized use and, where the route has access from the other end on public land, it should remain open so that it can provide an out and back motorized opportunity.

350. Private property owners that border public land should not benefit from public land without providing access to the public. Any private landowner that owns land that borders public land and does not provide public access to that public land should also be denied access to that public land under the principles of fairness and reciprocity. This action is necessary to reverse the prevailing trend of significantly less public access to public land over the past 35 ± years and the cumulative negative impact of that trend on multiple-use recreationists.

351. Anytime there is a land exchange between private and public entities, a public access easement or right-of-way should be required in order to offset the trend of less public access to public land over the past 35 ± years and the cumulative negative impact of that trend on multiple-use recreationists.

352. Motorized visitors are extremely concerned over the significant cumulative loss of many historic travelways. Motorized visitors are unwilling to compromise any further because of the cumulative loss of motorized access and recreation opportunities that has resulted in the lack of equivalent recreation and access opportunities within public lands. Motorized visitors have the need for trail systems and areas equal to those available to non-motorized visitors (areas and trails including inter-forest, interstate routes, Continental Divide Trail, Pacific Crest Trail and National Recreation Trails). There are no new opportunities within public lands to make-up for the closure of roads and motorized trails. Therefore, a substantial need for motorized recreation and access opportunities will not be met if a substantial number of roads and trails are closed. We request that the impacts associated with the significant loss of motorized recreation and access opportunities be adequately addressed in the environmental document and decision-making, i.e. Where will displaced motorized visitors go? And, due to the lack of any reasonable motorized access and recreation opportunities, what will they do? Additionally, we request, as a reasonable alternative, that an adequate mitigation plan be included as part of this action to compensate for past cumulative negative impacts.

353. We request, as a reasonable alternative, that the loss of motorized recreation and access opportunities due to millions of acres of area closure (motorized travel restricted to designated routes) be adequately addressed in the document and decision-making. The area closure action without closing of any existing roads and trails is a significant loss of recreation and access opportunities to motorized visitors. The lack of adequate consideration of the negative impact of area closure on access and motorized recreation has produced a cumulative negative impact that is significant. We request, as a reasonable alternative, adequate consideration of area closure impacts on motorized visitors in the project area and the cumulative negative impact of all area closures. Additionally, we request that an adequate mitigation plan be included as part of this action to compensate for past cumulative negative impacts.

354. The environmental document should evaluate how the number of policy proposals over the past several years has overwhelmed the public. There is no way that the public could evaluate and comment on each proposed action (see partial listing of actions in Table 2 Cumulative

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Effects). The cumulative negative impact of the overwhelming number of proposals has been decision-making that does not provide for the needs of the public and a significant reduction in multiple-use and motorized access and recreation opportunities. We request that this cumulative negative impact be adequately evaluated and factored into the decision-making for this action. Additionally, we request that an adequate mitigation plan be included as part of this action to compensate for past cumulative negative impacts on the public associated with the overwhelming number of NEPA actions.

355. Motorized visitors have had to devote the majority of their available energy and time addressing local and national level travel management actions. The combination of these actions has created a significant cumulative negative effect on motorized visitors by consuming their free time and money, and significantly impacting their quality of life.

356. Additionally, this cumulative negative effect has lead to the loss of opportunity for motorized recreationists to further the awareness and education of other motorized visitors in areas such as proper riding ethics, safety, and environmental protection. This cumulative negative effect has also reduced the opportunity for motorized recreationists to improve and maintain existing motorized opportunities. This cumulative negative impact includes reduced maintenance of trailheads and trails and reduced ability to undertake mitigation projects to protect the environment and public safety. We request that these cumulative negative effects be addressed in the analysis, preferred alternative and decision-making.

357. Over the past 35 years (and it is accelerating in recent years) the overarching public land management trend has been to close access to and use of public lands. This trend of closure upon closure has become epidemic and is out of control as demonstrated by popular public opinion. A sampling of different users and perspectives is provided below to demonstrate this trend and the cumulative negative impacts that it has produced.

http://www.billingsgazette.com/index.php?display=rednews/2004/04/25/build/local/32-land-use-protest.inc
http://www.mtstandard.com/articles/2004/05/14/newsspecialreports/hjjfjeigjcffhb.txt
http://www.billingsgazette.com/index.php?id=1&display=rednews/2003/11/11/build/wyoming/30-blm.inc
http://www.dailyinterlake.com/NewsEngine/SelectStory.tpl?command=search&db=news.db&eqskudata=57-816431-10&search-var=multiple
http://www.dailyinterlake.com/NewsEngine/SelectStory.tpl?command=search&db=news.db&eqskudata=9-816800-3&search-var=multiple
http://espn.go.com/outdoors/hunting/news/2001/1106/1274551.html
http://www.aapg.org/explorer/2003/05may/slc_publandside.cfm
http://www.nanpa.org/docs/PublicLandsAccess.pdf
http://www.washington-state-rockhounding.info/Trespass-index.htm
http://www.sdorc.org/news/tortoise_lawsuit.html
http://www.amfed.org/sfms/public-lands-access.html
http://www.gamineral.org/land-access.html
http://www.paragonpowerhouse.org/bush_promises_collaboration_on_p.htm
http://www.delalbright.com/landuse.htm
http://www.off-road.com/orcland.html
http://www.hcn.org/servlets/hcn.Article?article_id=5735
http://www.sportsmenslink.org/articles/FinalWhitePage-Total.pdf
http://www.4x4wire.com/access/news/united/dea_2002.htm
http://responsiblerecreation.policy.net/newsroom/
http://www.helenair.com/articles/2003/06/01/opinions/a04060103_02.txt

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http://www.maccusa.com/
http://www.sportsmenslink.org/programs/hunter/Issues.html
http://www.ssfta.com/land/land.htm

358. Many additional articles can be found by searching the web for keywords “public lands access”. By far the loss of access and the trend of motorized closures upon motorized closure on public lands are the most common themes. From the public’s perspective the #1 problem is access to adequate multiple-use access and recreational opportunities and the fact that these opportunities are being eliminated at a record pace by federal land use agencies. It is time to recognize that the trend of closure of public land to the public is inequitable. It is also time to undertake adequate correction to reverse the cumulative negative impact of 35 years of closure upon closure. It is also time to implement adequate mitigation to compensate for the cumulative negative impacts caused by the trend of inequitable closures that are now significant.

359. The overarching trend of the last 35 years has been to remove people from the land. This trend has occurred as a result of many different factors including creation of national parks and monuments; creation of wilderness, non-motorized, and roadless areas; policies of the Forest Service and Bureau of Land Management; influx of dollars for conservation easements and land trusts; decline of farming and ranching; and decline of mining and timber harvests. People still have the same need and desire to work and recreate on the land but they no longer have the same opportunity. The cumulative negative effect of the different trends that have removed people from the land is so significant now that any additional impacts must be avoided. Additionally, because the cumulative negative effect is so significant, adequate mitigation measures must be included as part of all future actions.

360. Similar to the lack of adequate evaluation of the cumulative effect of all motorized closures, the agency has also inadequately evaluated and given a hard look at the cumulative effect of all public land management actions that have effectively converted public lands from multiple-use to defacto wilderness. Defacto wilderness designations include wilderness designations, monument designations, roadless areas, non-motorized areas and other designations which eliminate motorized and multiple use. Land management actions that have contributed to this significant negative cumulative impact include forest plans, travel management plan, resource management plans, and monument designations. The evaluation and decision must adequately quantify the magnitude of the conversion of multiple use lands to defacto wilderness and the impacts associated with this conversion and adequately disclose those impacts to the public with narrative, facts, figures, and tables in the environmental document.

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8. Fails to Recognize the Lack of Long Distance Motorized Trail Systems

361. The agency has developed many long distance non-motorized trail systems similar to the CDNST and PCT.

362. The agency has not develop any long distance trail systems for motorized recreationists.

363. Long distance motorized trail systems would see far more use than non-motorized trails.

364. Long distance motorized trail systems would provide far more benefit to the human environment including economic benefit.

365. Non-motorized reaches of the CDNST receive very little use. Recent inspection of a new non-motorized section of the CDNST near Burnt Mountain in the Beaverhead-Deerlodge National Forest (photographs available upon request) could not find any sign of foot prints or use. A CTVA member monitored game cameras on a section of the CDNST near Helena for a 3 month period from June to August of 2013. These cameras did not pick up any non-motorized users during this period. At the same time, we have observed that motorized sections of the CDNST see significant motorized use and corresponding benefits. By looking at actual miles traveled and hours spent recreating the obvious best use of the CDNST is for shared multiple-use. This is also true when considering our limited and valuable public taxes and funds. Single-track reaches should be designated for motorcycle and mountain bike use, 48” width areas should be designated for ATV use, and reaches wider than 48” should be designated for UTV and 4x4 use.

366. Motorized recreationists keep trails open for all users including motorcycle single-track trail. This issue is especially important during this period of intense downfall from trees killed by beetle infestations. A once a year trail clearing by a Forest Service trail crew is no longer adequate to keep trails open. Past closures have proven that motorized trails that have been closed to motorized use have become impassable within 3 to 5 years. Examples include the Brooklyn Bridge route in the Helena National Forest and the Middle Fork of Rock Creek in the Beaverhead-Deerlodge National Forest. At the same time motorized recreationists have proven that they are willing to work to keep trails open so that all visitors are able to enjoy them. This ability to keep trails open for use by everyone is a significant advantage to designate all routes within the project area open for motorized use.

367. We are very concerned about the closure of any motorized routes to create long distance non-motorized routes.

368. In too many cases a couple of non-motorized users have been able to displace hundreds of motorized users. It is not reasonable or fair to allow a few non-motorized recreationists to convert a motorized trail used by hundreds of motorized recreationists for their exclusive use. Unfortunately, sections of the CDNST have been created with this approach. This approach must not be perpetuated and past motorized closures should be mitigated.

369. If motorized recreationists had trails of regional and national significance, they would see considerable use. Non-motorized recreationists have considerably more national trail recreation opportunities than motorized recreationists. We request, as a reasonable alternative, that the

needs of motorized recreationists for regional and national travel ways be evaluated. We request an evaluation of the cumulative negative impacts and environmental justice issues surrounding the lack of regional and national motorized trails for motorized recreationists. We request, as a reasonable alternative, that regional and national motorized recreational trails be identified and actions be taken to implement those trails.

370. There is a significant equal opportunity issue associated with the CDNST that must be evaluated and resolved in a manner that is fair to motorized recreationists.

371. The thousands of motorized recreationists that use existing motorized sections for non-motorized routes including the CDNST and PCT should not be displaced for a handful of non-motorized recreationists that use the trail. Preferential treatment for non-motorized recreationists must cease and mitigation for past motorized closures must be implemented. Mitigation for past motorized closures should include those motorized routes closed in the past to create a non-motorized section.

372. We request that the analysis include a benefit-cost analysis of any new long distance non-motorized trail construction and/or conversion. This analysis should include the annual cost of the non-motorized route per actual and documented non-motorized trail user. The economic analysis should also compare the annual benefit-cost per non-motorized user versus the annual benefit-cost per motorized user if the funds were used elsewhere to construct motorized trails. Basically the funding proposed for non-motorized trail construction under the proposed alternative would see far more use if used for motorized trail construction and maintenance. Additionally, this funding could be part of a mitigation plan required to address the significant cumulative effects of all motorized trail closures on motorized recreationists. These are significant issues that must be evaluated.

373. Motorized trail users out-number non-motorized trail users at least 25 to 1 (see summary of local observations). Motorized recreationists need approximately 5 times the miles of trail per day compared to non-motorized recreationists (CBU analysis). Therefore, motorized recreationists need 125 times (25 x 5) the miles of trails as do non-motorized recreationists. However, the current allocation of resources in the forest is significantly weighted towards non-motorized and is no where near this ratio. Additionally, the allocation is moving in the wrong direction towards more non-motorized opportunities with every recent decision. Construction of new long distance motorized trail for exclusive non-motorized use is not a good use of the taxpayer's money. Any long distance non-motorized route will benefit a very limited number of recreationists who already have more than adequate recreational resources when compared to motorized recreationists. It would be more reasonable for the Agency to focus on multiple-use trail projects and invest our limited financial resources in those types of projects. These are significant issues. We request that the viable alternative of putting the project money into multiple-use trails be adequately evaluated.

374. The benefit-cost analysis should also recognize the significant economic benefit associated with motorized recreation. Motorized economic benefit would far exceed the economic benefit from the limited number of non-motorized recreationists that use long distance non-motorized trails such as the CDNST and PCT. Economic benefits to the local economy associated with motorized recreation include sale of OHVs, parts and service; sale of tow vehicles, parts and service; sale of camping units, parts and service; fuel; meals; motels, etc.

375. It is our understanding that some interests are pushing the wildlife corridor concept and trying to associate it with long distance non-motorized routes as a reason to close areas to motorized use. We have not seen adequate documentation or reasoning to justify this position and

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suspect that it is being used inappropriately as a reason to justify defacto wilderness (in practice but not ordained by law) by non-motorized interests. Significant issues must be answered before this concept can be given any credibility. Issues include:

a. Why would wildlife follow physically challenging basin divides where food and water is scarce versus other corridors? They don't. This is easily verified by open areas such as McDonald Pass or the jagged areas of the continental divide where we have never observed any significant number of wildlife crossings versus great numbers of wildlife crossings that we have observed in other areas that are more favored by wildlife.
b. Where is the documentation that the continental divide or other basin divides are favored for wildlife migration? Especially theories that purport that wildlife will migrate from Mexico to Canada. This is counter-intuitive to the types of habitat that different species require in order to survive. There is a significant lack of credible evidence to support these claims.
c. The lack of authorization or mandate from congress.
d. The socio-economic issues associated with the attempt to use the wildlife corridor concept to convert multiple-use lands to defacto wilderness (in practice but not ordained by law).

376. Any closure of motorized routes to motorized recreationists represents yet another significant loss of recreational opportunity for multiple-use and motorized recreation interests. The uncontrolled, unmeasured, undisclosed, and immensely significant cumulative effect on multiple-use and motorized recreationists must be considered as part of this action.

377. We request an adequate evaluation of the cumulative negative impact on motorized recreation and access opportunities that occurs when motorized routes are converted to non-motorized routes because they are significant. We request, as a reasonable alternative, a network of national recreation trails for motorized recreationists equivalent to the Continental Divide Trail (CDT), Pacific Crest Trail, National Recreation Trail and other national non-motorized trails that travel a long distance and interconnect with other forests such as the Michigan Cross Country Motorcycle Trail 1200 miles (http://www.fs.fed.us/r9/hmnf/pages/Recreation/Baldwin/bwc_Oo_atvmoto_txtonly.pdf), Pacific Crest Quest (http://www.advrider.com/forums/showthread.php?t=111885), Lassen Backcountry Discovery Trail (http://www.backcountrydiscoverytrail.com/index.html and http://www.intergate.com/~sue/4wd_Trails/cbdt_lassen/lassen_cbdt.htm), the Modoc Backcountry Discovery Trail (http://www.fs.fed.us/r5/modoc/recreation/ohv/mbcdt.shtml and http://www.intergate.com/~sue/4wd_Trails/cbdt_modoc/modoc_cbdt.htm), and the Idaho Centennial Trail (http://4x4stories.typepad.com/4x4/2007/01/idaho_centennia_7.html#more). The interest and adventure of long-distance cross-country trips is captured in trip reports including http://www.quadtrek.net/ (click English) and http://www.advrider.com/forums/showthread.php?t=147232 .

378. If motorized recreationists had trails of regional and national significance, they would see considerable use. Non-motorized recreationists have considerably more national trail recreation opportunities than motorized recreationists. There is a significant fairness issue involved with this decision. We request, as a reasonable alternative, that the needs of motorized recreationists for regional and national travel ways be evaluated. We request an evaluation of the cumulative negative impacts and environmental justice issues surrounding the lack of regional and national motorized trails for motorized recreationists. We request, as a reasonable alternative, that regional and national motorized recreational trails be identified and actions be taken to implement those trails.

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379. The opportunity for solitude must be reasonably balanced with the multiple-use needs of the public. For example, the Montana Standard in an article on December 14, 2000 reported that hikers on the Continental Divide trail “walked for 300 miles without seeing another human being”. This article illustrates a significant long-distance interstate recreational opportunity available to non-motorized visitors and the negligible use that it sees. Additionally, we have been camping in the Telegraph Creek drainage for 27 years and we have met only 2 people using the CDNST in that area.

380. It is not equitable to provide recreationists seeking solitude and wilderness experiences exclusive access to tens of millions of acres and thousands of miles of non-motorized trails while restricting the public seeking multiple-use opportunities access to an inadequate road and trail system. In other words, it is not reasonable to allow a very limited group of individuals who do not want to meet other people to displace thousands of motorized recreationists. We request, as a reasonable alternative, an equitable and balanced allocation of motorized access and recreational opportunity.

381. In contrast, a long-distance interstate recreational opportunity similar to the CDNST does not exist for OHV recreationists. It is not equitable to provide recreationists seeking solitude and wilderness experiences exclusive access to tens of millions of acres and thousands of miles of non-motorized trails while restricting the public seeking multiple-use opportunities access to an inadequate road and trail system. We request, as a reasonable alternative, an equitable and balanced allocation of motorized access and recreational opportunity.

382. We have seen a low level of use used as a factor to close motorized routes. This criterion should also be applied equally to non-motorized routes. For example, a low level of use by motorcycles was used as a reason to close the Nez Perce and Mormon Gulch trails in the Beaverhead-Deerlodge National Forest. This same reason should be used to open up non-motorized trails such as the CDNST that experience a low level of use to more public use by allowing motorized use.

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9. Must Adequately Identify and Address the Imbalance of Trail Opportunity in the Project Area

383. Basically, as shown in the table below, there is too little motorized access and too few motorized trails in the Helena National Forest. Therefore, every mile of existing road and motorized trail is very, very important. The evaluation must adequately consider and address the fact that motorized access to the Helena National Forest is relatively limited as shown by the miles of roads versus the number of acres in the following table. The miles of motorized trails are exceptionally inadequate for the thousands of OHV recreationists looking for those opportunities. Additionally, the miles of motorized trails and especially single-track is way out of balance with the needs of thousands of motorized recreationists in the region surrounding the Helena National Forest. At the same time, the miles and percentage of non-motorized trails is excessive compared to the use that they receive and this does not consider the endless cross-country opportunities that available. The total route opportunity available to non-motorized recreationists is 2836 miles and the total miles of exclusive non-motorized trails are 541 (78.52%) and the cross-country miles are infinite. The total miles of roads open to motorized recreationists are 1410 and the total miles of trails open to motorized recreationists is 148 (21.48%) and the miles of cross-country opportunity is zero. Existing motorized single-track trails total about 38 miles or 5.52%.

Given the number of motorized recreationists and the miles of routes available, it should be very obvious that motorized recreationists are already squeezed into an inadequate system of routes.

Under the existing condition, 12.00% of the Helena National Forest is set-aside for segregated exclusive non-motorized use for 3,000 or 0.59% of the visitors to the forest. The remaining 505,000 or 99.41% of the visits are associated with multiple-use. Multiple-use lands are public places. Segregation in public places has not been acceptable since the Civil Rights Act of 1964. In order to reasonably meet the requirements of integration a reasonable management goal for the remaining 88.00% of the forest would be for shared multiple-use that would produce a forest-wide 50/50 sharing of non-motorized/motorized trail opportunities and correct the current imbalance as shown in the table below.

The overall allocation of **existing** non-motorized versus motorized access and trail riding opportunities in the Helena National Forest is a **does not reasonably meet** the needs of the public for motorized access and the recreational needs of motorized recreationists. We request that this data be used to guide the decision-making to a preferred alternative that adequately meets the needs of the public by **increasing motorized recreational opportunities** in the project area.

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Region	Forest	District	NFS Acres	Current Status	Projected Date for Designation	Existing NFS Roads	Existing NFS Roads Open to Motor Vehicle Use	Existing NFS Trails	Existing NFS Trails Open to Motor Vehicle Use	Existing NFS Trails Open to Motor Vehicle Use (Single-Track)	Acres Currently Open to Cross-Country Motor Vehicle Use
1	Helena	Townsend	274,000	Existing	9/7/2006	719	414	228	45	13	0
1	Helena	Lincoln	376,000	Existing	9/8/2006	563	437	229	71	22	0
1	Helena	Helena	325,000	Existing	9/8/2006	865	559	232	32	3	0
		Totals	975,000			2,147	1,410	689	148	38	0
				Miles of Open Road per Square Mile =			0.66				
				Total Roads and Trails Open to Non-Motorized Use, Miles				2,836			
						Non-Motorized Trails, Miles =		541			
						Non-Motorized Trails, % =		78.52%			
							Motorized Trails, miles =		148	38	
							Motorized Trails, % =		21.48%		
								Trails Open to Motorcycles %		5.52%	

http://www.fs.fed.us/recreation/programs/ohv/
http://www.fs.fed.us/recreation/programs/ohv/travel_mgmt_schedule.pdf

NOTE: This data is out of date by at least 8 years and does not reflect significant motorized closures that have occurred since the data used to produce this table was put together by the Forest Service. This data must be updated to disclose the true balance of recreation opportunities.

384. While we do not support segregation, if segregation is to be implemented on multiple-use lands (which must be considered public places), then a corresponding goal would be to demonstrate an absolutely perfect 50/50 sharing of non-motorized and motorized trails as part of that segregation. Therefore, if the proposed plan further promotes segregation on multiple-use lands, then it must include a corresponding 50/50 sharing and it must not tip the balance further in favor of non-motorized trails and at the expense of motorized routes.

385. It is not reasonable to reward recreationists who create and promote a culture of non-sharing on public lands.

386. In order to bring equality to the allocation of non-motorized to motorized trails in the Helena National Forest must either convert 197 miles ((689/2)-148) of non-motorized trails to motorized trails or 393 miles (541-148) of new motorized trail must be constructed. The Divide Travel Plan must adequately address this imbalance and it was a step in the wrong direction by creating an even greater imbalance.

387. Collaboration is defined by Merriam-Webster as “to cooperate with or willingly assist an enemy of one's country and especially an occupying force”. It is not reasonable to use a collaboration process to award non-motorized interests with more non-motorized opportunities for their participation in a “collaboration process” when they already have a significant unjustified advantage in non-motorized trail opportunities when compared to motor trail opportunities (541 miles and 78.52% non-motorized trails versus 148 miles and 21.48% motorized trails). Moreover, it is not equitable to use a process that is pre-determined to provide one group or selected group’s additional advantage with the outcome of the process when that group or groups has a significant advantage at the initiation of the process. Therefore, in order to address this inequality any collaboration efforts used in the process must be directed to address creating more motorized trails and the outcome of any collaboration efforts must be an increase in motorized trails.

388. The agency must recognize that the silent majority has little time left after their contribution to the economy, their families and other obligations that benefit society and are extremely important to our culture and quality of life. The silent majority needs agencies to reasonably consider and provide for their necessities and especially when it involves motorized recreation

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on public lands. Because of the significant and important commitments that the silent majority undertakes they are seldom able to participate in an extended agency or collaboration process and especially when considering how many land management actions are ongoing. The agency must adequately recognize the motorized recreational needs of the silent majority and at the same time recognize that the majority of participants in the agency driven process are agency staff or groups who have adequate free time and/or are paid to participate and represent a small fraction of the visitors to our public lands.

389. Significant issues involving the fair and equal treatment of motorized recreationists is the creation of "collaboration" groups whose purpose is to create a forum to promote their special interests, influence the agency, and gain more privileges than those of the common citizen. By design collaboration groups seldom involve motorized recreationists. A recent example of this strategy is the Montana Forest Collaboration Network. The agency must be vigilante about undue influence from these groups, and giving special status or privileges different than those of a common citizen including motorized recreationists to these special interest "collaboration" groups.

390. The existing motorized trail is not adequate to meet the needs of the public. The comments and information that we have provided in this submittal and others provide adequate justification to support this statement. Certainly a motorized trail system equal to the miles of non-motorized trail system in the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS is justified for motorized trail users. Therefore, a reasonable alternative would be to at least provide a motorized trail system in the project area equal to the non-motorized trail system in the immediate area of the project. This objective can be accomplished by eliminating the conversion of motorized trails to non-motorized trails, re-opening historic motorized trails, and incorporating old logging roads with the construction of new connector segments to create loops. We request that this reasonable alternative be developed and promoted as the preferred alternative.

391. The proposed action does not adequately consider that there are hundreds of miles of non-motorized trails available to the public in the immediate area. The balance of recreational opportunity must recognize the availability of the non-motorized trails in the adjacent wilderness area. Because the adjacent non-motorized trails were not adequately factored in to the analysis, the proposed balance of recreational opportunities does not adequately address the needs of motorized recreationists. Because of the vast wilderness area adjacent to or part of the planning area, all lands designated by congress for multiple-use must be managed for multiple-use. This significant issue and a reasonable alternative to address it were not adequately considered.

10. Must Provide for a Reasonable Level of Multiple Use

392. Under the existing conditions with a typical width of no more than 12 feet, the 1410 miles of roads in the Helena National Forest would cover about 2051 acres (1410 x 5280 x 12 / 43560). At a typical width of no more than 48 inches, the 110 miles of ATV trails cover about 53 acres. At a typical width of no more than 24 inches the 38 miles of motorized single-track trails cover about 9.2 acres. The total Helena National Forest is covers 977,000 acres. The percentage of the total forest used by roads, ATV trails, and single-track motorcycle trails under existing conditions is respectively, 0.3760%, 0.0109%, and 0.0000%.

The total area of roads and trails under Existing Conditions far less than 1% of the project area. The total area used by motorized routes under Existing Conditions is 602 acres or 0.3869% of the 155,500 acre area. These values demonstrate that the area occupied by motorized roads and trails under Existing Conditions is relatively insignificant and is an entirely reasonable level of use on multiple-use lands. The reduction under the draft ROD produces a significant impact on the public's ability to access and recreate and is not a reasonable level of use for lands designated for multiple-use by congress. Furthermore, a Pro-Recreation Alternative that increases motorized access and motorized recreational opportunities in the project area is an entirely reasonable alternative for these multiple-use lands.

Acres and % of Forest for Existing Motorized Routes				
	Total Project Area (acres) =		155,500	
	Miles	Feet width	Acres	% of Forest
Miles of road	402.0	12	584.73	0.3760%
Miles of ATV	35.0	4	16.97	0.0109%
Miles of Motorcycle	0.0	2	0.00	0.0000%
		Total	601.70	0.3869%

393. In a recent article (http://www.helenair.com/articles/2008/08/01/national/80na_080801_drill.prt) about a lawsuit regarding drilling in New Mexico on the Otera Mesa, the BLM manager stated "While up to 90 percent of BLM lands are open to drilling under the plan, Childress said only 800 to 900 acres of Otero Mesa's 1.2 million would be permanently disturbed by roads, footpads and other drilling related activities. ''I think that's a pretty reasonable percentage,'' he said." We agree and find that this is a relatively insignificant percentage of the total area and quite acceptable management for multiple-use lands.

394. We have been keeping observations of the types of visitors in multiple-use areas since 1999 and have found that 98% of the visitors are motorized recreationists. The public comments and votes by how they use the forest, and more motorized access and recreation is what they are asking for with every visit.

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395. The resource management plan for the area must reflect that use and the needs of the public for motorized recreational opportunities in the area. Again, these are multiple-use lands and we ask that they remain viable multiple-use lands by not closing existing motorized routes.

396. Sharing of multiple-use lands is a reasonable expectation for all visitors to lands designated by congress for multiple-use. Coexistence with all visitors is a reasonable expectation for everyone visiting multiple-use lands. A reasonable alternative must be developed around sharing and coexistence of visitors to the project lands designated by congress for multiple-use.

397. The proposed action renders the motorized access and motorized recreation currently enjoyed by 97% of the public who now visit the project area an illegal activity. Making a popular and much needed recreational pursuit an illegal activity is not a reasonable proposal for lands designated by congress for multiple-use. The proposed action is ignoring the laws of congress. The proposed action must adequately address these laws. The proposed action must develop a reasonable multiple-use alternative for evaluation.

398. A significant issue to us is that the Agency is not meeting the requirements of the Multiple-Use Act and Sustained Yield Act. We request documentation in the EIS on how the Agency feels they are meeting the requirements of the Multiple-Use Act and Sustained Yield Act.

399. The Multiple Use Sustained Yield Act of 1960 (16 U.S.C. 528 et seq.) and National Forest Management Act of 1976 are congressional laws which state "*The management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people...".* Outdoor recreation is the first stated purpose of the act. Furthermore NEPA states *avoid or minimize adverse impacts or enhance the quality of the human environment.* NEPA was very clear that the total complement of the environment was to be considered in the impact analyses and decision-making including the guiding purpose statement "*achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities*" (Public Law 91-190, Title I, Section 101 (b) (5)). Giving wildlife priority over the human environment as has been done in the draft EIS violates NEPA, MUSYA and NFMA. This serious violation must be adequately corrected.

400. The most equitable management of public lands is for multiple-uses. Congress recognized this need with many laws including the Multiple Use Sustained Yield Act of 1960 (16 U.S.C. 528 et seq.) and National Forest Management Act of 1976. Multiple-Use was defined as "*The management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people...".* **Outdoor recreation is the first stated purpose of the act**. Note that the pre-Columbian management scheme has not been enacted by Congress. Therefore, the Agency has a responsibility to provide recreational opportunities that meet the needs of the public just as government entities provide road, water and wastewater systems that meet the needs of the public.

    Public Law 88-657 states that "*the Congress hereby finds and declares that the construction and maintenance of an adequate system of roads and trails within and near the national forests and other lands administered by the Forest Service is essential if increasing demands for timber, recreation, and other uses of such lands are to be met; that the existence of such a system would have the effect, among other things, of increasing the value of timber and other resources tributary to such roads; and that such a system is essential to enable the Secretary of Agriculture (hereinafter called the Secretary) to provide for intensive use, protection,*

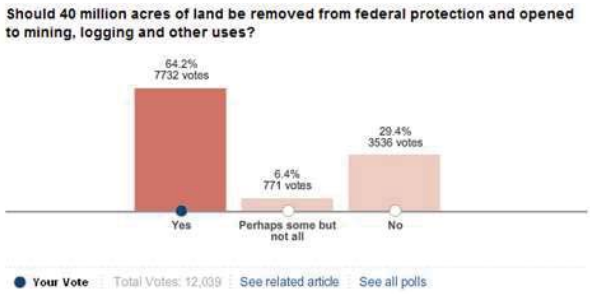
development, and management of these lands under principles of multiple use and sustained yield of products and services.".

The Federal Land Policy and Management Act of 1976 (FLPMA) states that "*(7) goals and objectives be established by law as guidelines for public land use planning, and that management be on the basis of multiple use and sustained yield unless otherwise specified by law;* and, *(c) In the development and revision of land use plans, the Secretary shall -- (1) use and observe the principles of multiple use and sustained yield set forth in this and other applicable law;".*

Multiple-use management goals are the only goals that will "best meet the needs" of the public and provide for equal program delivery to all citizens including motorized visitors. All of visitors have a responsibility to accept and promote diversity of recreation on public lands. Diversity of recreation opportunities can only be accomplished through management for multiple-uses and reasonable coexistence among visitors. Multiple-use lands must be managed for shared-use versus segregated-use or exclusive-use. Multiple-use lands are public places. Segregation in public places has not been acceptable since the Civil Rights Act of 1964.

401. A significant closing of roads and motorized trails in the project area is not consistent with meeting the needs of the public and the goals of Multiple-Use Management as directed under Federal Land Policy and Management Act of 1976 (FLPMA), Multiple Use Sustained Yield Act of 1960 and P.L. 88-657. Legally designated multiple-use lands must not be managed for limited-use instead of multiple-use. This is a significant issue and must be adequately addressed. We request full compliance with multiple-use policies and laws and the development of a Pro-Recreation preferred alternative that will support these policies and laws and the needs of the public.

402. A poll in the Wall Street Journal demonstrates the overwhelming support for multiple-use of our public lands.



http://online.wsj.com/community/groups/question-day-229/topics/should-40-million-acres-land

403. We would all rather not have to share with anyone else BUT rewarding those users who cannot share with other multiple-use visitors on multiple-use lands is WRONG.

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404. The majority of visitors to the project area are associated with multiple-use opportunities including motorized access and motorized recreation opportunities.

405. These are multiple-use lands as designated by congress and must be managed as such. Recreation is a stated purpose for multiple-use lands.

406. Wilderness is closed to motorized vehicles and equipment. Therefore, multiple-use lands should be open to motorized vehicles and equipment. Wilderness criteria and standards should not be applied to multiple-use lands.

407. There are no compelling reasons to close as many motorized access and motorized recreational opportunities as has been enacted by the Agency. It is simply contrary to the public need and the way that the public has historically used all multiple-use areas.

408. Access to and use of public land should be the highest of priorities for multiple-use lands. However, current decision-making is out of touch with these priorities. The minority interests (non-motorized recreationists) are recipients of new recreational opportunities with each decision while the majority interests (motorized recreationists) lose opportunities with each decision. The evaluation and decision-making must take into account that the total area of the National Forest equals 192,300,000 acres and out of that total 44,919,000 acres or 23.36% is already designated wilderness. Current planning actions seek to convert roadless lands to defacto wilderness (in practice but not ordained by law) even though they are designated multiple-use lands. Therefore, this percentage will be even more lopsided toward non-motorized opportunities at 53.79% assuming that 58,518 acres of roadless areas are converted to defacto wilderness areas and managed for non-motorized recreation. We maintain that the management of all of the remaining 147,381,000 congressionally designated multiple-use acres (including roadless) or 76.64% of the forest should be managed for multiple-uses. Every multiple-use acre must remain available for multiple-uses in order to meet the needs of 96.41% of the public who visit our National Forests for multiple-uses. Every reasonable multiple-use acre must remain available for multiple-uses in order to maintain a reasonable balance of opportunities. The proposed plan does not meet the basic needs of the public for multiple-use opportunities, does not provide a proper allocation of multiple-use recreation opportunities and does not meet the laws requiring multiple-use management of these lands.

409. We are very concerned that the proposed plan tends to manage the forest as a national park and not as a national forest where multiple-use opportunities are sought in order to adequately meet the needs of the public. There is no mandate from Congress or the public to manage the project area as national park yet the proposed plan seeks to do that. We request, as a reasonable alternative, that the project area including the semi-private areas, continue to be managed for multiple-use including motorized recreation.

410. The prevailing trend of the past 35± years has been to convert large areas of federally managed lands in the project area and region from multiple-use lands to wilderness/non-motorized/exclusive-use lands which is direct contradiction to the number of visitors and their needs. How many “land of many uses” signs do you see anymore? The remaining multiple-use areas are the only areas where most of the public can access and experience our public lands. Therefore, the remaining multiple-use lands must remain open for multiple-use, motorized access and motorized recreation in order to adequately and reasonably meet the needs of 97.45% of the public.

411. The greatest communal need for public lands is for multiple-use opportunities. We promote management for multiple-use because it allows everybody to enjoy the resources and it also promotes sharing and non-polarization of visitors. Other management schemes promote non-

sharing and polarization of visitors. We can solve more problems by resisting non-sharing and polarization and working together. Non-sharing of multiple-use lands is not an acceptable concept and motorized recreationists have never considered non-sharing as a reasonable alternative to pursue. Additionally, it is not reasonable to reward recreationists who create and promote a culture of non-sharing on public lands.

412. The most equitable management of public lands is for multiple-uses. Congress recognized this need with many laws including the Multiple Use Sustained Yield Act of 1960 (16 U.S.C. 528 et seq.) and National Forest Management Act of 1976. Multiple-Use was defined as "*The management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people...".* **Outdoor recreation is the first stated purpose of the act**. Note that the pre-Columbian management scheme has not been enacted by Congress. Therefore, the Bureau of Land Management and Forest Service have a responsibility to provide recreational opportunities that meet the needs of the public just as government entities provide road, water and wastewater systems that meet the needs of the public.

Public Law 88-657 states that "*the Congress hereby finds and declares that the construction and maintenance of an adequate system of roads and trails within and near the national forests and other lands administered by the Forest Service is essential if increasing demands for timber, recreation, and other uses of such lands are to be met; that the existence of such a system would have the effect, among other things, of increasing the value of timber and other resources tributary to such roads; and that such a system is essential to enable the Secretary of Agriculture (hereinafter called the Secretary) to provide for intensive use, protection, development, and management of these lands under principles of multiple use and sustained yield of products and services.".*

The Federal Land Policy and Management Act of 1976 (FLPMA) states that "*(7) goals and objectives be established by law as guidelines for public land use planning, and that management be on the basis of multiple use and sustained yield unless otherwise specified by law;* and, *(c) In the development and revision of land use plans, the Secretary shall -- (1) use and observe the principles of multiple use and sustained yield set forth in this and other applicable law;".*

The BLM Strategic Plan FY 2000 to 2005 states that: "*To achieve this mission, the Bureau of Land Management follows these principles: Manage natural resources for multiple use and long-term value, recognizing that the mix of permitted and allowable uses will vary from area to area and over time.*"

Multiple-use management goals are the only goals that will "best meet the needs" of the public and provide for equal program delivery to all citizens including motorized visitors. All of visitors have a responsibility to accept and promote diversity of recreation on public lands. Diversity of recreation opportunities can only be accomplished through management for multiple-uses and reasonable coexistence among visitors. Multiple-use lands must be managed for shared-use versus segregated-use or exclusive-use. Multiple-use lands are public places. Segregation in public places has not been acceptable since the Civil Rights Act of 1964.

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A significant closing of roads and motorized trails in the project area is not consistent with meeting the needs of the public and the goals of Multiple-Use Management as directed under Federal Land Policy and Management Act of 1976 (FLPMA), Multiple Use Sustained Yield Act of 1960 and P.L. 88-657. Why are legally designated multiple-use lands being managed for limited-use instead of multiple-use? This is a significant issue and must be adequately addressed. The cumulative negative effects of other proposed and enacted federal land management policies have resulted in a significant reduction of multiple-use and OHV recreation opportunities. The result has been a significant conversion of multiple-use areas to exclusive non-motorized areas. We request, as a reasonable alternative, compliance with multiple-use policies and laws and a preferred alternative that will support these policies and laws and the needs of the public.

413. Beginning in the early 1970's, Congress and the American people began a debate on whether or not to change national policy for vast areas of the west known as "public lands". Congress wanted to change the policy from "disposal" to "retention". This policy shift meant the Federal government would stop holding lands until they were sold (or otherwise transferred to the states), and would retain and manage the lands for the benefit of the general public. Many citizens and especially those in western states were concerned. Entire communities relied upon access to resources existing on adjacent public lands. Indeed, western custom and culture grew from a tradition of open access and use of public lands. Many felt the "retention" policy would unduly influence the lives and livelihoods of citizens in the west. In 1976, Congress struck an agreement with the western states. The basic agreement was that the western states would not oppose the retention of these lands if the Federal Government would manage them under multiple use/sustained yield principles, protect valid existing rights, limit wilderness review and consider the needs and concerns of adjacent communities when formulating land use plans. Thus the FLPMA (Federal Land Policy and Management Act) was adopted.

There are 4 important elements within FLPMA:

First, and very important, was the mandate to manage lands under the principles of Multiple Use. The Section 202, subsection (c)(1), specifically requires development and revision of land use plans on the basis of "principles of multiple use and sustained yield." FLPMA section 102(a)(7) also specifically requires that goals and objectives be established by law as guidelines for public land use planning, and that management be on the basis of multiple use and sustained yield unless otherwise specified by law.

Second was the preservation of valid existing rights, including grazing rights, mining claims, oil and gas leases, water rights and rights of access granted pursuant to R.S. 2477. Therefore, the R.S. 2477 law is a very important and germane issue for this project.

The third element was specific instructions to the Secretary of the Interior to formulate land use plans that are consistent with State and local plans "...to the maximum extent he finds consistent with Federal law and the purposes of this Act." This element includes provisions to coordinate land use inventory, planning and management activities not only with other federal agencies, but specifically with agencies of the State and local government.

The fourth element of FLPMA consists of very specific instructions regarding Wilderness. Those instructions are contained in Section 603 of FLPMA, wherein Congress instructed the agency to inventory all of their lands, identify which were definitely not of wilderness quality, and then begin an intensive inventory and analysis to determine which of the remaining lands would be recommended for inclusion into the National, Wilderness Preservation System. Congress even set a deadline for the completion of this task. A critical part of the agreement was that FLPMA sets no mandates and no process requirements for engaging in an ongoing,

never ending wilderness inventory and review. Once the "603 Process" was completed, the agency would be finished with wilderness inventory and review. Congress and the American People would then decide which lands to include in the National Wilderness Preservation System.
We simply ask that all of the instructions and requirements of the law as agreed to under the Federal Land Policy and Management Act be honored and applied to this project.

414. Any language in existing management plans for multiple-use areas that does not support multiple-use is inconsistent with directives from Congress, the needs of the public and should be struck. Any proposed language for the management plans for multiple-use areas that does not fully support multiple-use is inconsistent with directives from Congress, the needs of the public and should be dropped.

415. Under the Organic Act of 1897, 16 U.S.C. § 475, ("Organic Act"), National forests were expressly reserved for two purposes: to maintain favorable conditions for water flows and to ensure a continuous supply of timber. With passage of the Multiple Use and Sustained Yield Act, 16 U.S.C. § 528 et. seq. ("MUSYA"), Congress allowed the Forest Service to manage "renewable surface resources of the national forest for multiple use and sustained yield of the several products and services obtained therefrom." However, while the "multiple use" mandate of MUSYA broadened the purposes for which National forests may be managed, the Act did not further reserve National forests for multiple use purposes. See United States v. New Mexico, 438 U.S. §§ 696, 706-18 (1978). MUSYA defines "sustained yield of the several products and services" as "the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of various renewable resources of the national forests without impairment of the productivity of the land." 16 U.S.C. § 531(b). Nowhere does MUSYA mention ecological sustainability or authorize it as a dominant use.

Although the National Forest Management Act ("NFMA") does not define sustained yield or sustainability, NFMA requires planning to be consistent with the MUSYA. 16 U.S.C. §§ 1602,1604. Like the MUSYA, NFMA requires the Forest Service to consider environmental and ecological factors in land use planning. However, also, like MUSYA, NFMA does not elevate ecological factors above any other multiple-use nor does it require that National forest land use plans be contingent only upon ecological sustainability considerations. The proposed alternative effectively elevates "ecological sustainability" above all other uses is based upon several faulty assumptions.

First, the proposed alternative wrongly assumes that the "sustained yield" mandates of MUSYA and NFMA require "sustainability." Thus, the proposed alternative expands the concept of sustained yield significantly beyond what is allowed by the MUSYA and NFMA. As stated above, "sustained yield" under the MUSYA simply means the maintenance of a regular output of several renewable resources.
Second, the proposed alternative wrongly assumes that all sustainability must be predicated upon ecological sustainability. The proposed alternative assumes that sustainability (or sustained yield) of any sort cannot be achieved without first achieving ecological sustainability. However, this assumption is false. While biological diversity undisputably affects certain legitimate uses of National forests, it is not essential to multiple use and sustained yield, as defined by the MUSYA. For example, timber harvest and water flows can be managed on a sustainable yield basis (as required by statute) with little species diversity. On the other hand, some uses, such as recreation, may require a high degree of species diversity (fishing, research, wildlife watching), while recreational uses of the forest require little or no species diversity (rock climbing, skiing). Still others, such as mining, require no species diversity whatsoever. Certainly, ecological sustainability and species diversity are important considerations in forest land use planning, and are often essential to maintaining certain legitimate uses on a sustained basis. However, the assertion that species diversity is absolutely

necessary to maintain the sustained yield of multiple goods and services is unsupportable, and cannot justify elevating the primary focus of land use planning to species diversity. In sum, the proposed alternative should report and reflect the true nature and role of ecology in multiple use and sustained yield management not elevate it over the Congressional mandates.

Third, the proposed alternative wrongly assume that ecological sustainability as the primary focus of forest planning best meets the needs of the American people. The MUSYA defines "multiple use" as the management of various renewable resources in a combination which best meets the needs of the American people. 16 U.S.C. § 531(a). Elevation of biological diversity and ecological sustainability to the chief planning factor assumes a priori that such values, in all cases, best meet the needs of the American people; this presumption is in error and must be established on a case by case basis.

Fourth, in addition to not following the mandates of the Organic Act, MUSYA, and NFMA, the document states that the enactment of various other laws, including the National Environmental Policy Act ("NEPA"), the Endangered Species Act ("ESA"), the Clean Air Act ("CAA") and the Clean Water Act ("CWA") "reinforce ecological sustainability as the first priority of National Forest system management." Id. Again, this is incorrect; none of these statutes in any way change the mandates for the management of National forests. See e.g. Platte River Whooping Crane Trust v. Federal Energy Regulatory Commission, 962 F.2d 27, 34 9D.C. Cir. 1992) (holding that the ESA does not mandate that federal agencies violate their statutory authority in protecting listed species). For example, the document cites a policy statement set forth in the preamble to NEPA as a mandate to manage for ecological sustainability. However, as the courts have made clear, the NEPA is a procedural act only, designed to promote consideration of environmental impacts in federal decision-making, and cannot mandate any substantive result. See Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989).

In summary, the proposed alternative is built upon a tenuous foundation which assumes that: (1) various statutes require that ecological sustainability be the dominant consideration for all management of National forests; (2) sustained yield of various goods and services derived from the forests cannot be achieved without first achieving ecological sustainability; and (3) that ecological sustainability in all cases is the highest and best use of the forests for the American people. To be supportable, these assumptions would require significant legal, scientific, and economic data. As it is, such data has no been provided and these assumptions are false, therefore, the proposed alternative is flawed and should not be adopted.

416. In order to achieve ecological sustainability as the proposed alternative defines it, the ecological condition of the project area must be within the range of those found prior to European Settlement.

1. This standard is illegal and inappropriate under applicable law. First, legitimate multiple use activities such as timber harvest and mining rarely occurred on a large scale prior to European settlement. Thus, to achieve ecological sustainability, such activities must be excluded. This is a violation of the Organic Act, MUSYA, and NFMA.
2. Second, no statutory authority exists which mandates that ecological conditions of any kind must reflect pre-European settlement conditions.
3. Third, the assumption that ecological conditions prior to European settlement are better than conditions at any time since then is a purely subjective value judgment, and is not appropriate to consider during the planning process.
4. Finally, the scientific evidence which suggests what ecological conditions were like prior to European settlement is highly speculative. Basing all planning and management around a range of variability which can never be definitively determined is illusory, arbitrary and capricious and violates the Organic Act, MUSYA, and NFMA.

417. Identification of "high social, cultural, or economic value" and "desired" levels are subjective and requires an assessment and balancing of public values. For example, a particular species

may have a high social value to a particular segment of the population, but a low social value to another. Similarly, a species may have significant economic value for a particular use (trees cut for timber), but have high social value in the context of an entirely different use (trees observed by hikers). Furthermore, these conflicting values may require entirely different "desired" levels. Despite these extremely complex and subjective determinations, the proposed alternative provide virtually no explanation or guidance regarding how these levels and values were established. This extreme discretion is not allowed by the Organic Act, MUSYA, and NFMA, which require that forests be managed for a variety of uses.

418. Under applicable law, economic and social considerations are just as important ecological analyses and should be given equal consideration. This is especially true for the social and economic concerns at the state and local level. Consider the following:

a. The Organic Act has long been interpreted as requiring that National forest lands be managed to promote the local economic and social stability of the dependant communities. The first Chief of the Forest Service, Gifford Pinchot wrote: "*In the management of each reserve, local questions will be decided upon local grounds . . . . sudden changes in industrial conditions will be avoided by gradual adjustment after due notice . . . .* " Forest Service, United States Department of Agriculture, The Use Book (1906 ed.) at 17. The first congressional concerns for the stability of communities dependent on the resources of the National forests arose during debates surrounding passage of the Organic Act. The National Academy of Sciences had criticized past land management practices that allowed companies and individuals to cut excessive quantities of timber without monetary charge. Nevertheless, the debates surrounding the Organic Act centered on protecting the forests from fire and insect damage, ensuring that the forests serve to conserve water resources for the arid West, and managing the forests for economic purposes. S. Rept. No. 105, 10, 19. In fact, after describing the depredations of fire, livestock, and illegal timber cutting, one Senate report concluded: *A study of the forest reserves in relation to the general development of the welfare of the country, shows that the segregations of these great bodies of reserved lands cannot be withdrawn from all occupation and use and that they must be made to perform their part for the economy of the nation. According to a strict interpretation of the rulings of the Department of the Interior, no one has the right to enter a forest reserve, to cut a single tree from its forests, or to examine it rocks in search of valuable minerals. Forty million acres of land are then theoretically shut out from all human occupation or enjoyment. Such a condition of things should not continue, for unless the reserved lands of the public domain are made to contribute to the welfare and prosperity of the country, they should be thrown open to settlement and the whole system of reserved forests be abandoned*. S. Rep. No. 105, 22.

b. The notion of community stability grew out of Congress' concern for the impacts on local communities. During the passage of the Organic Act, Congressman Safroth echoed this concern: *The forestry question is not a matter of great concern from a national stand point, because the purposes for which these reservations are set aside are merely local. It is a matter of interest to people in the West only as to whether these reservations are properly established. It is on account of the waters which are to irrigate our agricultural lands that we are interested in forest reservations. . . . . The timber reserves of that region can never be a subject of national concern although they may be of great interest to the people of that particular locality -- the people of Colorado, Utah and other Western communities.* 30 Cong. Rec. 984 (1897).

c. Congress has never changed its concern for local communities. Eleven years following the passage of the Organic Act, Congress passed the Twenty-Five Percent Fund Act, under which 25 percent of the revenues from the national forests are returned to the states. 16 U.S.C. § 500. In 1913, Congress directed that another 10 percent of the National forest revenues be spent on road construction and local road maintenance. 16

U.S.C. § 501. In 1976, Congress amended the Twenty-Five Percent Fund Act to provide that the disbursement to state and local governments would be calculated from gross revenues, rather than stumpage prices. 16 U.S.C. § 500, National Forest Management Act of 1976, Report of Senate Committee of Agriculture and Forestry, S. Rep. 94-893 (May 1976) 1, 22-3.

419. The information above clearly illustrate that Congress intends National forests to be a driving force in promoting and sustaining state and local communities and governments, both economically and socially. The multiple use and sustained yield of several goods and services mandate of MUSYA and NFMA reinforce this concept. Accordingly, the proposed alternative should give more weight to these concerns. Economic and social impact analysis should be mandatory at all levels of public land use planning and management.

420. The over-arching management goals for all multiple-use public lands should be to:

(1) Manage multiple-use lands for the greatest benefit to the public;
(2) Manage multiple-use lands in an environmentally sound and reasonable manner;
(3) Manage multiple-use lands in a way that avoids the pursuit of environmental extremism; and
(4) Multiple-use lands are public places. Segregation in public places has not been acceptable since the Civil Rights Act of 1964. Manage multiple-use lands in a way that promotes the shared-use that they were intended for versus segregated-use or exclusive-use.

421. National Forests and BLM lands are effectively being managed as “National Forest Park” or “limited-use” or “exclusive-use” areas because of the volume of lawsuits filed by environmental groups. This is contrary to the needs of the public who enjoy or depend on lands managed for multiple-uses including motorized access and motorized recreation. The concepts of “Multiple-Use” and the “Land of Many Uses” need to be restored as envisioned by the first Forest Service Chief, Gifford Pinchot who directed that “…. National Forest lands are managed for the greatest good for the greatest number of people…”. This is no longer the case and, consequently, the Forest Service no longer has any credibility with the public. We request, as a reasonable alternative, that the document address restoration of these concepts and steps be taken to restore reasonable multiple-use management and decision-making to public lands.

422. A CNN poll (available upon request) asked the question “Do you think off-road vehicles (ORVs) should be banned from unpaved areas of natural forest land?” and found about 15% said yes and 85% did not think ORVs should be banned. A poll taken by Backpacker magazine (http://www.backpacker.com/poll/0,3189,,00.html) found that out of 21,000+ responses 96% of the respondents answered “yes” to the question “Should off-road vehicles be allowed in national parks?” Therefore, elimination of motorized access and recreation on public lands is not widely supported. We request, as a reasonable alternative, that the document and decision-making reflect citizens’ support for motorized access and recreation.

423. It is obvious from aerial observation of the project area that under the existing conditions so much of the area is inaccessible to motor vehicles and that the existing level of motorized access and motorized recreation is entirely reasonable. Reduced motorized road and trail density is often used as a desired management goal but is not reasonable. The trend of reduced motorized access and motorized recreational opportunities is not necessary and is not consistent with multiple-use management of the area.

424. Each and every resource management plan and travel management plan has significantly reduced motorized access and motorized recreation. Therefore, non-motorized recreationists gain more opportunities with each and every travel plan compromise that closes motorized

roads and trails and areas to motorized recreation. This trend is effectively converting significant areas of multiple-use public land to defacto wilderness/non-motorized/exclusive-use land. This conversion is being repeated over and over and the cumulative negative impact of this trend on motorized access and motorized recreation is significant and must be evaluated as part of this action.

425. Management of public lands to maximize wild game populations at the expense of other uses is not reasonable and does not meet the requirements of multiple-use laws and policies. We support hunting but we question why hunting's impact on wildlife is acceptable and non-destructive viewing by motorized visitors is not acceptable. We are concerned that public lands that were designated for multiple-use management are not being managed for multiple-use as required under:

d. The Multiple Use Sustained Yield Act of 1960 (16 U.S.C. 528 et seq.) defined Multiple-Use as "*The management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people...*". Outdoor recreation is the first stated purpose of the act.

e. Public Law 88-657 states that "*the Congress hereby finds and declares that the construction and maintenance of an adequate system of roads and trails within and near the national forests and other lands administered by the Forest Service is essential if increasing demands for timber, recreation, and other uses of such lands are to be met; that the existence of such a system would have the effect, among other things, of increasing the value of timber and other resources tributary to such roads; and that such a system is essential to enable the Secretary of Agriculture (hereinafter called the Secretary) to provide for intensive use, protection, development, and management of these lands under principles of multiple use and sustained yield of products and services".*

f. The Federal Land Policy and Management Act of 1976 (FLPMA) states that "*(7) goals and objectives be established by law as guidelines for public land use planning, and that management be on the basis of multiple use and sustained yield unless otherwise specified by law;* and, *(c) In the development and revision of land use plans, the Secretary shall -- (1) use and observe the principles of multiple use and sustained yield set forth in this and other applicable law;".*

g. The BLM Strategic Plan FY 2000 to 2005 states that: "*To achieve this mission, the Bureau of Land Management follows these principles: Manage natural resources for multiple use and long-term value, recognizing that the mix of permitted and allowable uses will vary from area to area and over time.*"

We request, as a reasonable alternative, careful and adequate consideration of the multiple-use needs of the public and implementation of the objectives of multiple-use laws and policies as part of the proposed action.

426. The Elkhorn Wildlife Management Area in the Helena National Forest is an example of management of an area for a relatively narrow range of public needs. The underlying management criterion in the Elkhorn area is for ideal wildlife conditions and not for the diverse needs of the public. The diverse need of the public can only be met by management for multiple-use. While there are designated routes within the area, they are mostly roads with no challenge and limited access to interesting areas and features. There are few OHV loops or destinations. Roads and trails such as those in Section 1 and 11, T6N, R2W; Sections 13 and

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4, T6N, R3W; Sections 31 and 31 in T7N, R2W; Section 36, T7N, R3W; Sections 25, 35, and 36, T8N, R1W and others could have been kept open for summer season recreation use and closed during calving and hunting seasons where necessary for wildlife management. Instead, they were closed. The alternative of seasonal closures would have benefited far more people and still maintained a more than reasonable wildlife habitat.

427. In order to be in compliance with multiple-use laws, lands designated by congress for multiple-use must not be used to create wilderness areas, defacto wilderness areas, non-motorized areas, roadless areas, and wilderness buffer zones.

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11. Must Not Use Climate Change as a Reason to Eliminate Motorized Access and Motorized Recreation

428. There are 17 references to climate change in the NOI for the forest planning rule (http://fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5110264.pdf). Climate change is mentioned far more than any other issue. This apparent focus is not balanced with objective science and the needs of the public. The existence of climate change and any positive or negative impacts are simply not known at this time. There are many in the scientific community that support this position (http://www.sepp.org/Archive/NewSEPP/LttrtoPaulMartin.html , http://sciencepolicy.colorado.edu/admin/publication_files/resource-2803-2010.06.pdf , http://www.climatesciencewatch.org , http://epw.senate.gov/speechitem.cfm?party=rep&id=263759). The climate has always been changing. Twelve thousand years ago North American was covered by ice. Before that dinosaurs roamed the area in a humid climate. The planning rule should not create impacts on the human environment because it "presumes" that the climate is changing any more or less than it always has. The planning rule must be based on extensive long-term credible scientific study. The quality of people's lives cannot be compromised by a ghost issue without adequate basis. We only get one shot at this life and we want to experience the positive benefits of OHV recreation. Extensive long-term credible scientific conclusions on climate change do not exist at this time and, therefore, it would be unreasonable to make any assumptions about climate change and use those assumptions to impose any impacts on the human environment including motorized recreation in the planning rule.

Additionally,

- Global temperatures are not warming. Since 1998, global temperatures have decreased almost half a degree C.
- The average temperature in the US in 2009 was lower than every year since 1996 and lower than the overall average for the last 114 years.
- Manmade CO2 concentrations in the atmosphere are about 19 PPM (5% of 387 PPM overall CO2) which is 1 part in 51,680 total parts – in no way significant. (Hydrogen cyanide gas is one of the most poisonous gases known to man and allowable working conditions for this gas in most of the US are 20 ppm. Carbon dioxide is harmless and actually helpful to plant life and total concentrations of it in the atmosphere by manmade causes are only 19 ppm. Carbon dioxide concentrations at present are near the LOWEST in geologic history. (http://co2now.org/)
- There is no statistical correlation between CO2 concentrations in the atmosphere and global temperatures. (Source: http://www.drroyspencer.com/2010/01/december-2009-uah-global-temperature-update-0-28-degree-c/)
- Global sea ice has increased by 200,000 square kilometers since 1980. (Arctic Sea Ice – down 900,000 Sq Km, Antarctica Sea Ice – up 1.1 Million Sq Km).

Global Sea Ice:		1980	2009
Southern Hemisphere	Antarctic	4.7	5.8
Northern Hemisphere	Arctic	15	14.1
Total	Global	19.7	19.9

- Polar bear populations are much higher today than they were 30 years ago. (http://www.telegraph.co.uk/comment/columnists/christopherbooker/5664069/Polar-bear-expert-barred-by-global-warmists.html)

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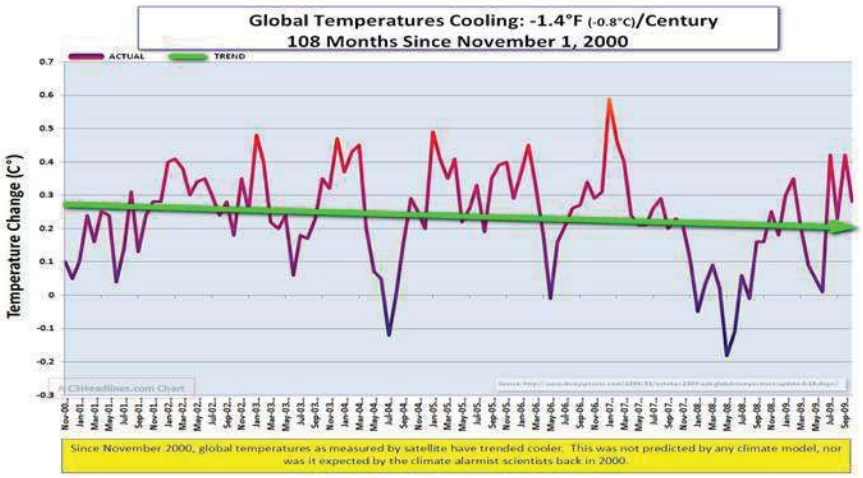
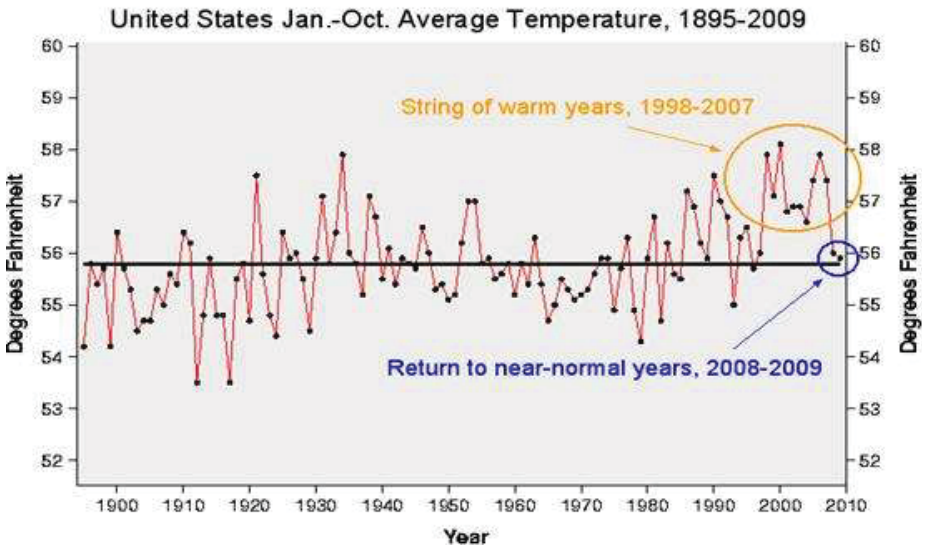
- Over 95 % of the so-called “greenhouse effect” is caused by water vapor (evaporation of the oceans).
- There is no evidence that would purport that motorized recreation has a significant impact on the climate or climate change.





The average temperature in the US in 2009 was lower than every year since 1996 and lower than the overall average for the last 114 years.

429. Increasing levels of carbon dioxide have been blamed for a warming trend or climate change. Many studies have found that forest fires are a tremendous source of carbon dioxide. http://www.sciencedaily.com/releases/2007/11/071101085029.htm Why are forest fires with such a significant production of carbon dioxide acceptable and other sources not acceptable? Why aren’t we doing more to proactively prevent forest fires and manage our forests?

430. Urban areas cover less than 3% of the world's land (http://www.newgeography.com/content/001689-how-much-world-covered-cities) and 97% of the world remains as open space. The percentage of weather stations influenced by urban conditions and used to predict global warming exceeds 3% which does not accurately represent the actual proportion of land use. This lack of proportion skews the results towards urban conditions which have higher temperatures.

431. Why do people persist in believing things that just aren't true? Research conducted by Brendan Nyhan, a professor of political science at Dartmouth and Lewandowsky professor at the University of Western Australia has concluded that it is when there's no immediate threat to our understanding of the world, we change our beliefs. It's when that change contradicts something we've long held as important that problems occur. If information doesn't square with someone's prior beliefs, he discards the beliefs if they're weak and discards the information if the beliefs are strong. Even when we think we've properly corrected a false belief, the original exposure often continues to influence our memory and thoughts. Strongly held beliefs continued to influence judgment, despite having the correction information and correction attempts—even with a supposedly conscious awareness of what was happening.

432. Earth has been going through climate change every year since year one. That is 4.5 billion years of climate change. Climate change is natural. Closing of any motorized access or motorized recreational opportunities as an effective way to control climate change is not reasonable and would constitute arbitrary and capricious decision making.

433. Climate change is being used as an inappropriate reason to support a non-motorized agenda that seeks to maximize the closure of motorized access and motorized recreation in the forest. The evaluation and document must be corrected so that it does not include the inappropriate use of climate change as an excuse to take motorized access and motorized recreation away from the public.

434. We should be far more concerned with global cooling than global warming and the issues presented against fossil fuels in the following article http://mtstandard.com/news/opinion/guest/global-cooling-far-more-devastating-than-global-warming/article_64881f44-dfd0-59e6-be31-afca10a84bff.html

435. Believing that we can control the world's temperature is a seriously flawed conjecture. http://helenair.com/news/opinion/samuelson-can-we-set-the-world-s-temperature/article_77d8e350-a70e-5795-b78b-f1d196d2ab94.html

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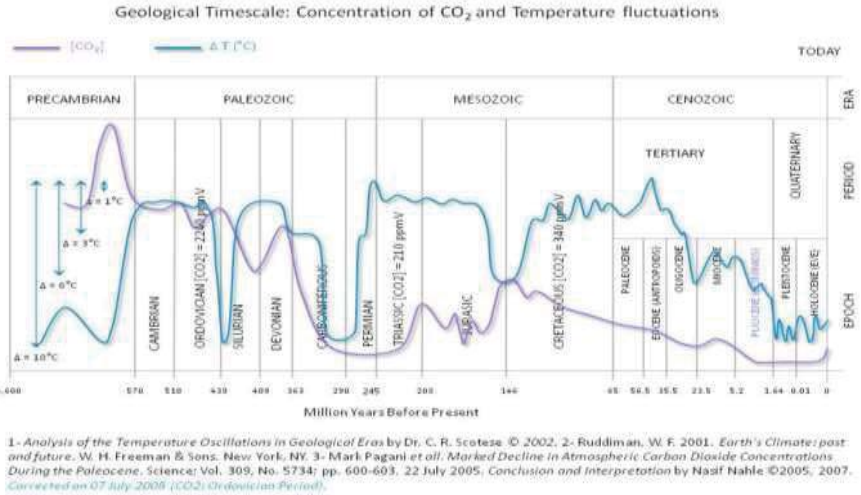
436. In response to our changing climate, the use of fixed opening and closure dates should be dropped. With the open spring and fall conditions that we are experience, the OHV season could be longer and not impact wildlife and the environment. Opening and closure dates should be established each year based on adaptive management guidelines that reflect the specific conditions being experienced. Seasonal closures need to be adaptive in order to truly reflect what is happening on the ground due the changing climate. For example, May and June seasonal closures are no longer needed for winter range as the wildlife has moved out of those areas by the end of April. The same is true of fall closures. Wildlife remain in the high country through October and November and into December in many years. Existing seasonal closures need to be re-evaluated based on adaptive management to reflect the reality of climate change. Any new proposed seasonal closures must be based on adaptive management to reflect the reality of climate change.

437. Myths about global warming are not facts.
http://www.greatfallstribune.com/story/opinion/guest-opinions/2016/05/05/global-warming-myths-facts/83973362/
The most inclusive report debunking global warming I have found is a broad mega-study done by a team of national scientists and presented as the Petition Project: www.petitionproject.org .

That petition presents massive scientific information disclaiming global warming. It is signed by 31,487 degreed scientists, professionals, and qualified specialists including 9,085 PhDs; 3,805 scientists trained in atmospheric, environmental and earth-related subjects; 5,812 professionals who specialized in physics and aerospace; 2,965 biological and agricultural specialists; 3,046 medical professionals; 10,102 engineers and general scientists; and a broad spectrum of other eminently educated and qualified individuals.

The petition clearly states there is " ... no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gases are causing or will, in the foreseeable future, cause catastrophic heating of the earth's atmosphere and disruption of the earth's climate."

438. As shown in the following figure there is no correlation between the temperature of the world and CO2 levels.

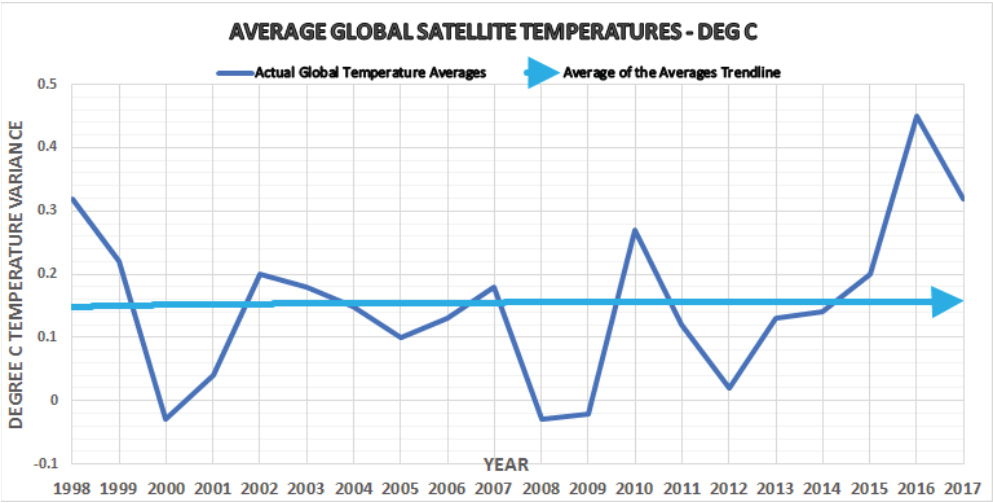


1- *Analysis of the Temperature Oscillations in Geological Eras* by Dr. C. R. Scotese © 2002. 2- Ruddiman, W. F. 2001. *Earth's Climate: past and future*. W. H. Freeman & Sons. New York, NY. 3- Mark Pagani *et all*. *Marked Decline in Atmospheric Carbon Dioxide Concentrations During the Paleocene*. Science: Vol. 309, No. 5734: pp. 600-603. 22 July 2005. *Conclusion and Interpretation* by Nasif Nahle ©2005, 2007. *Corrected on 07 July 2008 (CO2 Ordovician Period).*

439. The idea that the ultimate lie can be found in statistics is often attributed to Mark Twain, although he attributed it Disraeli. Research shows Twain was wrong; that it was Leonard H. Courtney who first wrote it in 1895. Statistics, or data as we now refer to it, can be selectively assembled to "prove" whatever the advocate wants. Climate change deniers are a modern classic example. In the absence of monitored testing that can be independently verified, data isn't much better than a good story, which at least makes no pretense to factuality.

440. Climate activists are associated with “let it burn” activists who in the end create more CO2 than everyone else.

441. Climate activists are using normal long-term climate swings as an excuse to eliminate the pursuit of happiness by the public and to discriminate against others. Climate change must not be used as a ploy to close motorized recreational opportunities and discriminate against motorized recreationists.



442. The graph above is developed from global temperature readings taken from satellites over the past 20 years and demonstrates that there is no significant upward trend in temperature on a world-wide basis.

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443. Additional Climate Change References and Comments:

Global Warming is a Business https://youtu.be/3DpxP7R4aLw

http://www.telegraph.co.uk/science/2017/09/18/immediacy-threat-climate-change-exaggerated-faulty-models/?WT.mc_id=tmgoff_ob_usa_popular_articles_651510304&utm_source=tmgoff&utm_medium=ob&utm_content=usa_popular_articles&utm_campaign=tmgoff_ob_usa_popular_articles_651510304

https://realclimatescience.com/2017/07/latest-from-the-greenland-meltdown/

https://www.youtube.com/watch?v=TCy_UOjEir0

https://www.youtube.com/watch?v=s99z2yRmqiM

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12. Must Provide Adequate Coordination with Local and State Government

444. The Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS and process must adequately make reference to the agency requirement of coordinating they plan with local and state government. County governments have the ability to coordinate with the Agency by using their Growth Policies.

445. The federal government is required to complete a consistency review by making sure their new plan meets the needs of the counties. The agency must coordinate with local county commissioners and ask them to formally submit their County Growth Policy to the agency for the required consistency review.

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13. Must Adequately Recognize and Address RS2477 Route Standing

446. While Revised Statute 2477 was repealed by the 1976 National Forest Management Act, the revision clearly stated in the Act was to insure that no new roads from the effective date of the Act would be considered for RS 2477 consideration. It further clarified the historical highways would be honored. That is all that the Act modified or repealed.

447. Utah Counties were challenged in court for their actions similar to the challenge at Jarbidge Road in Nevada. The foundation in both cases is the fact that the Counties even without a charter form of government have the authority to exercise rights afforded to them by the federal government. Until the federal government completely repeals the 1866 Act, (Revised by the 1872 Act) in its entirety the citizens of the United States still have the right to access lands for the benefit of the people of the United States. The recent decision rendered by the 10th circuit re-affirms this (http://www.kscourts.org/ca10/datefile/datefile.htm look under 9-8-2005, and then 04-4071 - Southern Utah Wilderness Alliance v. Bureau of Land Management).

448. The court has ruled that the rights exercised by the counties would be valid if the routes in question were indeed 2477 classified. The county has records that show that the routes were there prior to the establishment of the 1976 NFMA and FLPMA and, are therefore, valid RS 2477 routes. Additionally, it is the responsibility of the agency proposing a closure action to adequately research those records and establish which routes meet RS 2477 classification and then consult and coordinate with the County with respect to that classification. Note that the National Forest project area includes many important RS 2477 routes. We request that this planning project include adequate research of the county records and adequate formal consultation and coordination with the county to get their input on RS 2477 routes.

449. While Revised Statute 2477 was repealed by the 1976 National Forest Management Act, the revision clearly stated in the Act was to insure that no new roads from the effective date of the Act would be considered for RS 2477 consideration. It further clarified the historical highways would be honored. That is all that the 1976 Act modified or repealed. Until the federal government completely repeals the 1866 Act, (Revised by the 1872 Act) in its entirety the citizens of the United States still have the right to access lands for the benefit of the people of the United States. The decision rendered by the 10th circuit re-affirms this (http://www.kscourts.org/ca10/datefile/datefile.htm look under 9-8-2005, and then 04-4071 - Southern Utah Wilderness Alliance v. Bureau of Land Management). The court has ruled that the rights exercised by the counties would be valid if the routes in question were indeed 2477 classified. The county has records that show that the routes were there prior to the establishment of the 1976 NFMA and FLPMA and, are therefore, valid RS 2477 routes. Additionally, it is the responsibility of the agency proposing a closure action to adequately research those records and establish which routes meet RS 2477 classification and then consult and coordinate with the County with respect to that classification. The Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS project area includes many important RS 2477 routes that were established by miners, loggers, and early settlers. We request that this project include adequate research of the county records and adequate formal consultation and coordination with the county to identify RS 2477 routes and include them as historic motorized routes.

450. While Revised Statute 2477 was repealed by the 1976 National Forest Management Act, the revision clearly stated in the Act was to insure that no new roads from the effective date of the Act would be considered for RS 2477 consideration. It further clarified the historical highways would be honored. That is all that the Act modified or repealed.

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451. On August 16, 2006, a federal judge in Salt Lake City dismissed a decade old lawsuit designed to diminish or eliminate those public access rights. The lawsuit was filed in 1996 against the Bureau of Land Management in Utah by the Southern Utah Wilderness Alliance and the Sierra Club. In his ruling, the Utah District Court cited a 10th Circuit Court of Appeals decision. For info on that key decision please read: R.S. 2477: The Legal Battle Continues http://www.sharetrails.org/magazine.cfm?story=705 . Joe Baird of the Salt Lake Tribune reports the news: Environmentalists: Court rules issue is settled, suit is moot http://www.sltrib.com/utah/ci_4194188

452. In an attempt to close as many existing roads and trails and possible, non-motorized interests keep trying to confuse the issues by suggesting that we are asking for illegally created trails. We are not. The term “illegal trails” is being used inappropriately. The term “illegal routes” has been used to describe historic routes that have not been included in an inventory or dropped from the inventory at some point in time. Many of the routes on public lands were created legally as part of mining activities, grazing, and before the National OHV decision. Many of these routes have RS 2477 status. Therefore, these types of routes were created by users at a point in time when it was acceptable and legal and it is misleading to represent it otherwise. We are asking for continued use of routes that are legitimately recognized by the agencies including those defined by the: National OHV decision and route definitions (or similar definitions), RS-2477 access laws, all agency mapping including current travel plan mapping and historic and current visitor mapping. It is not fair to represent routes as “unauthorized” or “illegal” when they were created in times when it was appropriate.

453. Most of the motorized roads and trails in the project area have served as important public access routes since the turn of the century. This is demonstrated by the number of historic mines and structures that are located along these routes. We have observed that these travelways are currently significant recreation resources for motorized visitors in the area

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including ATV, motorcycle, and four-wheel drive enthusiasts. Many of these travelways have right-of-ways as provided for under the provisions of Revised Statute 2477. These roads are shown on older mapping sources including: aerial photographs, 15-minute USGS quadrangle sheets, and older county maps. The cut and fill sections and obvious roadbed indicate that these roads were constructed and used by the citizens for access to the forest. RS 2477 was created to provide adequate access to public lands. Now this public access is being eliminated. We request, as a reasonable alternative, that these travelways remain open based on; (1) their history of community access, (2) the access that they provide to interesting historical sites, and (3) their importance to community access. We request that the document evaluate all of the issues surrounding RS 2477 including the cumulative negative impact of all past closures of RS 2477 routes which has become a significant impact on motorized recreationists.

454. On July 26, 1866, as part of a move to grant access to western lands, the United States Congress enacted the 1866 Mining Act, section 8 of which granted a right-of-way to all persons over unreserved federal lands when it stated “the right-of-way for the construction of highways over public lands, not reserved for public uses, is hereby granted”. In 1873, the 1866 grant was re-codified into section 2477, Revised Statutes of the United States, and rights-of-way granted by that section have since become known as the “RS 2477 rights-of-way”.

Throughout the later half of the 19th century and the first three-quarters of the 20th century, the use of “RS 2477 rights-of-way” over federal land in the western United States became a standard method of legal access across federal lands for commercial, industrial, and recreation pursuits to such an extent that the use of the RS 2477 rights-of-way has become an inherent part of western heritage and a capital asset for the public that should be preserved for future generations.

The use of RS 2477 rights-of-way over nearly a century has resulted in an extensive body of case law in the state and federal courts, in which owners of various types of rights-of-way have competed with holders of RS 2477 rights-of-way and in which the availability of those various rights-of-way has been decided by the courts, including the modern State Supreme Court as well as the federal 9th Circuit Court of Appeals, in such cases as Robertson v. Smith, Supreme Court Montana Ten., 1871; Butte v. Mikosowitz, 39 Mont. 350, 102 P. 593, (1909); Moulton v. Irish, 67 Mont. 504, 218 P. 1053 (1923); and Shultz v. Dept. of Army, 10 F.3d 649 (9th Cir. 1993).

RS 2477 rights-of-way have been given a liberal interpretation by state and federal courts in those judicial decisions interpreting what constitutes a “highway” within the meaning of RS 2477, those judicial opinions holding that even the barest foot trail could qualify as a “highway” and that no particular way across federal lands has even been identified, it being sufficient that travelers used an area of federal land as a method of access between two geographic points. After 110 years of public use of RS 2477 rights-of-way, the U.S. Congress repealed the most recent version of RS 2477, 43 U.S.C. 932, but that repeal was, by 43 U.S.C. 1701, specifically made subject to valid rights-of-way existing as of the date of repeal which was 1976.

455. Schiller, chairman of the High Desert Multiple-Use Coalition, told the Kern County Board of Supervisors at a meeting held on February 19, 2002 to address RS 2477 issues that “the roads represent our custom, our culture, our economy and our family traditions. I know it's been argued that this is about OHV uses and off-highway vehicles,” said Schiller. “It is really about access”. We request, as a reasonable alternative, that any routes proposed for closure and in existence before 1976 be considered as having RS 2477 rights-of-way in order to provide citizens with access to public lands.

14. Must Avoid Arbitrary and Capricious Analysis and Decision-Making

456. With respect to impact assessment, if you cannot measure or have not measured an impact then it is not a real impact.

457. Another example of theoretical impact with no real magnitude would be the lighting of a match theoretically increases the temperature of the earth's climate but in reality the magnitude is so insignificant that it is not real. All theoretical benefits to the environment must include a magnitude of the benefit. A sense of magnitude has not been used in the impact assessment and must be adequately incorporated into the impact assessment.

458. Impacts associated with beetle-killed trees, fires, and floods are acceptable to the agency. OHV impacts are insignificant when compared to beetle-killed trees, fires, and floods. A comparison to natural impacts such as beetle-killed trees, fires and flood is a reasonable test for magnitude of impacts.

459. A small level of theoretical negative impact from OHV recreation does not reasonably equate to the need for massive motorized closures.

460. In order to be legally defensible the following two tests must be used to identify any proposed motorized route closures: 1) the proposed closure of a motorized route must be based on site specific data and documentation of actual significant impacts caused by motorized recreation, and 2) the documented impacts from motorized recreation must be substantially more significant than naturally occurring events.

461. Because of the significant negative cumulative impact of all motorized closures and if the two tests outline above are met, then a reasonable alternative that must be included for public input is a trade of the closed motorized route for a motorized route of equal opportunity and value in a different location.

462. An adequate sense of magnitude must be employed within the analysis and decision-making. For example, the total naturally occurring loss of soil from the Cibola National Forest is estimated to be on the order of 1,577 acre-feet per year (1,892,000 acres total forest area times a depth of 0.008 feet of soil loss per year). The loss associated with OHV use is on the order of 52 acre-feet (5,200 acres of roads and trails times a depth of 0.01 feet of soil loss per year). Therefore, the soil erosion associated with OHV recreation is relatively insignificant compared to the naturally occurring erosion rate and acceptable for multiple-use lands. Moreover, there are many mitigation measures that can be employed to reduce soil erosion on roads and trails while still allowing the public to enjoy them. Other examples that should be part of the evaluation include the naturally occurring mortality rate of fish and game compared to the mortality rate associated with OHV recreation. The evaluation and disclosure to the public must include the analysis and a comparison of the magnitude of OHV impacts to naturally occurring impacts for all resource areas used to assess impacts based on site-specific data. Lack of the comparison of impacts to naturally occurring levels combined with the lack of site-specific data would be a procedural deficiency that could allow inaccurate statements and opinions due to the lack of an adequate sense of magnitude.

463. Past travel plans have suffered from "confirmation bias. Confirmation bias is a tendency to favor information that confirms an individual's or group think preconceptions or hypotheses

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regardless of whether the information is true (http://en.wikipedia.org/wiki/Confirmation_bias). In past travel plans only studies with negative motorized conclusions have been cited. We request that the evaluation include a broad screening of issues, information, data, opinions, and needs so that it is not based on confirmation bias and meets NEPA procedural requirements. One important component required to avoid confirmation bias is the inclusion of OHV and other motorized recreationists on the inter-disciplinary team.

464. Theoretical or assumed impacts must not be used to close motorized recreational opportunities. This is happening way too often. For example, an impact on wildlife by OHV recreation is assumed on a theoretical basis but there is no site specific data or monitoring to back that statement. A similar situation is happening in other resource areas including sedimentation and noxious weeds. Decisions to close motorized recreation must not be made on the basis of theoretical or assumed impacts to the natural environment. In order to avoid arbitrary and capricious decisions, site specific data and monitoring must be presented and demonstrate a measure significant impact.

465. A sense of magnitude must be used when making decisions about road closures based on indicators such as sediment production. For example, a route should not be closed because it is estimated to produce 10 cubic yards less sediment. The sediment yield must be compared to naturally occurring conditions which includes normal runoff, floods, and fires. The recent fires in Nevada discharged thousands of cubic yards of sediment to the area streams which is more than all of the motorized routes in the project area for the next 100 years. Another example is the assertion that groomed snowmobile trails affect the lynx. Groomed snowmobile trails cover less than 0.001% of the total area and the impact on the lynx is of a similar magnitude. Additionally, if snowmobile trails affect the lynx, then so do cross-country and snowshoe ski trails. Again, we doubt that these impact the lynx but if snowmobiles do, then so do trails packed by non-motorized uses. Quite often non-motorized impacts are equal or greater and they must be fairly assessed also.

466. Confirmation of the significant magnitude of the impacts of fire versus the relatively minor impacts of recreation are further substantiated by the following article from the Helena IR: *The popular Meriwether picnic area, located along the Missouri River in the Gates of the Mountains corridor, also will be closed until the area is deemed safe for public use. Following the 2007 Meriwether Fire, debris and numerous floods continue to flow through the picnic site, creating a serious safety hazard. The public docks will not be installed this year; instead, people should use Coulter campground. The Meriwether Picnic Area closure could remain in effect for several years, until hydrologic conditions improve in Meriwether Canyon. "Flash floods, as those happening at this site, occur when the ground becomes saturated with water that cannot be absorbed quickly enough," said Mike Cole, acting Helena District ranger. "Without live vegetation to absorb the precipitation up on the mountain, the water runs off and floods the picnic area."* http://helenair.com/news/article_633fdef8-6a1c-11df-8dcf-001cc4c002e0.html?print=1

467. The ROD must be backed up by site specific analysis, data, and common sense.

468. The purported impacts from OHV recreation must be clear, specific, and measurable as required by the courts in EDC v EPA 2003.

a. Additionally, the courts have ruled that there must be clarity and certainty in the evaluation process which also applies to the assessment of OHV impacts. Just because an assertion about OHV impacts such as on fish, wildlife and the natural environment has been repeated a millions times does not make it true. Decisions based on

unsubstantiated assertions including positions that have been repeated over and over but never substantiated by site specific data and site specific studies are not acceptable and must be identified and corrected.

b. Motorized recreation was evaluated against a super-sized set of potential impacts on the natural environment. Other uses were evaluated against a smaller set of potential impacts on the natural environment.

c. Furthermore, impacts associated with OHV recreation are not being compared to the natural level of impacts but rather to some unnatural ideal.

d. Positive impacts of motorized recreation on the human environment was not given a hard look.

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15. Must Adequately Address:

a. Justice Issues

470. The Independent Record documented in an article published on November 9, 2014 the details on how litigation has become the predominant force shaping Agency land management plans and environmental documents for projects (http://helenair.com/news/local/law-of-the-land-how-litigation-has-shaped-the-forest/article_75dab06b-cc05-5e1d-be2d-2e524c6c596f.html). Facts included "The Society of American Foresters study found that of the 1,125 lawsuits filed over federal land management between 1989 and 2008, the Forest Service won 53.8 percent of the cases while losing or settling the rest. Of those lawsuits, 78.9 percent sought less resource use and development". The IR and other sources have also been reporting on the magnitude of financial and legal influence that environmental groups have developed in articles going back to 2002 including "for many protecting the environment has become a big bucks business in Montana" (http://helenair.com/news/from-backpacks-to-briefcases-for-many-protecting-the-environment-has/article_01b70cbe-04dc-5656-bca5-d0e517b58d73.html). The Forest Service has allowed itself to be directed by environmental groups able to file lawsuit after lawsuit regardless of what is right for the populace. Ordinary citizens including motorized recreationists simply do not have the resources to counter the lawsuits and constant daily pressure being applied by environmental groups. This is a serious environmental justice issue that must be adequately resolved by developing and implementing a Pro-Motorized Recreational alternative for this project and defending it for the good of all citizens.

471. A significant issue is the amount of public funds spent to build and maintain non-motorized trails versus the amount of public funds spent to build and maintain motorized trails. To address this significant issue the EIS must adequately evaluate the following information and disclose it to the public:
    a. Cost of closure of motorized routes following the ROD.
    b. The annual amount spent in the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS on maintenance and construction of non-motorized trails during the past 5-years.
    c. The annual amount spent in the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS on maintenance and construction of motorized trails during the past 5-years.

472. The significant impacts of the proposed motorized closures on the human environment and specifically motorized recreationists has not been given a hard look in the previous travel plans. This continues to be a serious deficiency in the analysis that must be adequately addressed. For example, the cost in human terms can be illustrated by one of our members who has ridden 40 to 50 miles loops in the Divide project area with his family for the past 21 years. The proposed alternatives all close significant portions of those routes used for the past 21 years. This example and the cost to the human environment will be repeated thousands of times with the level of motorized closures proposed. Additionally, our club has sponsored the annual MTVRA State Ride in the Divide area in the past and, again, the level of closures proposed will eliminate the network of routes used by that event and preclude the opportunity to sponsor it in the future. The hours of lost motorized recreation opportunity must be estimated in the DEIS and disclosed to the public. The DEIS must also adequately address the issue what will motorized recreationists do in place of the hours of motorized recreation lost due to the proposed closures. This evaluation must recognize the high value of time with family and friends spent on OHVs in the Nevada Test and Training Range (NTTR) Military Land

Withdrawal Legislative EIS planning area including the importance of opportunities to re-create ourselves on our OHVs. The quality of the human environment is important and be given a hard look.

473. The lack of adequate site specific data, studies and analysis as required by the National OHV decision continues to be a serious deficiency in the analysis that must be adequately addressed. This inadequacy includes lack of site specific studies for each route proposed for closure including wildlife studies and site-specific user data. The old standard reasons that have no factual basis include erosion (fire and floods), noxious weeds (animals and birds spread them too as much or more), etc. which can all be adequately mitigated and are no greater than natural events and conditions. The old standard reason "To provide a non-motorized experience" is not reasonable either as non-motorized recreationists have more trail opportunities and endless cross-country opportunities. Adequate consideration of the needs, historic use, and culture of motorized recreationists would result in a more balanced preferred alternative that would be far better accepted by the public. One measure that must be adequately addressed is the hours of motorized recreation lost due to the closure of OHV routes. These hours must be broken down by age class ranging from teenage visitors (important for areas that younger people can use) to senior and disabled individuals and veterans.

474. The following quotation is an example of an all too common non-sharing attitude was recently published in the Great Falls Tribune. *However Monty Pirtle said he thinks there's too much motorized use already allowed in the forest. He said he doesn't want to be hiking and run into a motorcycle. "From my point of view, the forest service here is going to hell in a handbasket," said Pirtle, a former wilderness ranger in Washington. "I like bikes, but not on the (forest) trails."* http://www.greatfallstribune.com/story/news/local/2014/06/30/public-gives-input-forest-plan/11822303/ We maintain that this sort of non-sharing attitude is not appropriate for visitor expectations on lands designated by congress for multiple-use and should not be rewarded by imposing motorized closures on multiple-use lands. Furthermore, wilderness lands are under-utilized and a more reasonable solution for individuals that feel strongly about meeting a motorcycle or ATV is to select wilderness areas for their visits.

475. The use of "unauthorized trails or roads or user-created routes" is not an appropriate term as many of these routes were created during periods going back to the 1800's when the forest was managed without designated routes, cross-country travel was allowed, and access and use of the forest was encouraged. Many of these routes have been used for decades and are "historic routes". Many of these routes are shown on versions of the forest map, and 7.5 minute and 15 minute USGS quadrangle mapping. The use of "unauthorized trails or roads or user-created routes" is an inaccurate representation of the management conditions and uses allowed in the past. These are also terms developed by non-motorized interests that have been given an inaccurate negative connotation through their campaigns. We request that this term be dropped from the text and that these routes be recognized as appropriate routes in the analysis.

476. A video produced by Carl Adams presents many of the significant issues and concerns that are frequently expressed by members of our club and other motorized recreationists in the community. http://www.youtube.com/watch?v=0kUhLMi97dg&feature=g-user-lik&context=G23216abUCGXQYbcTJ33bB0U1oCKl_9bcFlhATY2tUW6mr0rdyBQc

477. The Forest Service Travel Management Rule (http://www.fs.fed.us/recreation/programs/ohv/final.pdf), was presented to OHV recreationists as a "route designation" process that would designate motorized routes for the appropriate type of motorized use (motorcycle, ATV, UTV, 4x4, etc.). Some form of route designation was referred to 404 times in the final rule. The rule did not state that it would be a huge motorized

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closure process and it was presented and accepted by motorized recreationists on that basis. In fact, the rule specifically allows new motorized routes. The rule did not authorize or direct a massive motorized closure process. However, in actual implementation, the travel management rule is being used as a massive motorized closure tool contrary to the wording of the rule and the presentation of the rule to the public during the rule making process. Implementation of the rule has included very few new routes. Proper implementation of the travel management rule is a significant issue. We request that this evaluation carefully consider the intent of the Final OHV Rule and use it to designate existing motorized routes and create new motorized routes. We also request that this action monitor the process for any misuse of the rule.

478. It would be a huge step backward for society if we had to comment on every foot of road, water line, sewer pipe, sidewalk, and motorized trail that the public needs. Gauging public need by the number of comments is not the norm in our society and should not be used in this process.

479. It is not environmentally and socially responsible to squeeze motorized recreationists into the small possible numbers of areas and routes, yet this is the goal being pursued by the agency. There is also a significant public safety aspect associated with squeezing everyone into a small area as accidents will increase with too many motorized recreationists on too few routes. We request that these significant issues be adequately addressed.

480. Motorized recreationists endorsed and accepted millions of acres of area restriction under the Travel Management; Designated Routes and Areas for Motor Vehicle Use, Final Rule (http://www.fs.fed.us/recreation/programs/ohv/final.pdf) as a positive action to control environmental impacts. We accepted area restriction and not area closure. Area closure is permanent. Area restriction allows flexibility as needed to address site specific conditions. Each motorized road and trail exists because it serves some multiple-use need. Every road and trail is important to some individual for some purpose. Each motorized road and trail must have adequate site-specific analysis to determine all of its values including motorized recreational value. Motorized recreationists gave up 97% of the area historically available to them under the National Route Designation rule as the ultimate act of mitigation so that we would continue to have use of existing motorized routes that cover or provide access to an area estimated at less than 3% of the total area. Now motorized recreationists have been given almost no credit for our cooperation during that action and we have only been penalized for our past cooperation by current route designations, resource management plans, forest plans and travel plans that seek to close 50% to 75% of the existing motorized routes. This outcome was not part of the National Route Designation agreement and this level of closure is not acceptable to us for that reason. The National Route Designation agreements were not made with the intention of massive closures beyond that agreement. We ask that all actions include proper recognition of the agreement behind the National Route Designation decisions which allow continued use of the existing networks of motorized roads and trails without massive motorized closures.

481. OHV recreationists like to ride in all of the national forests but are unable to comment on all actions that affect their interests. For example, in Idaho and Montana there are 46 ranger districts in Idaho national forests. There are 39 ranger districts in Montana national forests. Travel management planning is conducted at the ranger district level or within ranger districts. Expecting motorized recreationists to comment on at least 85 travel management plans on national forest lands is an unreasonable expectation. Additionally, travel management is addressed in each forest plan. There are 28 national forests in Region 1 and 4.Moreover, there are an equal number of travel management actions on BLM managed lands. The travel management, forest, and resource management planning process is impenetrable to individual citizens including motorized recreationists. It is even further insolent to motorized recreationists

when their input is dismissed as insignificant or inappropriate. This impenetrable process allows both the BLM and the Forest Service to close an unreasonable amount of motorized access and motorized recreational opportunities. This is a momentous issue that must be adequately addressed and corrected in an equitable manner.

482. Public land should be managed for the good of the public. The process does not reasonably recognize the current needs and use of these routes by the public. The process also includes undocumented environmental impacts and/or exaggeration of environmental impacts. How far out on this limb do you want to go?

483. The route designation process was supposed to inventory all existing motorized routes and designate them for motorized use. Instead it is being used to produce wholesale motorized closures contrary to the understanding with motorized recreationists. The process needs to be re-directed back onto the right path.

484. Why are motorized recreationists the only ones to lose in an action that is supposed to address the needs of the public for motorized access and motorized recreational opportunities? In other words, the travel planning process should work to justify existing motorized recreational opportunities and create new ones. Instead it is being used as a massive motorized closure process.

485. The public that enjoys motorized access and recreation is not going to participate in a process where they lose every time.

486. Why are the needs of so many motorized recreationists being largely ignored?

487. In too many cases a couple of non-motorized users have been able to displace hundreds of motorized users. It is not reasonable or fair to allow a few non-motorized recreationists to convert a motorized trail used by hundreds of motorized recreationists for their exclusive use.

488. Motorized recreationists have been losing ground starting with the wilderness designations in the 1960's and continuing on with the roadless rule, forest plans, resource management plans and travel plans. Please adequately evaluated why the needs of non-motorized recreationists are provided for at a much higher level (quality and quantity) than motorized recreationists and then evaluate measures necessary to correct this unequal program delivery problem.

489. Why are motorized recreationists put on the defensive in this action and virtually every other Agency action? In other words, why must motorized recreationists always start with a proposal for radically less motorized access and recreational opportunities and then battle the process just to get a lot less than status quo every time? Why do non-motorized recreationists gain in every action and why do motorized recreationists lose in every action? It appears to us that

cumulative effects on motorized recreationists are being ignored because it would expose this built-in defect in the process.

490. Why is the Agency trying to eliminate all meaningful motorized access and OHV recreation?

491. When the agency is considering closing a route, please also consider how you would respond to somebody who asks "We have been going there or camping there for years and what has been hurt? Why do we have to give it up now? Where do we go?

492. Every action starts and ends with a proposal to close motorized opportunities (Gallatin, Clancy-Unionville, North Belts, South Belts, Little Belts, Rocky Mountain District, Custer, Beaverhead-Deerlodge, Dillon RMP, Butte RMP, etc.) and provide considerably less motorized access and recreation. There has not been one action that included an alternative to perpetuate existing motorized opportunities, mitigate for cumulative effects and create motorized recreational opportunities to address the growing needs of the public. Motorized recreationists are put at an immediate disadvantage in every process and that disadvantage is carried through to the end.

493. Note that non-motorized recreationists can use routes that are both open and closed to motorized recreationists including roads and the evaluation of the opportunities available to non-motorized recreationists must be based on the total of all existing roads and trails. Additionally non-motorized recreationists can use an infinite amount of cross-country opportunity and motorized recreationists cannot. A reasonable evaluation of this condition will conclude that motorized recreationists are already squeezed into insignificant and inadequate system of routes. This point must be adequately considered in the allocation of recreation resources.

494. While we do not support segregation, if segregation is to be implemented on multiple-use lands (which must be considered public places), then a corresponding goal would be to demonstrate an absolutely perfect 50/50 sharing of non-motorized and motorized trails as part of that segregation. Therefore, if the proposed plan further promotes segregation on multiple-use lands, then it must include a corresponding 50/50 sharing and it must not tip the balance further in favor of non-motorized trails and at the expense of motorized routes.

495. Because of the gross imbalance of trail opportunities presented in our previous comments (currently it is heavily in favor of non-motorized), routes constructed or maintained in the past using motorized funds, including agency, gas tax and RTP, should not be converted to non-motorized routes. Motorized funds are being diverted non-motorized projects and motorized funds have been used to construct motorized trails but then those trails are converted to non-motorized. This objective is necessary in order to work towards a 50/50 balance of opportunities and to address equity and fairness issues associated with the manipulation of motorized funds.

496. A reasonable goal for the allocation of trails should be 50/50 sharing of non-motorized/motorized trails. Remember that 25:1 or more is justified based on actual usage as demonstrated in our previous comments and actual field observations. The proposed plan is way out of balance with the split of routes meeting the definition of a motorcycle or ATV trail. We request, as a reasonable alternative, that a more reasonable starting proposal based on all existing routes and future motorized routes to meeting increasing needs be developed.

497. The thousands of motorized recreationists that use the existing network of motorized routes should not be displaced for a handful of non-motorized recreationists that use these routes yet

this is exactly what is proposed. Preferential treatment for non-motorized recreationists must cease and mitigation for past motorized closures must be implemented.

498. Given the evidence in support of continued use of existing motorized routes and the need for additional motorized routes, the extent of the motorized closures in the proposed alternative is clear evidence that the agency is predisposed to motorized closures despite the needs of the public and the facts.

499. While we support the 2005 Forest Service designated route rule and the BLM rule, we are very concerned that, as currently implemented, it discriminates against motorized recreationists. The designated route rule requires motorized recreationists to identify and defend the use of every route that they would ever hope to use during their lifetime by involvement in a very complicated travel planning process in a very limited time frame (http://www.fs.fed.us/recreation/programs/ohv/travel_mgmt_schedule.pdf , http://www.fs.fed.us/recreation/programs/ohv/letter_plus_attachment.pdf , http://www.fs.fed.us/r3/sfe/Travel%20Mgt/route_designation_guide.pdf). The route designation process requires that a resident who might plan to visit another corner of the state or other states be involved and provide documentation of those routes in order to enjoy them at some time in the future. Documenting and being involved in the number of actions and schedule referenced above is an impossible effort for individual motorized recreationists. Additionally, a national level motorized group capable of taking on this level of involvement does not exist. At the same time, non-motorized recreationists are not held to the same standard. Non-motorized recreationists can simply do nothing and reap the benefit of gaining trails closed to motorized recreationists by the route designation process. Therefore, the route designation process and travel planning actions must include an effective mitigation process that will meet the requirements of the designated route rule and not put an unreasonable burden on motorized recreationists. The following comments include many suggestions on how the needs of motorized recreationists can be determined by the agency including the reasonable alternative of employing an adequate number of OHV enthusiasts on NEPA compliance, planning, design, and maintenance teams. We request, as a reasonable alternative, that the process include an adequate mitigation process to address this issue.

500. Non-motorized/wilderness interests are extremely organized and aggressive with comment and letter writing campaigns. Motorized recreationists reflect the long-standing traditional pioneer culture of the area which is characterized by a long history of access to and use of the land. This situation creates a very real clash of cultures which must be recognized and dealt with in the planning process. Non-motorized/wilderness interests should not be given more privileges simply because they are more aggressive, organized and better funded. Again, the public comments and votes by how they use the forest, and more motorized access and recreation is what they are asking for with every visit regardless of whether they provide write letters to the editors and provide comments in a NEPA process that is foreign to them. This is a very real issue which must be address during the preparation of this planning document.

501. The agency should bolster its legal staff by retaining private law firms to defend their multiple-use land management decisions and protect the best interests the public.

502. The Travel Planning Process allows closure of a route due to user conflicts. It is our position that such conflict can be resolved by closing the route to either conflicting party. It is inappropriate that conflicts always be resolved by closure to motorized users. Closure to hikers or stock users is an equally effective resolution. According to NVUM data, 16% of all forest visitors list hiking as their primary activity. Yet few of these so-called “Quiet” users actually require a quiet experience as evidenced by the fact that fewer than 4% of all forest visitors go into Wilderness areas where they are guaranteed a quiet experience. For people who

absolutely require a quiet experience it is reasonable to expect that they should take advantage of the wilderness and designated non-motorized areas.

503. Telephone or other off-trail surveys to establish the percent of visitors who are hiking are inaccurate because everyone will respond that they "hike" but it may only be from the tent to the outhouse or a ¼ mile out in a meadow or a two mile roundtrip. Surveys have not established whether the respondent actually hikes any appreciable distance or uses a specific route. Surveys based on actual observations of activity in the field are a far more accurate determination. Surveys must ask how far did you hike, how long did you hike, and did you use a trail, and was it in a designated wilderness area? Once accurate survey information is compiled then it will establish that the majority of hiking experiences are less than 1 mile and that many hikes do not involve designated wilderness areas and trails. This accurate information must be developed immediately and hiking trails should be reduced to meet the factual level of need and use and OHV trails increased to meet the current and future needs.

504. NVUM surveys are conducted in a manner on major roads that does not intercept many OHV recreationists. Additionally, in the two NVUM surveys that we have participated in, several OHVs passed by the station and no attempt was made to survey them. To more accurately reflect motorized use NVUM surveys should survey OHVs passing through the station and count vehicles and types of vehicles including the number of OHVs being transported. Additionally, NVUM surveys should also be conducted at OHV trailheads.

505. The agency needs to emphasize data and real observations such as ours to establish public need and resources allocation versus paid representatives, attorneys, and form letter comments sent in by non-motorized groups because they are not an indicator of actual visitors to the project area. We ask that the evaluation and alternative development carefully consider the true needs of the public for multiple-use recreational opportunities as demonstrated by the references cited above and implement recreation resource allocation based on the large number of visitors that enjoy multiple-use and motorized recreational opportunities and the relatively small number of wilderness visitors.

506. Resource allocation must include access to an equal number of quality recreational opportunities including alpine lakes, rivers, streams, and overlooks. We are not aware of any law that precludes motorized recreationists from enjoying equal access and allocation of the same resources that non-motorized recreationists enjoy. Equal opportunity laws, case law precedents and agency guidance have clearly established that the goal for the agency should be equal opportunity for all visitor groups. Equal opportunity in a travel plan should be defined as 50/50 sharing of motorized to non-motorized trails. Motorized recreationists should have a reasonable allocation of quality recreational opportunities but they do not under existing conditions and the disparity must not be worsened by the proposed action.

507. In order to be equitable, recreational resource allocation between wilderness/non-motorized visitors and motorized/multiple-use visitors should be based on equal ratios. Indicator ratios should include acres of wilderness/non-motorized areas divided by wilderness/non-motorized visitors and miles of wilderness/non-motorized trails divided by number of wilderness/non-motorized visitors versus acres of motorized/multiple-use areas divided by motorized/multiple-use visitors and miles of motorized/multiple-use trails divided by number of motorized/multiple-use visitors using the number of multiple-use and wilderness visitors from the references cited above.

508. A reasonable approach to the assessment of equal recreational opportunity would use a comparison of acres and miles of trails per non-motorized visit versus acres and miles of trail

per motorized visit. An equal number of acres and trail miles per visit should be the goal but the current management scheme is not achieving this goal. Clearly non-motorized visitors have a significant advantage in acres and miles of trail per visit at this time. Moreover, current management trends are creating more non-motorized acres and trails and significantly adding to the disparity. In order to be responsible to the public, we request that the preferred alternative address this disparity and reverse the trend by managing all of the project area as motorized multiple-use.

509. We are very concerned that a built-in bias exists with visitor use monitoring data based on the fact that all wilderness visitors must sign-in in order to visit a wilderness area and at the same time there are no self-reporting opportunities for multiple-use visitors. Therefore, multiple-use visitor data does not exist because it is not collected or it is under-stated.

510. The process used puts the average working class citizen at a great disadvantage. The process is inordinately confusing, cumbersome and intimidating to the members of the public who are not organized or experienced which is the majority of the public. The process is inordinately demanding of participation and has unreasonable expectations for the involvement of individuals and families. A 600+ page draft environmental document is too much for the general public to understand and participate in. Coupled with the current number of other ongoing actions shown in Table 2 the situation is overwhelming. The size of the environmental document is being used as a mechanism to overwhelm the public and allow the agency to effectively ignore the needs of the public for motorized access and motorized recreation. Council on Environmental Quality regulations for the proper implementation of NEPA can be found at http://ceq.eh.doe.gov/nepa/regs/ceq/toc_ceq.htm . Sec. 1502.7 Page limits. *The text of final environmental impact statements (e.g., paragraphs (d) through (g) of Sec. 1502.10) shall normally be less than 150 pages and for proposals of unusual scope or complexity shall normally be less than 300 pages.* The agency is ignoring the page limit guidance and the documents produced are way beyond what the public can process. Again, this completely baffles and intimidates the public. A lengthy, unmanageable document especially impacts motorized recreationists and multiple-use interests because we have everything to lose in each action if we chose to ignore it while non-motorized recreationists can ignore the document and still have everything to gain.

511. Because of the long trend of motorized closures by the agency combined with the lack of acknowledgement of the needs of motorized recreationists or any action on those needs, most motorized recreationists have given up on the public involvement process. This should not be taken as an acceptance by motorized recreationists of the agency's direction and decision. Rather it is a huge socio-economic-environmental justice issue that was significantly ignored by the process and decision. The proper reaction to this condition would be to adequately address the comments that are received, develop alternative processes that would successfully get input from motorized recreationists, and then develop alternatives and actions that meet the needs of motorized recreationists.

512. On top of the shear volume is the fact that the document does not address the significant issues affecting motorized recreationists. Just because the public cannot digest all of this paper or understand the process does not mean that the agencies are free to ignore the needs of the public. NEPA never intended for the process to take away the quality of human life for individuals and families but because the process is so overwhelming it is doing just that. Given these conditions, it is not reasonable to expect the level of unorganized public and working class citizen participation to be high. Given these conditions, the needs of the overall public must be carefully determined. The most equitable alternative to meet the public's needs would be a reasonable multiple-use alternative.

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513. The results from most visitor use surveys do not directly or adequately reflect the importance of motorized access and mechanized recreation to the typical visitor to public lands. The importance and magnitude of motorized access and mechanized recreation is hidden and dispersed within a number of different categories including: viewing wildlife, birds, fish, etc. (motorized access); picnicking (motorized access); viewing natural features (motorized access); hunting (motorized access); fishing (motorized access); general/other (motorized access and mechanized recreation); driving for pleasure on roads (motorized access and mechanized recreation); hiking or walking (motorized access to trail heads); gathering mushrooms, etc.(motorized access); camping (motorized access); resorts (motorized access); visiting historic and prehistoric sites/areas (motorized access); nature study (motorized access); off-road vehicle travel (motorized access and mechanized recreation); downhill skiing (motorized access); cross-country skiing (motorized access); primitive camping (motorized access); backpacking (motorized access); visiting a nature center, etc. (motorized access); snowmobile travel (motorized access and mechanized recreation); motorized water travel (motorized access and mechanized recreation); other motorized activities (motorized access and mechanized recreation), horseback riding (motorized access); bicycling (motorized access and mechanized recreation); non-motorized water travel (motorized access); and other non-motorized activities (motorized access).

514. We are very concerned that the National OHV travel management rule and agreement with OHV recreationists is not being honored in two areas.

First, the OHV decision and agreement included definitions of existing routes that were to be used to develop comprehensive route inventories in future planning actions. The National OHV policy includes the same requirement. Comprehensive inventories of existing routes meeting route definitions must be included in this evaluation. In addition to route definitions, comprehensive inventories must also include all historic mining routes in the project area. If a motorized route is not identified during the combination of forest and travel planning, then it will be closed to the public at the end of those two processes. Therefore, comprehensive inventories are extremely critical and this is a significant issue.

Secondly, in addition to comprehensive route inventories, the decision provided that routes would not be closed until addressed by the travel planning process. This is not always occurring. For example, the Mormon Gulch route in the B-DNF was closed outside of a travel planning process as part of a timber harvest action and without adequate consideration of its recreational value and public input. Motorized recreationists gave up many recreational opportunities as part of the National OHV rule and agreement and we request that it be fully honored in recognition of that loss.

515. Motorized recreationists accepted area closure and cross-country travel closures as part of the National OHV rule without any mitigation for that loss. Given the significant cumulative effects on motorized recreationists, the time has come to mitigate this significant loss of motorized recreational opportunity.

516. We read the KIPZ Forest Plan Revision Newsletter dated July 6, 2006 (http://www.fs.fed.us/kipz/documents/070606_kipznewsletter_issue9_color.pdf)and we are very concerned about the misleading statement made in the newsletter. Under the 4th bulleted item on page 1, the statement is made *Therefore, the Proposed Plan will not open or close roads or trails; it only identifies the desired motorized/non-motorized condition*. Based on our experience, if routes are proposed for closure or an area is designated for non-motorized used under the forest plan, then it is all but a done deal when travel planning comes along later. The public is not aware that the forest planning process effectively closes motorized routes. Therefore, the current forest planning process puts motorized recreationists at a disadvantage

because of the lack of understanding about its role in the travel planning process. It also puts motorized recreationists in the disadvantage of "double jeopardy", i.e. of having to protect motorized opportunities in both forest planning and travel planning processes. There are significant social and environmental justices impacts to motorized recreationists associated with this setting that must be addressed by this action.

517. Timber harvests have included many motorized closures as associated actions. Many timber harvests such as those in the area of Treasure Mountain and Bison Mountain in HNF have had associated motorized closures that were done without adequately addressing the impact on motorized visitors. Many of these motorized closures were done as a concession to those opposed to the timber sales and without input from motorized recreationists. Many of the closures and obliterations included historic travel ways used for exploration, mining, and travel since the pioneer days. Planning actions must adequately address these issues and impacts and re-open the routes that were unfairly closed.

518. The unstated but obvious goal or policy of the agency is to close as many recreational resources to motorized recreationists as possible. The trend to date of overall recreational opportunities (sum total) for motorized recreationists is a large negative amount. This cumulative effect is forcing motorized recreationists into a smaller and smaller resource base. The ultimate outcome of this unstated goal or policy will result in unreasonable impacts to both the natural and human environments. It is also an unreasonable policy or goal with respect to fair and equal treatment of motorized recreationists.

    Environmental impacts are not unreasonable under the current conditions but environmental impacts will become unreasonable given the agency's current direction to close as many motorized recreational opportunities as possible and that divide will be crossed soon. Therefore, agency management actions are ultimately creating significant unnecessary negative impacts on both the natural and human environment. We are concerned that this unstated goal or policy is not in the best interest of protecting the natural or human environment and ask that goals and policies by modified to allow the public continued use of all reasonable access and recreational opportunities on all multiple-use lands.

519. Agency planning including travel management projects should be a process to quantify and address the needs of the public for motorized access and motorized recreational opportunities. Instead, it is approached in just the opposite direction as a closure process that ignores the needs of the public for motorized access and motorized recreational opportunities. Every travel planning process listed in Table 2 (Cumulative Impacts) has reduced motorized access and motorized recreation. A travel planning process has never resulted in increased recreational opportunities for motorized recreationists. The travel management process as currently practiced is not equitable because: (1) it does not adequately address the needs of the public for multiple-use recreational opportunities including motorized access and motorized recreation, and (2) it is deceptive to represent the process as a travel management process that will address the needs of the public when it is really just the opposite, i.e., a closure process that does not fairly and adequately address the needs of the public. We request that the process either be renamed to "Travel Closure Process" in order to end the deception of the public **OR** (as we strongly prefer) that the process be redirected to meet the needs of the public for a functional network of motorized roads and trails for access and recreation with practical and reasonable consideration of the environment.

520. Agency managers have been directed to close as much public land as possible to motorized visitors by a top down management directive that is conflicting with the needs of the public for multiple-use access and recreational opportunities and contrary to the laws established by congress. Congress has not designated this area to be wilderness and existing congressional

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laws clearly intend for this area to be managed for multiple-uses. Why are legally designated multiple-use lands being managed for limited-use instead of multiple-use? The top down closure directive is in violation of the will of the people and in violation of congressional laws.

521. Because of the excessive closures proposed, motorized recreationists are forced once again into a confrontational position with the agency in order preserve any sort of reasonable solution. This is not our choice and we are disadvantaged by being placed in this position. We would prefer to work collaboratively with the agency but once again the travel planning process is being approached as a "closure" process. We are concerned that this is a conscious strategy to put motorized recreationists, who are largely unorganized, at a disadvantage. We ask that this concern be adequately addressed and that significant changes be made to the procedures in order to eliminate this disadvantage.

522. The process is predisposed because without adequately considering the needs of the public it immediately proposes to add to the vast opportunities for non-motorized recreationists that are not over-used and further impacts multiple-use visitors, who make up 97.45% of the visitors by further limiting their recreational opportunities. It has now reached the point now where multiple-use recreationists do not have an equal opportunity (50/50 sharing of motorized to non-motorized trails) to enjoy our public lands. Multiple-use recreationists feel like they are being treated as second class citizens. It is bad public policy when that policy affects 97% of the public in a negative way.

523. A November 2003 national voter survey by Moore Information (http://www.cdfe.org/poll.htm) reveals that most Americans agree that the scores of environmental groups throughout the nation have lost their focus. Specifically, 61% of voters nationwide agree with the statement; "While protecting the environment is important, environmental groups usually push for solutions which are too extreme for me." Just 33% disagree with this, and 6% have no opinion. In the Mountain/Plains region that includes Montana the divergence is even more severe. A full 71% of respondents agree with the previous statement, and only 25% disagree. Additionally a poll by Market Research Insight (MRI) in December 2003 found that 27% of the public supported environmental groups and 53% opposed their actions.

524. In order to be true and responsive to the public, decisions should not be based on pressure from environmental groups and their litigation. Public opinion supports this position.

525. Montana ranks very low for social conditions (44th state per Fordham Institute for Innovation in Social Policy,) and social issues are relevant to this action. Motorized recreation is a healthy social activity. These types of issues are associated with motorized access and recreation in the project area and these issues must be adequately addressed. Social issues must be adequately evaluated per the SOCIAL IMPACT ANALYSIS (SIA): PRINCIPLES AND PROCEDURES TRAINING COURSE (1900-03) (http://www.fs.fed.us/emc/nepa/includes/sia.html) and Environmental Justice issues per Departmental Regulation 5600-2. The evaluation and resulting decision must adequately consider and address all of the social and economic impacts associated with the significant motorized access and motorized recreational closures.

526. We believe that federal environmental justice compliance requirements as initiated by Executive Order 12898 should be applied immediately to correct the disproportionately significant and adverse impacts that motorized recreationists have been subjected to. In order to accomplish this we request that this proposed action comply with U.S. Forest Service Departmental Regulation 5600-2 (http://www.usda.gov/da/5600-2.pdf) including the DEFINITION of environmental justice provided therein: *ENVIRONMENTAL JUSTICE means that, to the greatest extent practicable and permitted by law, all populations are provided the*

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opportunity to comment before decisions are rendered on, are allowed to share in the benefits of, are not excluded from, and are not affected in a disproportionately high and adverse manner by, government programs and activities affecting human health or the environment.

While some of the guidance published on environmental justice refers to specific minority and low-income populations, the intent of the guidance must be taken in a broader sense as recommended by the EPA in order to avoid discrimination or unfair treatment of any significantly impacted sector of the public. For example, motorized recreationists working full-time plus jobs and simply looking to get away and recreate in the forest on the weekends are pitted against full-time paid representatives for non-motorized interests that are visiting agency staff on a regular basis during the week. The true popularity of non-motorized recreation is not justly reflected by this influence because it is so heavily funded by foundations and grants yet the agency is subjected to this influence every day and it is influencing the evaluation and alternatives. Non-motorized interests have gained significant influence over individual and family weekend recreationists because of the advantage that paid representatives and legal counsel and legal action brings. Foundations versus individuals, families, and the working class are certainly a social and environmental justice issue that must be addressed. These and other socio-economic and environmental justice issues are obvious. The Agency is not exempt from the requirement to adequately address these issues in the evaluation and decision.

In order to correct the disproportionately significant and adverse impacts that motorized recreationists have been subjected to we request that the proposed action comply with EPA's Office of Environmental Justice (http://www.epa.gov/Compliance/resources/policies/ej/ej_guidance_nepa_epa0498.pdf) including:*The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.The goal of this "fair treatment" is not to shift risks among populations, but to identify potential disproportionately high and adverse effects and identify alternatives that may mitigate these impacts.*

Unfortunately, the treatment of motorized recreationists does not meet the definition of fair treatment and environmental justice requirements must be complied with in order to correct the situation.

We request that the proposed action comply with the Council on Environmental Quality (http://ceq.eh.doe.gov/nepa/regs/ej/justice.pdf) recommendations in order to correct the disproportionately significant and adverse impacts that motorized recreationists have been subjected to including:*Thus, agencies have developed and should periodically revise their strategies providing guidance concerning the types of programs, policies, and activities that may, or historically have, raised environmental justice concerns at the particular agency.The Executive Order requires agencies to work to ensure effective public participation and access to information.*

The cumulative negative impact of all closures on motorized recreationists are significant and warrants a revised strategy to deal with the issues surrounding this condition.

Agencies should recognize the interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action. These factors should include the physical sensitivity of the community or population to

particular impacts; the effect of any disruption on the community structure associated with the proposed action; and the nature and degree of impact on the physical and social structure of the community.

To date, all of these factors have not been adequately examined with respect to motorized recreationists and the trend of excessive motorized access and recreational closures.

Agencies should encourage the members of the communities that may suffer a disproportionately high and adverse human health or environmental effect from a proposed agency action to help develop and comment on possible alternatives to the proposed agency action as early as possible in the process.

Motorized recreationists have not had the opportunity to develop mitigation plans required to address the significant impact resulting from cumulative effect all closures.
When the agency has identified a disproportionately high and adverse human health or environmental effect on low-income populations, minority populations, or Indian tribes from either the proposed action or alternatives, the distribution as well as the magnitude of the disproportionate impacts in these communities should be a factor in determining the environmentally preferable alternative.

We maintain that the intent of identifying low-income populations, minority populations, or Indian tribes is simply to portray examples of affected groups. The EPA guidance included above supports this conclusion. To date, the disproportionate impact on motorized recreationists has not been a factor when determining the preferred alternative and it should be, in fact, just the opposite is occurring (our needs are being ignored).

*Mitigation measures include steps to avoid, mitigate, minimize, rectify, reduce, or eliminate the impact associated with a proposed agency action. Throughout the process of public participation, agencies should elicit the views of the affected populations on measures to mitigate a disproportionately high and adverse human health or environmental effect……*Motorized recreationists have been affected in *a disproportionately high and adverse manner* by the significant impact that has occurred from all cumulative closures of motorized access and motorized recreational closures including actions by the Forest Service and Bureau of Land Management associated with travel planning, forest planning, watershed planning, water quality districts, wilderness study areas, research areas, timber sales, and creation of monuments, non-motorized and wildlife management areas. We are also concerned that this has occurred on lands intended by congress to be managed for multiple-uses. Multiple-uses include motorized access and motorized recreation.

The efforts to involve motorized recreationists in the process using unique methods as required by the environmental justice regulations have not happened. The process must allow for and accommodate that needs of citizens and families who, for the most part, act and live independently and are not organized to the level of environmental organizations. Thomas Mendyke, Outdoor Editor for the Independent Record made the following statement in his article on November 20, 2003 *Outdoor enthusiasts frequently find themselves at odds with big money interests. Generally speaking, people who pursue outdoor interests tend to be an independent lot. Sporting groups usually are poorly funded, loosely organized and ill-prepared to match the financial and legal power their adversaries often possess.*

The process should not allow well-organized and funded groups to take opportunities away from less-organized and funded individuals. This certainly is an environmental injustice. Moreover, the development of measures as required by environmental justice regulations to

mitigate the *disproportionately high and adverse* impacts that have affected motorized recreationists has not happened.

We request, as a reasonable alternative, a corrective action and over-arching mitigation plan that will undo the significant impact that all cumulative motorized access and motorized recreational closures has had on motorized recreationists over the past 35 years. We also request a monitoring program be provided by an unbiased third-party to assure that this correction occurs within our lifetime.

527. During a House Resources Committee hearing in San Diego on August 18, 2003, BLM California State Director Mike Pool, made a statement while being questioned by Congressman Bob Filner about closures of the Sand Mountain area to motorized recreationists. Mr. Pool indicated that he, as a public lands manager, is forced to manage lands to avoid litigation. (August 18, 2003. Oversight Field Hearing in San Diego, CA on Access to the California Desert Conservation District with Emphasis on the Imperial Sand Dunes Recreation Area, House Resources Subcommittee on National Parks, Recreation & Public Lands. http://www.louisdb.org/documents/hearings/108/house/house-hearing-108-88929.html)

528. This is an often repeated example of "managing to avoid litigation." This has become a huge issue with the current management of public lands. Neither the butterfly nor the buckwheat plant is threatened or endangered at Sand Mountain. No "critical habitat" is defined or required. But the threat of appeals and lawsuits by environmental groups is real and that's what drives the decision-making. If you don't sue, you lose. In our area, 3 foundation supported environmental groups sue on nearly action. We have yet to sue. Motorized recreationists have not used lawsuits to the extent that the environmental groups have and consequently, motorized opportunities are being eliminated because they are a "lesser threat" of lawsuit and the overarching needs of the public are being ignored. This is the "new" environmental justice issue and we are listing it as an issue. Furthermore, the Forest Service represents one-half of all of the NEPA lawsuits in the United States (http://ceq.eh.doe.gov/nepa/NEPA2005LitigationSurvey.pdf). A sense of magnitude for the number of current appeals filed by environmental groups can be developed by reviewing the Forest Service appeals listing at http://www.fs.fed.us/emc/applit/appeal_decisions.htm. The system is broken because it is neither reasonable nor equitable that motorized recreationists have to appeal and take legal action in order to get a fair decision.

529. As documented in the previous comment, nearly all multiple-use actions on Forest Service and BLM lands are challenged and stopped by lawsuits filed by environmental groups. Therefore, the only significant actions occurring on multiple-use lands are management plans which eliminate multiple-uses (public access and recreation). This combination of circumstances (whether it is an intentional strategy or not) is effectively converting multiple-use lands to defacto wilderness lands. The cumulative effect of these circumstances on multiple-uses has not been adequately addressed in any evaluation to date and we request that such as evaluation be address as part of this project.

530. Because of the large number of projects affecting the public (Table 2 as an example or Google travel management planning, resource management planning and forest planning) and the limited amount of time that individuals have including most working class citizens, agencies can not expect the level of public participation to be high. This does not justify taking recreation opportunities from the public including working class citizens.

531. Motorized recreationists cannot hold full-time jobs and, at the same time, be able to compete with the paid staff of non-motorized for recreational resources. Unfortunately, the agency has adopted the expectation that motorized recreationists must demonstrate a level of involvement

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equivalent to the involvement of paid staff from non-motorized groups in order to get a reasonable allocation of recreational resources. We have been told that we are politically insignificant by forest supervisors, district rangers and BLM managers. There are many socio-economic and environmental justice issues associated with this setting if it is not adequately addressed by this action ranging from the allocation of near-term motorized recreational opportunities and the level of human health that it promotes to the ultimate elimination of motorized recreation from public land in the long-term.

532. The first sentence on the inside cover of most federal environmental documents includes a statement similar to "*The United States Department of Agriculture (USDA) is a diverse organization committed to equal opportunity in employment and program delivery."* We are greatly concerned about the lack of equal recreation opportunity and quality within public lands. Everyone should have equal access and opportunity to enjoy the natural environment. There is a need for motorized recreation and access opportunities (areas and trails including inter-forest and interstate routes, OHV back country discovery routes, and OHV byways) equal to our non-motorized/wilderness opportunities (examples include the Lewis and Clark and Nez Perce National Historic Trail, Continental Divide Trail, Pacific Crest Trail, National Recreation Trails, and the recently created Pacific Northwest Trail). We request, as a reasonable alternative, actions that will develop regional (inter-forest and interstate connections) motorized recreational opportunities such as the Great Western Trail and Oregon Back Country Discovery Route. OHV back country discovery routes and OHV byways are required to provide opportunities for motorized recreationists equal to existing long-distance non-motorized opportunities.

533. Equal treatment and access to public lands must be provided for all people including motorized visitors. One example of unequal treatment is demonstrated by the agency sponsored hikes. We have never seen an agency sponsored OHV outing. Another example is the number of agency publications and information on agency web sites promoting non-motorized recreation versus the publications and web site information pages provided for motorized recreationists. Non-motorized recreation opportunities are easy to find using agency web sites and printed information. Yet another example is the use of hiking information signs posted along highways at ranger stations and the the lack of the same signs and information for OHV recreation. The Condon Ranger Station is one of many examples of this situation. Most often little or no information is provided about motorized recreation opportunities. The one good example of a motorized web site can be found at http://www.fs.fed.us/r6/centraloregon/recreation/cohvops. There is a need for every forest and district to have a similar motorized recreation web site. Another example of bias is the fact that signs say "Non-motorized Uses Welcome" and we have never seen a sign that says "Motorized Uses Welcome".

534. Our motorized recreation experience has been ruined by travel management signs:

Sign, sign, everywhere a sign
Blockin' out the scenery, breakin' my mind
Do this, don't do that, can't you read the sign?

535. If we don't all share, then there will not be enough resources to go around. First priority should be given to those who are willing to share with all others.

536. The U.S. Environmental Protection Agency has a definition for environmental justice: "The fair treatment and meaningful involvement of all people regardless of race, color, national origin or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies." The EPA means by fair treatment — "No group of people

should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies." https://www.epa.gov/environmentaljustice

a. Motorized recreationists are the only ones to lose in every planning action and the cumulative impact is significant.

b. The U.S. Environmental Protection Agency has implemented an environmental justice program to prevent this sort of abuse. \

c. Corrective actions must be taken starting with this project.

537. Motorized recreationists have participated in the comment and public input process. The proposals and decisions that have been made confirm that our comments, issues and needs have been largely ignored. Motorized recreationists are legitimate stakeholders. Because of the lack of two-way interaction and similar to circumstances in the inner city, the agency must now come to motorized recreationists and seek meaningful stakeholder input and interaction.

538. The Agency develops and uses processes that the majority of the public are unlikely to participate in. The needs of the public are overlooked because of this approach and the Agency makes unreasonable management decisions because of this approach. The underlying motivation is the goal to eliminate as much motorized access and motorized recreation as possible. The Agency simply needs to observe the needs of the public including motorized recreationists without prejudice and then make decisions that adequately and reasonably address those needs.

539. The agency is substituting lesser quality routes (roads) in order to mask the miles of real OHV trails being closed. In other words, the table of comparing miles of routes after the decision are distorted by miles of much lesser quality routes. The quality of the OHV routes closed by the alternatives/decision and proposed by the alternatives/decision must be accurately and honestly disclosed to the public.

540. Non-motorized trails and trail systems with special cultural significance, history, and use to the public are given special use designations including National Recreation Trails, USFS Special Recreation Management Areas, Pacific Crest Trail, and Wild and Scenic River. In order to provide an equal opportunity to motorized recreationists similar designations must be made for motorized trails and areas that have special cultural significance, history, and use to the motorized public.

541. Studies cited in our comments clearly establish that other forms of recreation including hiking, horseback riding, fishing, and mountain biking have as much or more impact on fish, wildlife, and the natural environment. However, motorized recreation is singled out as the only recreation group to have significant impacts. This erroneous supposition has been used to justify massive motorized recreational closures. When motorized closures are made other forms of recreation are rewarded by these closures even those they have similar impacts. This discrimination of motorized recreationists must be recognized and corrected in the analysis and decision. Impacts from all forms of recreation must be equally recognized. Impacts on fish, wildlife and the natural environment associated with other forms of recreation are well documented including the references presented throughout these comments.

542. We are very concerned about the predisposition against motorized recreation among federal agencies. Recent evidence includes the decision to close Glacier National Park to motorized watercraft while allowing non-motorized watercraft because of concerns about mussels. Clearly mussels don't know the difference between a motorized and non-motorized hull and the

potential impact is equal yet motorized recreationists are the only users to lose. http://missoulian.com/news/state-and-regional/glacier-park-easing-boating-restrictions-due-to-mussels/article_c2c6ca03-24b2-5caf-89ba-14ab7c0c02de.html

543. The basic problem is that the agency is not adequately:
   a. Recognizing the public's need for motorized access and motorized recreation.
   b. Disclosing the public's need for motorized access and motorized recreation.
   c. Developing reasonable alternatives to address the public's need for motorized access and motorized recreation.
   d. Developing reasonable alternatives to mitigate the significant issues that exist with the treatment that motorized recreationists have received during the past 20 years of excessive motorized closures and the associated significant negative cumulative impacts.

544. Agency staff supporting multiple-use have been replaced with staff that believe in limited and non-use of public land. Individuals with non-motorized interests have established control of the agency management decisions and are pushing decisions in a non-motorized direction even though it is contrary to the over-arching needs of the public for motorized access and motorized recreation. In other words, the process as currently practiced by the agency allows the agency to do whatever it wants regardless of what the public wants and needs.

545. There is an inherent problem with the concept of public involvement processes such as focus groups, collaborative groups, etc. Motorized recreationists are not likely to participate in these type of formal processes. Most motorized recreationists simply want to go out and enjoy the outdoors using our motor vehicles in what little spare time we have. This is what re-creation is for us. The rest of our time is filled with work, families and other obligations. Motorized recreationists are legitimate taxpaying citizens and have a valid need to recreate on public land. Processes such as focus groups, collaboration, etc. must adequately recognize and account for the needs of motorized recreationists without the "you must play by our rules and participate in our game or lose your form of recreation" that the agency sets as the ground rules. Otherwise these types of processes are simply different schemes to eliminate legitimate use by motorized citizens from our public land. The best solution is for agency staff to get out of their offices and the meeting rooms and go out to our multiple-use public lands every weekend and observe what the public is doing and what they need to enjoy what they are doing. In other words, a process that is not proven to be effective with motorized recreationists cannot be legitimately used to eliminate motorized recreationists from public lands.

546. The public meeting and formal comment processes as practiced by the agency are simply schemes devised to avoid adequate consideration of those sectors of the public who are not comfortable participating in them. By using this scheme the agency is avoiding adequate analysis and consideration of multiple-use opportunities including motorized access and motorized recreation.

547. The agency is supporting an elitist platform promoted by wilderness and non-motorized groups. The elitist platform is based on limiting access to public lands to those who enjoy hiking or other non-motorized access. The elitist platform is not a reasonable or legal platform for the management of public lands designated for multiple-use.

548. The agency must stop discriminating against motorized recreationists.

b. NEPA Compliance Issues

549. NEPA requires the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS process to address all significant issues and provide full public disclosure on those issues. A significant issue is the use of public funds for land management plans that have the purpose of removing access and use of public lands from the public. To address this significant issue the EIS must adequately evaluate the following information and disclose it to the public:
    a. The cost of the EIS process cost since it was initiated in 2001 including any pre-planning costs.
    b. Total projected cost at completion of the EIS and ROD.

550. The public expects a travel management process to give their historic use and need for motorized access and motorized routes a hard look. All other public agencies operate with the goal of meeting the public's needs. There is adequate multiple-use land in the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS project area to meet all of the public's needs. No one group such as motorized recreationists need to be sacrificed. The agency has chosen to direct the Travel Management process as a "motorized closure" process demonstrated by the fact that all alternatives presented at this time represent significant reductions in motorized access and the quality of the motorized experience. NEPA requires adequate public disclosure. The use of the term "Travel Management Plan" and "Resource Management Plan" does not really represent what is really being proposed and that is significant motorized closures. If the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS creates significant motorized closures, then in the interest of public disclosure the process must be re-started and presented to the public as a "Motorized Closure Plan" so that the public understands the true intent of the process and can become involved accordingly.

551. The lack of a comprehensive route and trail inventory must not be used as a back door approach to close undisclosed existing routes. NEPA requires site-specific analysis and adequate public disclosure of all existing routes and a comprehensive route and trail inventory must be part of the process.

552. NEPA law requires adequate public disclosure including adequate public involvement, and discussion of potential impacts in the environmental document. NEPA and CEQ guidance includes CEQ Sec. 1500.1 Purpose. *Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail. It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment. Agencies shall focus on significant environmental issues and alternatives and shall reduce paperwork and the accumulation of extraneous background data. Statements shall be concise, clear, and to the point, and shall be supported by evidence that the agency has made the necessary environmental analyses.* In order to adequately meet disclosure requirements the environmental document must include an accurate estimate of the magnitude of the benefit to the natural environmental versus an accurate magnitude of the impact including dollars, measures of recreation time and benefit on the human environment. For example, the public needs to know that a salmon run can be increased by 1,000 fish but at an annual loss in energy production of $10,000,000 for a cost $10,000 per fish. Another example would be the closure of 50 miles of OHV routes so that 2 lynx are not minimally disturbed resulting in the loss of 5,000

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person days of recreation at a value of $150 per day for a cost of $750,000 per year. An adequate sense of magnitude must be employed in the impact determinations. This information must be disclosed to the public so that they are adequately informed and can adequately comment on significant issues surrounding impacts on the human environment. Adequate disclosure of this information will also allow decision-makers to better evaluate all reasonable alternatives and make more reasonable decisions based on a realistic sense of magnitude.

553. The underlying definition of the "environment" that the Agency has chosen to use in the impact analyses and decision-making places an emphasis and priority on the "resource" environment in the project area. NEPA was very clear that the total complement of the environment was to be considered in the impact analyses and decision-making including the guiding purpose statement "achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities" (Public Law 91-190, Title I, Section 101 (b) (5)). The wording of NEPA was carefully chosen and was intended to produce a balance between the resource environment and population or human environment. NEPA was not intended to be used to put an end to human access and use of the resources. However, the Agency is using the NEPA process inappropriately by creating significant cumulative impacts on the human environment through a series of travel plan decisions aimed at removing the public from public lands. This trend does not conform to Public Law 91-190 and must be corrected by implementing a pro-recreation alternative as part of this action.

554. The final OHV Rule (http://www.fs.fed.us/recreation/programs/ohv/final.pdf) required site-specific analysis as part of the route designation process. Motorized recreationists agreed to accept the rule on this basis. Site-specific analysis was mentioned 11 times throughout the rule and this project must meet the requirements for site-specific analysis.

555. An adequate site-specific analysis should include monitoring and quantification of existing motorized use versus non-motorized use, types of motorized use and visitors, and effects of motorized closures on the quality of the human environment. Examples and goals of site-specific analysis include: 1) single-track trails should be designated for motorcycle and mountain bike use, 2) 48" width routes areas should be designated for ATV use, 3) routes wider than 48" should be designated for UTV and 4x4 use, 4) open riding areas should be designated for trials bikes which have different riding area requirements than trail riding, and 5) motorized trail systems should be provided for all skill levels and types of popular motorized vehicles so that the needs of all motorized users are adequately addressed. Site-specific analysis in the motorized route designation process should also adequately consider the mileage of trails required for weekend camping trips, adequate destinations, and other factors. We ask that motorized recreationists be adequately queried as part of the site-specific evaluation process and that the site-specific conditions that they identify be considered as required by the Final National OHV Rule.

556. The Purpose and Need for this action is to implement the Final OHV Rule. The Final OHV Rule was written to designate existing motorized routes for appropriate uses and create new motorized routes where needed. Implementation of the Final OHV Rule should not result in a massive motorized closure. The Purpose and Need for this project must follow through on the Final OHV Rule as a route designation process as it was presented to motorized recreationists during the rulemaking.

557. Our observations in the project area confirm that most visitors are out to enjoy motorized access and motorized. The Purpose and Need does not adequately address and recognize the current highly popular level of motorized access and recreation and the need for increased motorized opportunities. Therefore, the current Purpose and Need is destined to produce a decision that does not meet the needs of the public and will not be willingly accepted by the

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public. To avoid this disconnect, we request that the Purpose and Need for this action be written to address the significant need for motorized access and motorized recreation in the project area including adequate recognition of the positive impact on the quality of the human environment. This approach will avoid the creation of a significant issue with the process and a serious procedural deficiency in the Purpose and Need.

558. The site specific analysis of each road or trail to be closed must address or identify where the public would go to replace the motorized resource proposed for closure. In other words, the analysis must adequately evaluate the site specific value of a road or trail proposed for closure to motorized recreationists. It must also quantify the significant negative cumulative impact experienced when motorized recreationists could not find a trail or road with a similar experience in the area. The quality of our experience has been significantly reduced. It must also quantify the significant cumulative impact that the closure of a system of road and trails would have collectively when enough routes are closed to eliminate a good motorized day outing. An incomplete analysis is not acceptable under NEPA requirements.

559. Site specific monitoring of motorized versus non-motorized use must be provided for each route as required by the National OHV Rule.

560. Each route must be evaluated on the basis of whether it will see more use as a motorized route or a non-motorized route and then the appropriate decision should be made on that basis.

561. Each route must include a socio-economic analysis that includes the impacts on the public owning OHVs and looking for opportunities to use them and landowners who purchased property with the intent of being able to access and recreate using motor vehicles.

562. National OHV criteria and standards are not entirely applicable to conditions in the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EIS, i.e. one size does not fit all. The analysis needs to allow for judgment on site specific conditions so that the decision is a better match for local conditions and customs which center on motorized access and motorized recreation.

563. NEPA and CEQ guidance require that the proposed action be issue-driven. Additionally, many past actions have enacted wholesale motorized closures. The cumulative effect has become significant and this trend is no longer acceptable. (FSH 1909.15, Chapter 10, Section 15.1 - Cumulative Effects For *the definition of "cumulative effects" and other terms, see section 05. Individual actions when considered alone may not have a significant impact on the quality of the human environment. Groups of actions, when added together, may have collective or cumulative impacts which are significant. Cumulative effects which occur must be considered and analyzed without regard to land ownership boundaries. Consideration must be given to the incremental effects of past, present, and reasonably foreseeable related future actions of the Forest Service, as well as those of other agencies and individuals.)*

Therefore, meeting the unanswered needs and frustrations of over 50 million motorized recreationists is the most significant issue at hand for this proposed action. FSH 1909.15 Chapter 10, Section 12.32 - Identify Significant Issues *Recommend to the responsible official the significant issues to be addressed, taking interested and affected agency, organization, and public comments into account. The responsible official, not the ID team or the analyst(s), approves the list of significant issues used to develop alternatives and may adjust and refine the issues as new insights and information emerge during analysis.*

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This action and others to follow should address the issues and needs of the public by;
(1) Preserving all reasonable existing motorized recreational opportunities,
(2) Enhancing existing and developing new motorized opportunities to address the growing needs of the public for motorized recreational opportunities, and
(3) Implementing mitigation plans to compensate for excessive amount of past motorized closures.

564. The logic used by the agency does not always have a rational connection with the issues and facts as they pertain to maintaining and developing motorized recreational resources. To assist your understanding of the issues and information that affect us we are providing this collection of rational reasons to perpetuate existing and develop new motorized recreational opportunities. This information is provided with the request that it be adequately used to develop, select, and defend a reasonable multiple-use alternative. For every issue presented, there is a positive action that could be taken that would address the issue. Many solutions are obvious. For those problems that have less obvious solutions, motorized recreationists would work collaboratively with the agency to develop innovative solutions. We are committed to working towards that end and provide this information and list of issues in the spirit of cooperation.

565. The underlying definition of the “environment” that the Agency has chosen to use in the impact analyses and decision-making places an emphasis and priority on the “resource” environment in the project area. NEPA was very clear that the total complement of the environment was to be considered in the impact analyses and decision-making including the guiding purpose statement “achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life’s amenities” (Public Law 91-190, Title I, Section 101 (b) (5)). The wording of NEPA was carefully chosen and was intended to produce a balance between the resource environment and population or human environment. NEPA was not intended to be used to put an end to human access and use of the resources. However, the Agency is using the NEPA process inappropriately by creating significant cumulative impacts on the human environment through a series of travel plan decisions aimed at removing the public from public lands. This trend does not conform to Public Law 91-190 and must be corrected by implementing a pro-recreation alternative as part of this action.

566. Many comments by motorized recreationists are being dismissed by the agency as not being substantive comments because they did not show up on a list of significant issues developed by the agency. The injustice is that the agency is not identifying and addressing issues that are significant to motorized recreationists including importance of each existing route, cumulative effects of all motorized closures, and need for more not less motorized recreational opportunities, and others discussed in the following comments. The NEPA process should have been an issues driven process and the significant issues for a travel plan should be those that have the greatest impact on motorized recreationists. The agency is avoiding and selecting issues that circumvent the requirement to address significant issues that affect motorized recreationists. We request that this evaluation address all of the significant issues that affect motorized recreationists.

567. NEPA, CEQ, and Forest Service Handbook (FSH) require consideration of all reasonable alternatives (FSH 1909.15, Chapter 10, Section 12.33 - *Explore Possible Alternatives Consider a full range of reasonable alternatives to the proposed action that address the significant issues and meet the purpose and need for the proposed action.)* The project has a critical flaw which is the lack of a true "pro-recreation" alternative that adequately addresses motorized recreation. All of the alternatives developed for consideration represent a significant reduction in routes available for motorized use. Not one Alternative even sustains the current opportunity. Conversely, virtually every project has developed a "preservation" alternative, where a

maximum amount of closures are considered. The increasing demand for OHV recreation opportunities on public lands is extensively documented. Therefore, it is incumbent upon the project team to formulate at least one alternative that maximizes motorized recreation, or at least does not reduce motorized recreational opportunities in the planning area. Therefore, we request that the project team formulate a wide range of alternatives including at least one Alternative that maximizes motorized recreational opportunities in the project area and addresses the following:

- The project team must formulate at least one alternative that emphasizes OHV use in Roaded Natural and Semi-Primitive Motorized opportunity settings for recreation.
- The pro-recreation alternative should strive to provide for the current and future demand for OHV recreational routes.
- Alternatives should include areas where OHV trails can be constructed and maintained when demand increases.
- Where appropriate, the agency should use this process to analyze the impacts of any future route construction and include those in the decision.
- Direction for the required process to construct new routes should be incorporated into each alternative.
- At least one alternative should maximize the ability to construct new sustainable trails to meet the current and future need.
- The project team should develop management alternatives that allow for proactive OHV management.
- All alternatives should include specific provisions to mark, map and maintain designated roads, trails and areas in cooperation with OHV users.

568. All alternatives should include direction to engage in cooperative management with OHV groups and individuals.

569. The site specific analysis of each road or trail to be closed must address or identify where the public would go to replace the motorized resource proposed for closure. In other words, the analysis must adequately evaluate the site specific value of a road or trail proposed for closure to motorized recreationists. It must also quantify the significant negative cumulative impact experienced when motorized recreationists could not find a trail or road with a similar experience in the area. The quality of our experience has been significantly reduced. It must also quantify the significant cumulative impact that the closure of a system of road and trails would have collectively when enough routes are closed to eliminate a good motorized day outing. An incomplete analysis is not acceptable under NEPA requirements.

570. Site specific monitoring of motorized versus non-motorized use must be provided for each route as required by the National OHV policy.

571. Each route must be evaluated on the basis of whether it will see more use as a motorized route or a non-motorized route and then the appropriate decision should be made on that basis.

572. Each route must include a socio-economic analysis that includes the impacts on the public owning OHVs and looking for opportunities to use them and landowners who purchased property with the intent of being able to access and recreate using motor vehicles.

573. The quality of our experience has been reduced in other ways. For example, every time we ride on a road or trail we wonder or talk about whether this will be the last time and what sort of

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fight it will take to keep it open. This dark cloud ruins the recreation experience that is so badly needed.

574. Motorized recreationists gave up 97% of the area historically available to them as cross-country travel under the National OHV policy as the ultimate act of mitigation so that we would continue to have use of existing motorized routes that cover or provide access to an area estimated at less than 3% of the total area. Now motorized recreationists have been given almost no credit for our cooperation during that action and we have only been penalized for our past cooperation by current route designation plans, resource management plans, forest plans and travel plans that seek to close 50% to 75% of the existing motorized routes.

575. The existing level of motorized access and recreation must not be dismissed without adequate consideration because it is only associated with the No Action Alternative. The existing level of motorized access and recreation is reasonable alternative and an alternative other than No Action must be built around it. This reasonable alternative should also include mitigation to protect the natural environment and compensate motorized recreationists for the significant cumulative effect of past losses, and enhancement to adequately address the growing need for motorized access and recreation.

576. The scope of the project must address both existing routes and new construction. This is necessary and reasonable because a certain percentage of the existing routes are likely to be closed. Putting a sideboard on the project scope that prevents the evaluation and creation of any new trail segments also eliminates the opportunity to mitigate the overall level of motorized closures. This approach, if pursued, would preclude the evaluation of a reasonable alternative and also preclude any opportunity for mitigation and enhancement. Therefore, limiting scoping of the project to existing routes only would produce a significant built-in disadvantage for motorized recreationists, i.e., the overall number of motorized routes are destined to be reduced and nothing can be considered to enhance existing routes and to mitigate the overall loss to motorized recreationists. We are concerned that the process will not provide motorized recreationists with an equal opportunity (50/50 sharing of motorized to non-motorized trails) in the outcome and we are only destined to lose. We would appreciate an independent evaluation of this situation as soon as possible so that the proper scoping direction can be corrected early in the process.

577. We have heard the explanation for this sideboard is that it is needed because of the schedule for completion of the travel plan. We have also been told that the forest could evaluate new routes at a later date. First, we strongly recommend that the Agency take whatever time is necessary to adequately address the public's needs. The schedule is not an adequate or reasonable amount of time especially considering that the public has been able to access and enjoy this area for decades. Secondly, we have requested the reopening of routes before the Agency has no history of reopening or creating any new routes for OHV use at a later date. Thirdly, whenever we suggest a new route, the agency is hesitant to reopen or pursue the environmental analysis required to address it. Therefore, we are uncomfortable banking any hopes of mitigation and enhancement on a new project at a later date. And lastly, a later date probably means 10 to 15 years out (if ever) and many of us who are impacted now may not be able to take advantage of any new opportunities at a “later date”.

578. There has been a tremendous loss of routes in the area, therefore, a mitigation bank to cover the debt for motorized route closures in the National Forest should include all of past and reasonably foreseeable closures in all Regions including Region 1.

579. The evaluation must adequately consider the growing popularity of motorized recreation, the aging population and their needs for motorized access, and the increased recreation time that the aging population has and looked forward to enjoying public lands in their motor vehicles.

580. Specific references from the new National OHV Policy that must be adequately addressed include:

Existing – The unit or district restricts motor vehicles to "existing" routes, including user-created routes which may or may not be inventoried and have not yet been evaluated for designation. Site-specific planning will still be necessary to determine which routes should be designated for motor vehicle use.

For many visitors, motor vehicles also represent an integral part of their recreational experience. People come to National Forests to ride on roads and trails in pickup trucks, ATVs, motorcycles, and a variety of other conveyances. Motor vehicles are a legitimate and appropriate way for people to enjoy their National Forests—in the right places, and with proper management.

To create a comprehensive system of travel management, the final rule consolidates regulations governing motor vehicle use in one part, 212, entitled ''Travel Management.'' Motor vehicles remain a legitimate recreational use of NFS lands.

This final rule requires designation of those roads, trails, and areas that are open to motor vehicle use. Designations will be made by class of vehicle and, if appropriate, by time of year. The final rule will prohibit the use of motor vehicles off the designated system, as well as use of motor vehicles on routes and in areas that is not consistent with the designations. The clear identification of roads, trails, and areas for motor vehicle use on each National Forest will enhance management of National Forest System lands; sustain natural resource values through more effective management of motor vehicle use; enhance opportunities for motorized recreation experiences on National Forest System lands; address needs for access to National Forest System lands; and preserve areas of opportunity on each National Forest for nonmotorized travel and experiences.

Clearly the rule intended to identify existing routes being used for motorized access and recreation and preserve existing non-motorized routes by elimination of cross-country travel. Why is a process that was intended to eliminate cross-country travel and designate existing motorized routes been allowed to turn into a massive closure process?

581. Additionally, the rule preserves existing non-motorized routes by not allowing them to be converted to motorized routes and it does not state anywhere that non-motorized travel and experiences were to be significantly enhanced by a wholesale conversion of motorized routes to non-motorized routes. We request that the intention of the final OHV Route Designation rule be followed by this Planning Action and that the rule not be used inappropriately as an action to create wholesale motorized closures and a wholesale conversion of motorized to non-motorized routes.

582. The Agency has created very serious disclosure issues that are producing a growing wide-spread distrust of the agencies. The National OHV Policy, forest planning, resource management planning, and travel planning processes were never presented to motorized recreationists as massive motorized closure processes but in practice that is what they are. In fact, the National OHV Policy were presented as a positive agreement and action that would recognize the legitimate use of existing motorized routes. Our society expects public agencies to assess and provide for their needs as demonstrated by the adequate water, sewer, and roads systems; and other public facilities that are routinely provided. We are very concerned

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about the growing animosity towards the agencies and urge you to address this issue. Much of this distrust originates from a failure to honor past agreements and/or the lack of adequate disclosure of the true intent of the agencies actions. We urge you to recognize the need for sincere disclosure followed by accurate assessment of the needs of motorized recreationists and the decisions required to provide for those needs.

583. Forest Service and BLM law enforcement has taken the position that OHVs cannot legally ride on forest or BLM roads unless the road is designated dual-use. Cumulative decisions have closed OHV trails to the point that there is not an inter-connecting network of routes. At the same time, the agencies have not designated a functional network of dual-use routes to inter-connect to OHV routes. Dual-use is essential for the family OHV experience. Therefore, these closure decisions are forcing the OHV recreationists to ride non-designated dual-use routes illegally. The proposed action must include these designations in order to provide a network of OHV routes with inter-connections, where required, using dual-use roads in order to be functional. This will allow OHV enthusiasts to operate legally on forest and BLM roads. We request, as a reasonable alternative, that a system of dual-purpose roads, and OHV roads and trails that interconnect be one of the primary objectives of the travel management plan portion of the resource management plan and that this objective be adequately addressed in the document and decision. The issue of speed can be adequately and easily addressed by specifying maximum speeds and signing.

584. The summary dismissal of dual-use designations is neither reasonable nor acceptable per NEPA requirements. Dual-use is allowed per Forest Service Regional Supplement No. 7709.59-99-1. Dual-use of routes is a significant issue to us because OHVs cannot use the limited trail system provided by the proposed alternative without traveling on forest roads. In other words, this part of the proposal alone renders the entire the project area off-limits to OHV use. This outcome is not a reasonable solution for a travel plan and we request that the issue and need be adequately addressed and a revised proposal developed.

585. It is not reasonable to assume that dual-use designation can be addressed after the travel planning decision is made because that has never happened in our region.

586. The Agency has only addressed less motorized access and less motorized recreational opportunities. The alternatives formulation and decision-making must adequately recognize and address the fact that the majority of the public visiting the project area want more motorized access and motorized recreational opportunities.

587. The existing level of motorized access and recreation cannot be dismissed because it is only associated with the No Action Alternative. The existing level of motorized access and recreation is reasonable alternative and an alternative other than No Action must be built around it.

588. A reasonable alternative that must be adequately addressed is the existing level of motorized recreational opportunities plus mitigation projects to protect the environment from existing problem areas, mitigation for past motorized closure cumulative effects, and enhancement for growth.

589. It is not environmentally and socially responsible to squeeze motorized recreationists into the small possible numbers of areas and routes, yet this is the goal being pursued by the Agency. There is also a significant public safety aspect associated with squeezing everyone into a small area as accidents will increase with too many motorized recreationists on too few routes. We request that these significant issues be adequately addressed.

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590. Motorized recreationists endorsed and accepted millions of acres of area restriction under the Travel Management; Designated Routes and Areas for Motor Vehicle Use, Final Rule (http://www.fs.fed.us/recreation/programs/ohv/final.pdf) as a positive action to control environmental impacts. We accepted area restriction and not area closure. Area closure is permanent. Area restriction allows flexibility as needed to address site specific conditions. Each motorized road and trail exists because it serves some multiple-use need. Every road and trail is important to some individual for some purpose. Each motorized road and trail must have adequate site-specific analysis to determine all of its values including motorized recreational value. Motorized recreationists gave up 97% of the area historically available to them under the National Route Designation rule as the ultimate act of mitigation so that we would continue to have use of existing motorized routes that cover or provide access to an area estimated at less than 3% of the total area. Now motorized recreationists have been given almost no credit for our cooperation during that action and we have only been penalized for our past cooperation by current route designations, resource management plans, forest plans and travel plans that seek to close 50% to 75% of the existing motorized routes. This outcome was not part of the National Route Designation agreement and this level of closure is not acceptable to us for that reason. The National Route Designation agreements were not made with the intention of massive closures beyond that agreement. We ask that all actions include proper recognition of the agreement behind the National Route Designation decision which allow continued use of the existing networks of motorized roads and trails without massive motorized closures.

591. No dual-use designations means that family oriented OHV recreation in the area will be eliminated. Family OHV recreation is extremely important to us and the southern area of the project provides an ideal setting for family use with fairly easy routes located away from busy traffic areas and vista points. We request, as a reasonable alternative, that dual-use or unrestricted width trail designation be used for all of the motorized routes except single-track trails.

592. Without the dual-use designation, the proposed action would transform family OHV trips from a healthy family oriented recreation to an illegal activity. This is not a reasonable outcome.

593. The continual closure of motorized trails has forced OHVs to be operated on forest roads in order to provide a reasonable system of routes and to reach destinations of interest. The lack of dual-use designations on forest roads then makes OHV use on these routes illegal. The cumulative negative effect of motorized closures and then combined with the lack of a reasonable system of roads and trails with dual-use designation have not been adequately considered in past evaluations and decision-making. We request, as a reasonable alternative, that all reasonable routes be designated for dual-use so that a system of roads and trails can be used by motorized recreationists. Additionally, we request that the cumulative negative effect of all past decisions that have adequately considered dual-use designations be evaluated and considered in the decision-making and that this project include an adequate mitigation plan to compensate for inadequate consideration in the past.

594. In many cases illegal trails are created in response to the lack of adequate motorized opportunities. If there were an adequate number of OHV trail systems, then the need to create illegal trails would be greatly diminished. Therefore, the catch-22 of the closure trend is that in the end it feeds the illegal activity. In other words, it would be a more advantageous and equitable situation to pro-actively manage motorized recreation.

595. The number of NEPA actions is overwhelming. For example, each Bureau of Land Management and Forest Service jurisdiction publishes a NEPA Quarterly Report and there are typically at least 30 actions ongoing at any moment. We typically recreate in at least 5 to 6 Forest Service or BLM management areas. The number of NEPA actions at any moment that

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we would have to evaluate and comment on in order to be involved would total 150 to 180. Refer to Table 2 also. Recently the route designation process has added considerably to effort required. It is simply impossible for the public to comment on every road, trail, and NEPA document. If this is an over-arching strategy, then it is grossly unfair. It is not reasonable to expect working class citizens to comment on every NEPA action and the route designation that potentially affects them at some point during their recreation lifetime. At the same time, non-motorized recreationists can sit back and do almost nothing and reap the benefit of a system of almost automatic motorized closures. Basically, the current process discriminates against the working class because they work at least 40 hours per and cannot dedicate anywhere near enough hours required to keep up with all of the travel planning and route designation processes currently on the table.

596. The new Forest Service rule for forest planning has determined *The environmental review has documented that writing management plans has no effect on the environment, which qualifies the individual plans of each National Forest for categorical exclusion from individual study under the National Environmental Policy Act. ….Under the 2005 planning rule, full environmental analysis will continue at the project level where public involvement and the best available science can inform on the ground decision-making.* (http://www.fs.fed.us/news/2006/releases/12/ce-statement.shtml) The basis for this guidance is that from here forward forest plans will not produce any significant changes from the existing condition and if a proposed future action does produce significant impact it must include specific analysis and public input developed as part of that project. Additionally, any guidance found in the forest plan must yield to the site specific project analysis. Therefore, the role of the forest plan has been greatly diminished and guidance from the forest plan must not be cited as reasons for justifying a proposed course of action, i.e., convert an area or route from motorized to non-motorized. This direction is to come from the analysis of a specific proposed action (http://www.helenair.com/articles/2007/01/01/montana/ao510101_2.prt). Therefore, the use of "consistency with the forest plan" is no longer a valid reason to close motorized recreational resources and only site specific data and reasons should be used to address motorized recreation needs and resources. We support this rule because otherwise motorized recreationists would be subject to double jeopardy, i.e., must defend motorized routes in first the forest plan action and then the travel plan action.

597. Forests are a renewable resource and impacts associated with cutting units are relatively short-lived. Therefore, motorized routes that were closed due to timber harvests should be reopened (returned to pre-harvest condition) now because the vegetation and cover has been reestablished. However, most of the motorized closures associated with cutting units have been long-term. All planning and travel management planning actions must now evaluate all past motorized closures including road and trail obliterations done to mitigate wildlife security concerns as part of timber harvest. It is logical and fair that once the harvest area has been re-vegetated, then the motorized closures must be lifted. Additionally, the cumulative negative impact of these types of closure actions on motorized access and recreation must be adequately evaluated and mitigated by this action.

598. Every planning action "re-invents" the line weights, color, and line styles for the different motorized and non-motorized road and trail designations. This is very confusing to the public and, once again, puts motorized recreationists at a disadvantage. A national mapping standard for travel planning actions must be developed starting with proposed action in order to address this inadequacy and the environmental justice issue associated with it.

599. OHV recreationists have been very effective with "tread lightly" practices. Now we have been informed that trails were closed because they "saw very little motorized use" as part of travel planning actions including the BLM Sleeping Giant Travel Plan and Mormon Gulch timber

harvest in the Beaverhead-Deerlodge National Forest. These actions would suggest that we should “power on” so that our tracks and usage are obvious. We think that it sets a bad precedent to close a route because it appears to see little use. It is not fair that motorized recreationists practice “tread lightly” principles and are then penalized for following that practice. Additionally, forces including cattle grazing, horses and wild animals, and rain quickly obliterate motorcycle tracks. We observed this condition again recently when the tracks of 7 motorcyclists that we observed using a single track trail were quickly erased with one light rain shower. Additionally, people upset with the observation of tracks in multiple-use areas do not have reasonable expectations when visiting multiple-use lands.

600. If light use is being used as a criterion to close motorized routes, then it would also seem fair to convert non-motorized trails that see light use to motorized routes in order to address the concern of over-usage and shortage of motorized routes. We ask for your consideration of this reasoning.

601. The proposed action must not result in a disparity in the quantity of motorized recreational opportunities versus non-motorized recreational. The proposed action also must not result in a disparity in the quality of motorized recreational opportunities in comparison non-motorized recreational opportunities. Equal access laws also apply to motorized recreationists and provide for equal access to both an equal level of opportunities and an equal quality of opportunities. Our laws do not give non-motorized recreationists priority over motorized recreationists. Our laws also set the precedent that public facilities must be reasonably shared with one another.

602. The project cannot be a success without a clear statement of the owners and the objective for the travel plan project. The owners of the travel plan project must be identified as the end users of the project, i.e. all of the public that relies on the project area for motorized access and recreational opportunities. The objective for the project should be “To meet the needs of the public for a functional network of motorized roads and trails for access and recreation with practical and reasonable consideration of the environment”.

603. Current planning projects typically add the number of miles of motorized trails closed to the current miles of non-motorized trails as a measure of the change in non-motorized recreational opportunity. However, current planning projects do not add the miles of roads closed by action to the miles of non-motorized trails. Non-motorized recreationists use roads that are closed and benefit from them because closed roads; are open to use by only non-motorized recreationists, are typically clear and easy to walk and bicycle, are covered with natural vegetation within a relatively short time and are quickly used as trails. When roads are closed to motorized recreationists, then they in reality become a non-motorized recreational resource and they must be disclosed as such.

604. Unfortunately this procedure has not been practiced to date and the miles of recreational resources have been understated in favor of non-motorized recreationists. All planning projects should disclose the added benefit to non-motorized recreational resources resulting from the closure of roads by adding the miles of closed roads to the miles of existing non-motorized trails. We request that this procedure be used by this project and all future agency projects. Additionally, we request that the cumulative negative impact on motorized recreationists resulting from this lack of adequate accounting be evaluated and adequately mitigated.

605. The starting alternative proposed to eliminate motorized access and motorized recreational opportunities without first adequately addressing the needs of the public for motorized access and motorized recreation and without proper evaluation of facts and information. This procedure is evidence of a significant predisposition in the process.

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606. The existing level of access and motorized recreation is a reasonable starting position and alternative. An even fairer position given that this should be a travel plan seeking to address the needs of the public for motorized access and recreation would be an alternative based on an enhanced level of opportunity. However, a starting position of massive closures is completely unreasonable and tells us a lot about where the process is heading. It seems to be predisposed. This strategy is outrageous because it forces the public to fight to get every inch of motorized road and trail added back into the preferred alternative. This strategy is designed so that motorized recreationists are destined from the outset to lose big time. The damage has been done as we hear many people saying "what's the point of participating, the process is rigged and the Agency has already made up its mind". We request that this strategy be corrected by presenting a starting alternative that addresses the need for multiple-use access and recreational opportunities.

607. The planning team should formulate an Alternative that maximizes all existing recreational opportunities, as well as anticipates and plans for an increase in recreational use in the future. None of the Draft Alternatives maximize recreational alternatives and most of them fail to provide adequate recreational opportunity to meet the current need.

608. The agency must develop a true No Action alternative in compliance with NEPA and other planning regulations. The agency must formulate a lawful "No Action" alternative so that the public and decision makers may reasonable compare and contrast other management alternatives.

> A No Action alternative is a vital component in assuring full public disclosure of all foreseeable direct, indirect, and cumulative environmental impacts of the project, and consistency with environmental and public involvement requirements of State and Federal laws, Executive Orders and policies. The twin goals of NEPA (to inform the public and disclose anticipated effects) are not met without a properly written and accurate No Action alternative.
>
> An accurate No Action alternative provides for a clear, logical and comprehensive analysis process and disclosure of effects, both to the human environment and especially in this case, effects to visitors. An accurate No Action alternative is the prescribed way the agency discloses existing conditions of Federal lands and serves as a baseline for discussion of guidance and rationale for proposed changes to travel management direction and programs for implementation. Under the existing conditions motorized recreationists have a reasonable number of choices and variation of opportunities. Under most proposed conditions, motorized recreationists have a significantly reduced number and variety of opportunities. We do not want to be forced to go to the same place over and over nor do we want to be squeezed out from public lands. Therefore, the No Action (existing condition) alternative must be accurately and reasonably evaluated.

609. There is an increasing demand for OHV recreation opportunities on public lands. The BLM, Forest Service, as well as environmental groups, state and local governments and OHV and recreational access organizations have all acknowledged that many Land Use Plans woefully failed to anticipate the increased public demand for all types of outdoor recreation and related OHV uses. Additionally, and importantly, the Bureau of Land Management's National OHV Strategy states: "Motorized off-highway vehicle use on public lands administered by the Bureau of Land Management (BLM) has increased substantially in recent years. … Some of [the factors contributing to growing OHV popularity] are:
    - greater public interest in unconfined outdoor recreational opportunities;
    - rising disposable income …

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- advances in vehicle technology
- the rapid growth of the West's cities and suburbs …
- a population with an increasing median age with changing outdoor recreational interests.

This [growing OHV] popularity is evidenced by the fact that recreational enthusiasts are buying OHV's at the rate of 1,500 units per day nationwide, with nearly one-third of them doing so as first-time buyers." "[BLM's OHV] Strategy recognizes, as does policy outlined in BLM Manual 8340 (May 25, 1982), that off-road vehicle use is an 'acceptable use of public land wherever it is compatible with established resource management objectives.' As established by the Federal Land Policy and Management Act of 1976 (FLPMA), the BLM is required to manage public lands on the basis of multiple use and sustained yield, while protecting natural values. … Motorized OHV use is now firmly established as a major recreational activity on BLM-administered public lands".

Unwisely, rather than work to accommodate the increased demand for OHV recreation, BLM and many National Forests have frequently reacted by restricting OHV opportunities. But more importantly, opportunities to manage OHV use by developing OHV trail systems, marking roads and trails, providing usable maps, identifying OHV trails and systems and entering into cooperative management agreements with OHV user groups have, by and large, been ignored by most federal land managers. Although more pro-active management is clearly permissible within the existing management plans, a quick search on the BLM's and National Forest's websites indicates that land managers more often choose to implement parts of their OHV policy associated with limitations and closures.

Suggestions:

a) The agency cannot legitimately address increasing demand for OHV recreation opportunity by refusing to accommodate such demand. Alternatives must prudently provide for increased OHV recreation opportunities to meet current and anticipated demand.
b) The planning team should look to individuals and user groups for assistance in identifying opportunities for OHV recreation.
c) The planning team should develop management alternatives that allow for proactive OHV management. All alternatives should include specific provisions to mark, map and maintain existing OHV opportunities. All alternatives should include instructions to engage in cooperative management with OHV groups and individuals.
d) Alternatives should include areas where OHV trails can be constructed and maintained when demand increases.

610. When developing management alternatives the agency must recognize the public's desire to keep existing opportunities open. OHV's are by far the most desired and utilized means to obtain solitude in nature. Most public land visitors strongly favor maintaining exiting roads and trails open to disperse use and address environmental concerns regardless whether or not the road or trail is classified by the agency. The agency must recognize that providing for OHV use and protecting the environment means fully utilizing the inventory of existing roads and trails.

Suggestions:

a) The public wants the existing roads and trails left open to vehicle use.
b) The existing network of roads and trails in the planning area should be considered an inventory with which to develop recreational trail systems.

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c) The Planning Team should look for management alternatives that provide for mitigation instead of closure. Options other than closure should be emphasized in each alternative.
d) Alternatives, or management guidance, directives etc that require closure as the first or only option when resource impacts are identified should be avoided.
e) The Planning Team should carefully consider displaced use. Assuming that closures are eminent in some areas, one could calculate approximately how much existing motorized will be displaced to other areas. The Planning Team should develop alternatives that allow for additional access and additional recreational opportunities in suitable areas in order to properly manage the displaced use.
f) The Planning Team should avoid overly restrictive management prescriptions that limit the land manager's ability to respond to changing recreational patterns.

611. Why are the extreme motorized closure alternatives presented and a middle of the road alternative based on existing routes plus new motorized routes needed to meet the public's need not presented? We are concerned that this demonstrates a significant predisposition in the current process.

612. The travel management process should be initiated with the scoping process and a full and adequate evaluation of all viable alternatives. All existing roads and trails available to motorized recreationists should be used as the starting alternative for all analyses and impact determinations. Establishment of this baseline alternative is crucial to the evaluation of all proposed impacts on motorized recreationists. Time after time the alternatives presented in the travel planning process do not include a reasonable motorized alternative. This seems to be a ploy to get the public to accept less right from the start. The process is predisposed in that a minimal number of motorized access and motorized recreational opportunities are presented as the preferred alternative from the beginning when the needs of the public are just the opposite. We request that the process be restarted and that all existing roads and trails which are available for use by motorized recreationists be adequately identified as the baseline alternative.

613. Pursuing environmental perfectionism is not an equitable goal for management of public lands. "The pursuit of perfectionism often impedes improvement" (George F. Will). The unyielding pursuit of environmental perfection could ultimately lead to radical changes in environmental laws and reduced public support for protection of the environment. It is important that a fundamental difference in doctrines be recognized. We believe that public lands are here for us to enjoy and use responsibly for the large number of purposes. The underlying doctrine of the extreme environmentalists on the other hand is that humans are intruders on and have no place in the natural environment. Expecting any or all of the public to be required to live with the consequences of uncompromising environmental perfectionism is an unreasonable expectation and it must be recognized as such. Additionally, the expectation of a static environment is unnatural. Ecosystems have been changing since the beginning of time and they should be expected to continue to change and adapt at both micro and global levels. We are equally concerned about protection of the environment but we request the pursuit of a reasonable and practical course of action, which will do more to protect the environment in the long-term. We request that the impacts associated with the pursuit of environmental perfectionism on the human environment be evaluated and that the cumulative negative impact of environmental perfectionism on the human environment be adequately considered.

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614. We request, as a reasonable alternative, a starting proposal that is based on all of the existing roads and trails available to the public. The process is required by NEPA to be neutral and a neutral process would include the fair presentation of all reasonable alternatives including all existing roads and trails plus new motorized opportunities required to meet the needs of the public. Why isn't this reasonable alternative being presented? We are concerned that the process is manipulating the public to believe that an entirely reasonable alternative based on existing roads and trails cannot be considered. Again, the process is predisposed towards closures right from the start and this is neither right nor equitable.

We request the full and fair disclosure of this information to the public. The starting benchmark could be considered deceptive. NEPA requires adequate disclosure of the potential impacts of a proposed action as stated in CEQ Sec. 1500.1 Purpose. *Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than*

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amassing needless detail. It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment. Agencies shall focus on significant environmental issues and alternatives and shall reduce paperwork and the accumulation of extraneous background data. Statements shall be concise, clear, and to the point, and shall be supported by evidence that the agency has made the necessary environmental analyses. These requirements have not been met. We request that these deficiencies be addressed by developing a starting benchmark alternative that identifies all of the existing roads and trails available to motorized recreationists including non-system routes and those falling under some undefined definition of "unusable" and those additional routes required to meet the needs of the public.

615. The evaluation needs to distinguish the difference in trail requirements and impacts between atvs and motorcycles and use that difference to justify keeping more single track trails open to motorcycles.

616. Well-funded and organized non-motorized groups have systematically attacked and reduced economic and recreational opportunities associated with multiple-use of public land by ordinary citizens. This attack has included the introduction of an unreasonable expectation into all NEPA and land management processes. This unreasonable expectation is built around the concept that non-sharing of public lands is acceptable and that conversion of multiple-use public lands to non-motorized, narrow-use or defacto wilderness lands is acceptable. Non-motorized special-interests do not use the existing roads and trails as much as the public uses them for motorized access. Non-motorized special-interests simply do not want anyone using them or want to share them with anyone else. This is not a reasonable expectation, it is inequitable to the public and these unreasonable expectations must not be rewarded any further. It is not acceptable to reward people who seldom or never use a road or trail and allow them to shut out those that use them frequently.

617. The endorsement of this unreasonable expectation by agency actions has significantly impacted multiple-use opportunities on public lands and the public in general. The cumulative negative impact of this unreasonable expectation is significant. Adequate recognition of this trend and mitigation must now be implemented in order to counter the inequities that have been created by allowing this unreasonable expectation to have so much influence on our land use decisions.

618. The use of the name "Travel Management" for the process is deceiving the public. History has demonstrated that this is a closure and restriction process. New motorized roads or trails are seldom created by the process. When we ask visitors that we meet about the process they will either tell us; (1) that they expect the Agency to look out for their needs, or (2) that the Agency

has already made up their mind on travel planning decisions and that it is pointless to participate in the process.

619. The maps and figures are not easily understood. There are no identifiable or named features and no road and trail numbers on the maps. It is very difficult for the public to orient themselves and to interpret the proposed action for each specific road and trail. Therefore, the public cannot adequately evaluate the proposal and cannot develop comments with reference to specific roads and trails. Additionally, there is no consistency between the maps and legends used in each resource management plan and travel management plan which is equally confusing to the public.

620. National Forest officials have stated that all challenging motorized roads and trails would be eliminated due to their concerns about hazards on those routes. For many of us, these are the very routes that we consider to have the greatest recreational value. Again, this is another example of predisposition and discrimination. Discrimination is to make a choice, a distinction. We all make choices, every day. Discrimination becomes illegal when choices made limit the possibilities of some groups or some individuals. Other forest visitors and their recreation opportunities are not subjected to this criterion. For example, this concern has never been used to limit the opportunities for hunters, fisher folks, woodcutters, equestrians, river floaters, campers, hang gliders, rock climbers, hikers, skiers, anyone driving anywhere in the forest, etc. We request that this unreasonable and discriminatory criterion be dropped immediately from the process and that the process be restarted without this criterion.

621. The forest, watershed and view shed planning processes tends to influence motorized access and motorized recreation in an undisclosed manner that is deceiving the public. For example, forest plans, watershed plans and view shed plans such as the Helena National Forest Plan, Beaverhead-Deerlodge National Forest Plan, Little Blackfoot River Watershed Plan, Tenmile Creek Watershed Plan and Scenery Evaluation Plan for the Rocky Mountain Front often set management goals for areas that will ultimately result in the elimination of motorized recreation yet motorized recreationists are unaware that these actions will ultimately affect them. This back door process does not meet the NEPA requirement for adequate public disclosure of the impacts of the proposed action. Adequate public disclosure in these cases would require direct means of communication with motorized recreationists to inform them of the potential changes that will result from the respective plan. This process of non-disclosure has been used to effectively eliminate many motorized access and motorized recreational opportunities and contributes to the cumulative negative impact of closures on motorized recreationists. We request that the cumulative negative impact of past planning actions on motorized recreationists be adequately evaluated and considered during the decision-making process.

622. The dominant direction taken by the agencies is to use the travel planning process as a process to eliminate motorized access and recreation opportunities. Instead, the travel management process should be directed to meet the needs of the public for multiple-use, motorized access and motorized recreation on public lands. NEPA requires that agencies "Rigorously explore and objectively evaluate all reasonable alternatives…." [40 CFR 1502.14(a)]. We ask that you develop a preferred alternative that preserves and enhances multiple-use interests and motorized recreation.

623. Managing public lands for exclusive-use by a few people or non-use is not in the best interest of the community. There are limited public lands available. We need to manage those lands for maximum communal benefit. We request, as a reasonable alternative, that available uses of the project area be maximized as required by NEPA so that life's amenities can be enjoyed by as many people as possible.

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624. The over-arching intent of NEPA was not to eliminate humans from the natural environment as proposed by some. Instead, the intent of NEPA was to provide for a practical and reasonable protection of the natural environment while providing for a wide sharing of life's amenities. Note that NEPA specifically used the word "sharing". Sharing can only be accomplished by managing public land for multiple uses.

625. Travel management started from the beginning with a proposal to close the majority of existing roads and trails to motorized recreation and access with the exception of a few major roads. This practice forces motorized visitors and recreationists to start with the worst case scenario and then expend great effort (that is not very successful) to add routes currently in use back into the process. This practice places an enormous burden on motorized visitors just to maintain the status quo. This process, in effect, provides preferential treatment for non-motorized visitors who do not have to identify routes and challenge the process to protect their recreation opportunities. We request that the travel management process be practiced in a manner that does put motorized visitors at a disadvantage.

626. A fair travel management process would start with a comprehensive inventory of all existing motorized routes in use by the public. Then, in order to avoid further cumulative loss and significant impact on motorized access and recreation opportunities, we request that the travel management process include a preferred alternative based on preserving all existing motorized routes. Existing motorized roads and trails have been around for decades and have not caused any significant problems. Therefore, it is not reasonable to close a significant number of existing motorized routes. Any significant negative impact associated with a specific motorized route should be the basis for an evaluation to close or keep that route open and should carefully consider all reasonable mitigation measures. The cumulative loss of motorized recreation and access opportunities within public lands has been significant. In order to avoid further cumulative negative impacts, we request, as a reasonable alternative, that the majority of existing motorized routes remain open and the closure of an existing motorized route be offset by the creation of a new motorized route.

627. Oftentimes, many of the motorized roads and trails proposed for closure are primitive roads and trails that provide the ideal experience sought by motorized visitors. We request that the analysis adequately evaluate the type and quality of experiences that motorized visitors enjoy and want maintained in the area.

628. Motorized recreationists would accept area closure (restriction of motorized vehicles to designated routes and elimination of cross-country travel) when reliable documentation demonstrates that it would provide measurable and significant improvement to the natural environment in exchange for a reasonable number of designated motorized routes. We request that the analysis develop a preferred alternative with a reasonable number of designated routes in exchange for the environmental improvements that have been realized by motorized visitor's acceptance of millions of acres of area closure under all plans including the National OHV decision, travel plans, forest plans, and resource management plans.

629. In most locales, visitors to public lands have given up motorized cross-country travel opportunities and accepted millions of acres of area closure. Therefore, motorized recreationists cannot travel cross-country using motorized vehicles and motorized recreational opportunities are limited to existing roads and trails that are open to motorized use. At the same time, non-motorized recreationists can hike cross-country. Therefore, hiking opportunities are unlimited.

630. In most locales, public land visitors have given up motorized cross-country travel opportunities and accepted many acres of area closure. However, most often motorized recreationists have

not been given credit for the benefits associated with the implementation of cross-country travel restrictions and area closures. Then along comes travel planning which seeks to further restrict motorized access and motorized recreation. We request that these trends and the significance of the cumulative negative impacts of these trends on motorized access and motorized recreationists be evaluated and that motorized trail projects be undertaken to mitigate the cumulative negative impacts on motorized access and motorized recreationists.

631. The maps used in the environmental document should be familiar and easily interpreted by all citizens. The public is most familiar with Forest Visitors Maps and other common visitors maps. The environmental document mapping should follow the guidelines required by 40 CFR 1502.8 which states that "*Environmental impact statements shall be written in plain language and may use appropriate graphics so that decision-makers and the public can readily understand them"*. Many visitors who traditionally use roads and trails in the project area may not comment during travel management process unless they understand which roads and trails are proposed for closure. This lack of understanding could lead to resentment and poor support of the closures by the community because a wide range of needs have not been adequately addressed. We request that mapping identify streams, road numbers, trail numbers, landmarks and key topographic features in a manner that all citizens can easily interpret.

632. Many citizens have not understood the extent of the motorized closures proposed in past travel management processes. This lack of understanding is due to inadequate communication in many forms including mapping, documents, and on-the-trail public involvement. We are concerned that this lack of public understanding and buy-in will lead to poor support and resentment of closures. We request that public understanding and buy-in be stressed throughout the process.

633. Site-specific analysis should be provided for every road and trail so that the benefits of keeping each motorized travel way is adequately addressed and accounted for in the decision. Site-specific questions will need to be discussed during the process. that the mapping be adequate to allow site-specific analysis.

634. It is time to implement a practical and sensible application of NEPA. The intent of NEPA when it was created in the late 1960's was to better incorporate environmental concerns into proposed actions while still meeting the needs of the public. Up until that time, consideration of the natural environment was not always required and impacts to the natural environmental were not always adequately considered. A significant correction has been made since then. Concerns with the natural environment now receive considerable attention and natural resource issues are adequately considered for nearly all proposed actions. Additionally, many ways and means have been developed to mitigate impacts to the natural environmental and still meet the needs of the human environment.

There may have been a time when NEPA decisions struck an ideal balance between the natural and human environments but now NEPA is used by environmental organizations to rigorously pursue environmental perfectionism. Environmental perfectionism occurs when significant impacts are imposed on the human environment in return for relatively minor or unaccountable improvements to the natural environment. The pursuit of environmental perfectionism has contributed to the significant cumulative negative effect of converting public land from the land of many-uses or multiple-uses to the land of limited-use or exclusive-use. The mindset of environmental perfectionism has pushed agencies far beyond the original intent of NEPA to better protect the natural environmental from proposed actions. The pursuit of environmental perfectionism is attacking one of the basic requirements of NEPA to "achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities" (Public Law 91-190, Title I, Section 101 (b) (5)). The wording of

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NEPA was carefully chosen and was intended to produce a balance between the natural and human environment. Practice and interpretation since the law has strayed far from that intent. We request, as a reasonable alternative, the development and implementation of a practical and sensible alternative that achieves a balanced and wide sharing of life's amenities as originally envisioned under NEPA.

635. The environmental document has not taken into consideration the fact that motorized multiple-use designation serves all recreation activities, instead of the few served by non-motorized/wilderness designations. For example, motorized roads and trails allow access to dispersed camping sites for RVs, the collection of firewood, access for fishing and hunting, target shooting, access for bird and wildlife viewing, walking and bicycling opportunities, and family picnics. We request that the analysis and decision-making fully recognize all of these activities and the cumulative negative impact that closing roads and trails have had on all multiple-use recreationists which has become very significant. Additionally, we request, as a reasonable alternative, that an adequate mitigation plan be included as part of this action to compensate for past cumulative negative impacts.

636. Management decisions should be based on input from a management team that is representative of all citizens needs. This is especially necessary to provide a balanced perspective on the travel management team and when consulting and coordinating with other agencies. There is an inherent bias on management teams that do not include OHV enthusiasts. We request that the interdisciplinary team (IDT) include motorized recreation planners and enthusiasts in order to adequately speak for the needs of multiple-use and motorized visitors. A multiple-use and motorized recreationists advisory board could also be used to advise the IDT and decision-makers.

637. Presently, very few agency staff are OHV enthusiasts and can represent OHV recreation interests in day-to-day operations and long-term management decisions. OHV enthusiasts understand how to educate, manage, and meet the needs of OHV recreationists. Agency personnel are not able to relate to the needs and challenges of OHV recreationists because they are not familiar with OHVs nor are they typically OHV recreationists. There is an inherent bias on management teams that do not include OHV enthusiasts. We request that the staff on each project team include an adequate number of OHV enthusiasts in order to adequately represent and address the needs of OHV recreationists. The team should include an adequate number of atv, motorcycle and 4x4 enthusiasts. The test for an adequate number of OHV enthusiasts on a team should be based on the percentages of visitors. Information from NVUM, USDA, and CTVA cited earlier document that OHV recreationists represent from 25 to 60% of the visitors and the management team should also reflect these percentages.

Additionally we request that an adequate number of agency staff be licensed and safety trained to operate OHVs, have an adequate number of OHVs for their use and spend an adequate amount of time riding OHVs along with OHV recreationists so that they can adequately understand the needs associated with motorized access and motorized recreationists.

638. Many visitors who traditionally use roads and trails in the project area may not participate in a formal NEPA process. The process is both time consuming and confusing to many citizens. Multiple-use interests oftentimes struggle to provide participants due to many other time commitments. At the same time, non-motorized groups funded by foundations have well-organized, trained and experienced staffs that are readily available to participate in the NEPA process and collaborative sessions. These groups are able to participate on a wide front of actions from travel management to timber sales to non-motorized designations. The magnitude of foundation funding available to non-motorized groups tends to amplify their limited-use interests in comparison to the needs of the public. The number of groups and the magnitude of

their funding can be found at http://www.green-watch.com/search/directory.asp. For example, there are over 45 special-interest environmental groups operating in our area. This setting often results in non-motorized interests getting undue benefits by creating and manipulating the process. This setting is not based on the principles of addressing public need and technical merit. We request that the effectiveness and impact of foundation-funded organizations versus the needs of all citizens be evaluated and factored into the agencies decision-making.

639. Given the current setting (number of actions and time required to address each), most of the public not associated with foundation-funded special-interest environmental organizations does not have the time and money to adequately protect their recreation rights. This characterization typifies most motorized and multiple-use recreationists who already struggle to balance family obligations with work obligations. It is not reasonable to require major involvement in the NEPA process from the working public in order to protect their recreation rights. Conversely, it is not reasonable to reward those groups backed by foundation funding and paid positions with an advantage in the NEPA process and undue recreational opportunities. We request that the cumulative negative impact associated with this setting be adequately evaluated and factored into the decision-making for this action.

640. We have also observed from past NEPA travel management processes that the lack of participation by motorized recreationists has been due to the cumulative effect of confusing and poor documentation of the proposals, which included maps that did not have clearly defined characteristics, landmarks, trails, roads, routes and historical sites that would be removed from communal use by the proposed closure action. We are concerned that this lack of understanding will lead to resentment and poor support of motorized closures by the community. We request that the travel management process seek out and document the needs of all motorized visitors including those who traditionally use the primitive roads and trails, plus the handicapped, elderly, and physically impaired as required under 40 CFR 1506.6 *(a) Make diligent efforts to involve the public in preparing and implementing the NEPA process, (3) (vii) Publication in newsletters that may be expected to reach potentially interested persons. (ix) Posting of notice on and off site in the area where the action is to be located, and (d) Solicit appropriate information from the public.* Additionally, NFMA requires the Agency *"shall publicize and hold public meetings or comparable processes at locations that foster public participation in the review of such plans and revisions." 16 U.S.C. § 1604(d).*

641. Many multiple-use and motorized recreationists have expressed a concern about the general lack of trust in the travel management process. They feel that travel management decisions are pre-determined, that it is pointless to participate in the process, and that travel management is not intended to meet their needs. These opinions could be easily confirmed by publishing a request in local newspapers and on local television channels asking for a response to the question “Do you feel that you have been adequately involved in the closure of roads and trails on public lands to motorized use? Yes or No” and “Do you feel that the needs of multiple-use and motorized recreationists have been adequately considered in the travel management process? Yes or No”.

We request that the process adequately meet public involvement requirements with respect to motorized visitors. The process should include methods of public involvement that effectively reach motorized visitors and methods to account for the needs of citizens who may not participate for diverse reasons. Some public involvement methods that would be effective include; (1) the use of trail rangers (who are motorized enthusiasts) to count and interview visitors using the travel ways and distribute Travel Management materials to them, (2) publication in the newsletters of motorized association, (3) attendance at motorized club meetings, (4) posting of information packets at motorized trail head areas, and (5) mailings to OHV enthusiasts and owners.

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642. We are concerned with the way that comments are being used by agencies in the decision-making process. Agency management has said that the total number of comments received during the process is considered during the decision-making. There is a clear indication that decisions are being made based on those interests producing the most comments. We strongly disagree with a decision-making process using comments as a voting process where the most comments wins the most trails and recreation opportunities because motorized recreationists and working class citizens have a low participation rate in NEPA processes for reasons discussed further in this document.

The intent of National Environmental Policy Act (NEPA) when seeking comments during scoping and document comment processes is to solicit input in order to assure that significant issues were brought forward and considered. This intent is stated in NEPA Section 1501.7 as "*There shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.*" And in NEPA Section 1503.1 as "*(4) Request comments from the public, affirmatively soliciting comments from those persons or organizations who may be interested or affected.*"

Clearly, comments under NEPA were intended to bring issues and concerns to the attention of the team preparing the environmental document and the decision-makers. NEPA did not suggest that comments were to be used as a voting process to indicate support of alternatives. Nor did NEPA anticipate that the scoping and citizen input would be dominated by well-funded special interest groups. And finally, NEPA did not intend citizens to comment on every possible NEPA as a requirement to protect their interests, needs, and quality of life. It would be a huge step backward for society if we had to comment on every foot of road, water line, sewer pipe, sidewalk, and motorized trail that the public needs. Gauging public need by the number of comments is not the norm in our society and should not have been used in this process.

Unfortunately, the comment process has been considered a voting process to gauge communal opinion and agencies have not always recognized their responsibility to adequately address the needs of all citizens. This misuse of the comment process has resulted in agencies overlooking the needs of all citizens and decisions have been made that do not adequately address the needs of the public. NEPA requires decision-making that adequately addresses the needs of all members of the public. This direction was stated in Title 1, Sec. 101 of NEPA Policy Act of 1969 as "*achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities…*". Under NEPA, decision-makers have a responsibility to seek out, determine, and make decisions that address the needs of all citizens and not just those that submit comments.

Communal needs are best met by management of public lands and programs for multiple-uses. Motorized roads and trails are a significant source of recreation for all of the public. The public expects decision-makers to adequately protect the existing standards of living and opportunities (human environment) in their decisions. The public expects and needs public agencies to be on their side. NEPA did not intend for citizens who do not comment on NEPA actions to give up their standard of living to those that do. We ask that public comments not be used as a voting process and that the needs of all citizens be fairly addressed in the document and decision-making.

643. The NEPA process is complicated and unapproachable to most of the public yet there has never been a program to inform, educate, and increase the public's awareness and ability to work with the NEPA process. The lack of widespread information, education, awareness and NEPA skills has contributed to extremely low participation in the NEPA process by some sectors of the public. Public participation for even the most controversial proposed action

(roadless rule) has involved less than 1% of the affected public. Additionally, the general lack of understanding of the NEPA process has resulted in poor acceptance and opinions of the process by the public.

Moreover, those with significant NEPA knowledge, training, and skills are able to successfully manipulate the NEPA process and have benefited significantly from the process and the ability to influence its decisions.

A quantification of the level of public understanding and participation in the NEPA process has never been undertaken. Additionally, a quantification of the level of public acceptance of the NEPA process has never been undertaken. We request that the significant negative impact on the majority of the public resulting from the lack of information, education, training, understanding and acceptance of the NEPA process be evaluated and that the cumulative negative impacts which have become significant on the public be adequately mitigated.

644. We have been told that motorized recreationists must participate in the travel management process and/or collaborative sessions in order to realize future motorized recreational opportunities. While we agree that motorized recreationists have the opportunity to participate in the NEPA process, the level and effectiveness of participation should not be the deciding factor when making decisions about who gets what recreational opportunities within public lands. NEPA does not identify the quality and quantity of individual and group participation as a decision-making criterion. Agencies should not be overly influenced by the network of influence groups that foundations and environmentalists have established. The network of influence groups has a significant advantage over common citizens in areas including funding, staffing, training and advertising through radio, television, web sites, and newspapers. This setting allows environmental groups to get undue benefits by manipulating the NEPA process. This setting does not address the principles of meeting public need. NEPA and other laws do not intend for independent individuals who are less organized to give up their life's amenities to better-organized and funded groups.

The establishment of recreational opportunities on public lands should be based on public need. Other government entities are directed to address and meet the needs of the public. For example, cities provide water and sewer systems based on public need. Highways are constructed based on public need. The need for these facilities is not based on the level of citizen involvement. The need for these facilities is based on an assessment of need developed by water and sewer usage, traffic counts, etc. The public has a basic expectation that agencies will look out for all of their interests and the best interests of the public are met when agencies respond to the needs of the public in this manner. If members of the public did not comment on the upgrade of a water treatment plant or the construction of a highway does not mean that their water is shut off or that they can't drive to Bozeman. We request that the use of public participation in decision-making for this proposed action be monitored to assure that it is does not obscure the needs of all citizens who rely on the project area for their recreation and livelihoods.

645. It has been stated that motorized recreationists should participate in collaborative sessions with non-motorized groups in order to obtain motorized recreational opportunities on public lands. The agencies may think that the definition of a collaborative effort as "working together to develop a solution that reasonably meets the needs of all parties" but the dictionary definition of collaborate is "To cooperate treasonably, as with an enemy".

Additionally, British Prime Ministry Lady Margaret Thatcher describe consensus which is another closely related process as "…the process of abandoning all beliefs, principles, values and policies in search of something in which no one believes, but to which no one objects; the

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process of avoiding the very issues that have to be solved, merely because you cannot get agreement on the way ahead".

Both sides would be further down the trail towards measurable protection of the human and natural environment if multiple-use, motorized access and motorized recreation were accepted at a reasonable level and we all focused our energy on visitor education, site-specific problems and site-specific mitigation measures. Consensus and collaborative processes cannot by nature produce reasonable results and motorized recreationists should not be forced into these processes where they are guaranteed to lose.

646. In group settings, the Delphi or Collaboration Techniques can be unacceptable manipulative methods of achieving consensus on controversial topics when they are used in the following manner. Both methods use facilitators who can deliberately escalate tension among group members, pitting one faction against another to make a preordained viewpoint appear sensible, while making opposing views appear ridiculous. Both methods can be used by those in power to preserve the illusion that there is community participation in decision-making processes, while in fact lay citizens are being squeezed out. The setting or type of group is immaterial for the success of the technique. The point is that, when people are in groups that tend to share a particular knowledge base, they display certain identifiable characteristics, known as group dynamics, which allows the facilitator to apply the basic strategy. In an unacceptable process, the facilitators encourage each person in a group to express concerns about the programs, projects, or policies in question. They listen attentively, elicit input from group members, form task forces, urge participants to make lists, and in going through these motions, learn about each member of a group. They are trained to identify the leaders, weak or non-committal members, and those who are apt to change sides frequently during an argument. Then the amiable facilitators become professional agitators and devil's advocates. Using the divide and conquer principle, they manipulate one opinion against another, making those who are out of step appear ridiculous, unknowledgeable, inarticulate, or dogmatic. They attempt to anger certain participants, thereby accelerating tensions. Many facilitators are well trained in psychological manipulation and in an unacceptable process they are able to predict the reactions of each member in a group. Individuals in opposition to the desired policy or program will ultimately be shut out or so heavily discounted when the process is used in the above manner. A process with these characteristics must be considered unacceptable for public participation.

647. Collaboration is defined by Merriam-Webster as "to cooperate with or willingly assist an enemy of one's country and especially an occupying force". It is not reasonable to use a collaboration process to award non-motorized interests with more non-motorized opportunities for their participation in a "collaboration process" when they already have a significant unjustified advantage in non-motorized trail opportunities when compared to motor trail opportunities (___ miles and ___% non-motorized trails versus ___ miles and ___% motorized trails). Moreover, it is not equitable to use a process that is pre-determined to provide one group or selected group's additional advantage with the outcome of the process when that group or groups has a significant advantage at the initiation of the process. Therefore, in order to address this inequality any collaboration efforts used in the process must be directed to address creating more motorized trails and the outcome of any collaboration efforts must be an increase in motorized trails.

648. Any significant closing of motorized routes in the project area does not meet the basic requirement of the NEPA act of 1969 as stated in "Sec. 101 (b) (5) *achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities".* High standards of living and a wide sharing of life's amenities should include recognizing and meeting the need for motorized access and recreation opportunities in the

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project area. All visitors should be expected to share the project area with others and to tolerate the presence of others. We have met very few hikers on the multiple-use roads and trails that we use. We have not perceived any problems with the non-motorized visitors that we have met. We ask that the analysis and decision-making be based on sharing and tolerance and to avoid unreasonable accommodation of visitors to public lands that are not reasonably tolerant and sharing.

649. Past actions have closed many roads and trails to motorized recreation and access without addressing the merits of each one. We are concerned with the lack of site specific analysis for past road and trail closures. Justification has included reasons such as non-system roads or trails, ghost roads, user created roads etc. that are not site specific and do not provide adequate justification. The fact is that many roads and trails in use today have been created by visitors going back to the early days of history when all public lands were “open” to motorized access. Agencies cannot select which roads are useful to keep and which are not without a site-specific analysis. The cumulative negative effect of not analyzing each road and trail segment is tremendous. We request that the decision-making be based on the individual and site-specific merits of each travel way. Additionally, we request, as a reasonable alternative, that an adequate mitigation plan be included as part of this action to compensate for past cumulative negative impacts.

650. Non-system roads and trails are a significant OHV recreation resource. However, non-system roads and trails are, most often, not inventoried and considered in the travel management process. Failing to identify and consider non-system roads and trails in the travel management process will under-estimate the existing use and needs of motorized recreationists. Therefore, the impact that the resulting closure of non-system roads and trails by non-consideration will have on motorized recreationists will also be under-estimated. NEPA requires adequate disclosure of all impacts and this is not happening with respect to all existing non-system roads and trails that are in use by the public. We request that adequate consideration be given to a comprehensive inventory and analysis of all non-system roads and trails and the current recreational opportunity that they provide to motorized recreationists.

651. All public lands were largely open to motorized access prior to the 1960’s. Many existing roads and trails were created by legal logging, mining and public access during this period. Nearly all of the roads and trails in the project area have been in existence for many years with many dating back to the turn of the century. The term "unclassified road or ghost road" may give the impression that these roads evolved illegally. We request a clarification in the document that travel ways with these origins are legal travel ways as recognized by all policies and decisions including the National OHV and route designation policy, and BLM OHV policies. We are extremely concerned that the agencies are not honoring this agreement and decision. Additionally, we request that these roads and trails continue to provide recreation opportunities for motorized visitors and that mitigation measures be used, as required, to stabilize or address any environmental concerns.

652. The concept of area closure is not consistent with Agency regulations as established by appeals to the Stanislaus National Forest Travel Management Plan (http://www.fs.fed.us/r5/ecoplan/appeals/1998/fy98_stanislaus.htm). We request that the findings of that appeal including the following excerpts be included in this evaluation:

1) *Pursuant to regulations and policy, the Forest Service shall "Designate all National Forest System lands for off-road vehicle use in one of three categories: open, restricted, or closed" (FSM 2355.03-3). Restricted is defined as "Areas and trails on which motorized vehicle use is restricted by times or season of use, types of vehicles, vehicle equipment, designated*

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areas or trails, or types of activity specified in orders issued under the authority of 36 CFR 261" (FSM 2355.13-2).

2) *The Forest Supervisor decided to manage motorized use as closed unless designated (signed or mapped) as open (DN, p. 3). This affects over 2,500 miles of Level 2 roads and trails on the Stanislaus. His decision is inconsistent with Federal regulations, which require signage for closed routes, not open ones.*

3) *I found the Forest Supervisor's decision on signing inconsistent with Federal regulations, which require signage for closed routes, not open ones. The Forest Supervisor is directed to managed motor vehicle travel as restricted to designated routes unless signed or physically closed. Vehicle restrictions must be processed in accordance with 36 CFR 261.50 and posted in accordance with 36 CFR 261.51. 36 CFR 295.4 addresses additional requirements for public information regarding Use of Motor Vehicles Off Forest Development Roads. Restrictions on motor vehicle travel will be addressed through site specific NEPA analysis with consideration of any civil rights impacts*.

4) *Where RS 2477 rights are asserted, these routes may be considered for motor vehicle use*.

5) *Route maps were not included in the planning documents and the quad maps of the Opportunity Classes were difficult to read due to their scale*.

653. The signing of “closed unless posted open” is not consistent with the national OHV policy. It is also very confusing to the public. The national OHV policy logically defines what constitutes an open road or trail and the appropriate vehicle for that route. This is a more reasonable approach than “closed unless posted open”.

654. Closed unless posted open is an impractical concept because signs do not last very long for many reasons including vandalism, animals and weather knocking them down, rotting of posts, etc. It is not fair to the public and will be very confusing to have somebody pull down a sign and then it is technically illegal for the public to travel on that route. Signs will become damaged and/or destroyed and then the public does not know whether they are legally open or closed. Additionally, “closed unless posted open” will have a huge annual maintenance cost that will be difficult to fund. Also, posting signs as required to adequately define open routes under “closed unless posted open” will be extremely unsightly which should not be considered reasonable or acceptable.

655. The environmental document should be an issue driven document as required under NEPA and the Council on Environmental Quality guidelines. The driving issue is the development of a reasonable travel management alternative that addresses the needs of the public. NEPA requires that agencies “Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated” [40 CFR 1502.14(a)]. We request that the environmental document adequately addresses the social, economic, and environmental justice issues associated with multiple-use access and motorized recreation. We request that the environmental document include a travel management alternative for the project area that adequately responds to these issues and the needs for multiple-use access and recreation.

656. Visual and other impacts associated with motorized trails have been cited as significant negative impacts. Many non-motorized trails have environmental impacts similar to motorized trails. Existing wilderness and non-motorized areas include many trails that are visually and functionally similar to primitive motorized roads and motorized trails. For example, the Mount Helena trails, and the main trails into the Bob Marshall and Scapegoat Wilderness at Benchmark, Holland Lake, and Indian Meadows and the main trails into the Anaconda Pintler

Wilderness are similar visually and functionally to many primitive motorized roads and motorized trails. Additionally, trails resulting from activities including wild animals and Native Americans have always been a part of the natural environment. We request that the existence of trails be considered part of the natural landscapes, and that the visual appearance of motorized trails and non-motorized trails be recognized as equal in most cases and that the environmental impacts of motorized and non-motorized trails be addressed fairly and equally.

657. If the issue of cross-country motorized travel is significant enough to justify closures, then the issue and restrictions should also be applied to cross-country hiking and mountain climbing. Motorized recreationists relinquished cross-country travel opportunities as part of the Three-State OHV and National BLM Record of Decision. Because of this wholesale action, motorized recreationists gave up recreational opportunities such as retrieval of big game and trials bike riding in areas where cross-country travel was acceptable. Cross-country hiking and mountain climbing also create trails that provide visible evidence of human activity. Non-motorized trails and motorized trails are often equal in visual and resource impact.

658. Page 57 of Big Snowy Mountains Access and Travel Management Decision Notice. *Specifically, the following table on motorized and non-motorized roads/trails on the Lewis and Clark National Forest indicates a mix of opportunities.*

With the elimination of cross-country travel and millions of acres of area closures, motorized recreational opportunity can only be expressed as miles of roads and trails open to OHV visitors. Land area in acres cannot be used as a measure of motorized recreational opportunity. However, non-motorized recreational opportunities can be measured in acres of cross-country travel area available and miles of trails available. It is not equitable weigh motorized use on the same scale as non-motorized use. Non-motorized users are not held to the same standard as motorized use in that they are not confined to only trail access. Therefore, motorized recreational opportunities are limited to a set number of designated motorized routes while non-motorized recreational opportunities can include cross-country travel opportunities and are, therefore, unlimited. This distinction has not been adequately recognized and we request that this distinction and advantage be recognized in the analysis, formulation of motorized alternatives and decision-making.

659. With the agency's commitment in the current management plan to the application of "Limits of Acceptable Change" (LAC) for determining management strategies there is an inherent obligation on the agency's part to provide specific direction that certain measures, such as visitor education and the provision of new facilities, would be implemented before limiting use. A common thread in LAC application nation-wide is that these regulations apply to all visitors, not to specific groups. Why are motorized recreationists being disenfranchised from this directive? There has not been an adequate attempt by the agency to educate the public that areas and trails in the project area or anywhere else must be shared by all users and that new facilities are needed to address the needs of motorized recreationists. The decision for this project must correct this deficiency.

660. Motorized recreationists are very concerned that a reasonable alternative will not be adequately addressed in the environmental document and decision-making and that the process is predisposed. To prevent this from happening again, we request a Multiple-Use Review Board be established to assure that the decision-making reflects the multiple-use management goals and the needs of the public. We request, as a reasonable alternative, that a Multiple-Use Review Board look into all past travel management decisions within public lands to determine whether all decisions have adequately considered the needs of multiple-use and motorized recreationists. Where decisions have not adequately considered the needs of

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multiple-use and motorized recreationists, we request that the reasons be identified and that corrective actions be taken.

661. The text and maps in travel management documents do not effectively communicate or describe to motorized visitors the trails and roads that they are accustomed to visiting. Therefore, motorized visitors do not realize that the Agency proposes to close many of the roads and trails that have been used for decades by generations of motorized visitors.

The public has not developed a clear understanding as to what is about to happen to the roads and trails that they routinely visit because the travel management process has not effectively communicated the extent of the roads and trails proposed for closure. Instead, the public will go out to their favorite road and trail and find it closed to their use after the proposed action is enacted.

It will take different approaches to effectively communicate to the public, which roads and trails are subject to the proposed action. For example, one alternative communication method could include posting of the roads and trails proposed for closure with signs for a period of 1 year prior to the EIS process stating “Road or Trail Proposed for Closure, for more information or to express your opinion please call zzz-zzzz or send written comments to zzzzz.”

Other methods could include the use of information kiosks and trail rangers as discussed in other sections. We request a commitment by the agencies to these sorts of direct communications with motorized visitors to reach and involve them. NEPA does not preclude these types of methods and, in fact, requires the process to be user friendly.

662. Current management philosophy seems to be that the only way to address a problem is by closing access to public lands. Eliminating opportunities does not solve problems. An approach that is more reasonable to the public including motorized visitors is to maintain recreation opportunities by addressing problems through mitigation measures such as education, signing, seasonal restrictions, user fees, and structural improvements such as water bars, trail re-routing, and bridges. There may be problems with certain motorized roads and trails but we should work to solve and mitigate them and not to compound them by enacting more closures. We request the agencies to support and use mitigations and education as a means to address and mitigate problems rather than closures.

663. Most problems associated with visitors can be addressed by education. Education should be the first line of action and all education measures should be exhausted before pursuing other actions. There are situations were education is far more effective than law enforcement. The elimination of much needed recreational opportunities is not reasonable without first exhausting all possible means of education to address the problem. Educational programs could include use of mailings, handouts, improved travel management mapping, pamphlets, TV and radio spots, web pages, newspaper articles, signing, presentations, information kiosks with mapping, and trail rangers.

Restrictions or closures are not always obvious to the public. Education can also be in the form of measures such as the use of jackleg fences with signs at the end of motorized trails in sensitive areas so that public is made aware of the end of the motorized trail and the surrounding area closure. The use of public education to address problems may require effort and time but it is more reasonable than the use of closures. We request, as a reasonable alternative, the full use of education to address visitor problems. Additionally, individual motorized recreationists and groups can be called upon to assist with the implementation of the educational process.

664. An alternative to motorized closures in many cases would be to keep motorized opportunities open and use education on principles such as those found in the Tread Lightly program and Blue Ribbon Coalition Recreation Code of Ethics and Principles to address and eliminate specific issues associated with motorized recreationists. These efforts could include the use of pamphlets, information kiosks, and presentations. Education can also be used to address and eliminate issues associated with non-motorized recreationists by encouraging their use of reasonable expectations, reasonable tolerance of others, and reasonable sharing of our land resources.

    To date, educational measures have not been adequately considered, evaluated or implemented. We request, as a reasonable alternative, that educational measures be incorporated as part of this proposed action and that the cumulative negative impact on motorized recreationists of not using education in all past actions involving motorized recreational opportunities be addressed. Additionally, we request that an adequate mitigation plan be included as part of this action to compensate for past cumulative negative impacts associated with inadequate use of education measures in past actions.

665. In addition to the education initiative discussed above, we also request that the agency undertake a special management initiative that would evaluate areas where the public is not following the designated system of routes. This initiative should include evaluations before and after the respective travel plan, forest plan or resource management plan. In order to adequately understand the needs of the public, it is important for the agency to determine why the public is resisting the plan in effect. Reasons may include an attractive destination or loop that was not adequately addressed and an overall inadequate level of opportunities. This management initiative should also include a mitigation process to allow use of these routes where logical and reasonable. One example is the Globe-Sailor-Branham Lakes area in the South Fork Boulder River drainage in the Deerlodge National Forest. A long-time motorized route was closed 20 years and the public is still struggling to accept it. There are no other similar atv opportunities in the area. There are several high quality non-motorized routes in the area so there is an imbalance. It appears to be logical and reasonable to use the existing historic mining route to meet the needs of the public for a high quality motorized opportunity in this area.

666. The environmental document should be an issue driven document as required under NEPA and guidelines published by the Council on Environmental Quality. The driving travel management issue is the development of a reasonable alternative that meets the needs of the public. NEPA requires that all reasonable alternatives be evaluated. We request that the environmental document include a travel management alternative that is responsive to the public's multiple-use needs. A reasonable alternative would incorporate all existing motorized roads and trails and restrict motorized travel to those travel ways. A reasonable travel management alternative should provide a continuous system of roads and trails on which off-highway vehicles can be legally ridden. A reasonable travel management alternative is needed in order to avoid contributing to the significant impact that cumulative negative impacts have had on motorized recreationists. In order to avoid contributing to further cumulative negative impacts we request that the preferred alternative be based on incorporating all existing motorized roads and trails and restricting motorized travel to those travel ways.

667. The evaluation team is being strongly directed to seek segregation of visitors for this action. This is not a reasonable goal. Multiple-use lands are public places. Segregation in public places has not been acceptable since the Civil Rights Act of 1964. We do not seek to separate the public in other public facilities and, in fact, it is illegal. Sharing of public resources among all visitors and especially on multiple-use lands is the over-arching goal that is most reasonable expectation for visitors to those lands. Additionally, segregation of visitors is being used to

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manipulate recreation resource allocation such that motorized visitors are ending up with a less than adequate and less than representative share of access and recreational opportunities, (miles, acres, and number of quality opportunities). Moreover, the use of segregation as a goal is also a tactic that works against the majority multiple-use/motorized recreationists by dividing and conquer the different interests within that large sector.

668. A reasonable alternative instead of all motorized closures is a sharing of resources. A reasonable alternative for accomplishing this can be done by designating alternating weeks for motorized and non-motorized use. Another reasonable approach to sharing would be to share areas with non-motorized use allowed one year and then motorized use in the following year. The schedule can be communicated to the public by signs at each end of the trail segments, newspaper articles, and through local user groups. This alternative eliminates any reasonable concern about conflict of users (which we think is over-stated and over-emphasized based on reasons discussed elsewhere in this submittal).

c. Undue Influence Issues

669. National Foundations are providing significant funding to special-interest environmental groups. For example, Turner Foundation provided $14,174,845 in year 2000 to over 40 organizations that are active in our area (http://www.green-watch.com/search/gmdisplay.asp?Org=581924590).

Pew Foundation provided $37,699,400 in 2001

(http://www.green-watch.com/search/gmdisplay.asp?Org=236234669).
Weeden Foundation provided over $65,000 in 2003 and 2004 (http://www.weedenfdn.org/grantsummaries.htm) with $20,000 going to the Wildlands Center for Preventing Roads with a stated mission of *limiting motorized recreation*.
Another example, Forest Service Employees for Environmental Ethics had a total revenue of $837,550 in year 2000 with $810,853 originating as gifts from 5 foundations (http://www.fseee.org/990/).
Financially significant national foundations providing funding to environmental groups in the project area include;
Bullitt Foundation (http://www.green-watch.com/search/gmdisplay.asp?Org=916027795),
Banbury Fund (http://www.green-watch.com/search/gmdisplay.asp?Org=136062463), Edward John Noble Foundation (http://www.green-watch.com/search/gmdisplay.asp?Org=061055586),
Richard King Mellon Foundation (http://www.green-watch.com/search/gmdisplay.asp?Org=251127705),
Charles Engelhard Foundation (http://www.green-watch.com/search/gmdisplay.asp?Org=226063032),
Ford Foundation (http://www.green-watch.com/search/gmdisplay.asp?Org=131684331),
William & Flora Hewlett Foundation (http://www.green-watch.com/search/gmdisplay.asp?Org=941655673), and W.K. Kellogg (http://www.green-watch.com/search/gmdisplay.asp?Org=381359264).

Cary Hegreberg in the January 2004 edition of the Montana Contractor News described the current situation as “Montana-based environmental groups that specialize in stopping development generate millions of dollars each year selling their “services” to out-of-state donors… Montana certainly doesn’t need to produce any more environmental advocacy than our own residents pay for”. We are concerned about the magnitude and influence of foundation funding to non-motorized organizations. The level of funding provided to non-motorized organizations from national foundations is tens of thousands of times greater than that available to individuals and local organizations representing multiple-use and motorized recreationists. This level of funding provides non-motorized organizations with significant staffing, management, and legal support. Local residents are closest to the land and should have a major say in the way that the land is managed but they cannot counter the influence of the organized environmental groups.

We request the significant impact that national foundation funding to environmental groups has on motorized recreationists be adequately evaluated and considered including; (1) the impact that foundation funding has on the NEPA process, (2) the impact that foundation funding has on the decision-making, and (3) the impact that foundation funding has on the NEPA process through significant use of legal challenges to nearly every decision involving multiple-use proposals for public lands. In addition, the document and decision-makers should evaluate the

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cumulative negative impact national foundation funding has had on all past NEPA actions involving multiple-use and motorized recreation.

670. Multiple-use recreationists are receptive to reasonable actions that benefit both the human and natural environment. The intent and goals of non-motorized groups can be examined by reviewing their comments submitted on this action and other similar proposed actions, reviewing the list of legal actions that they have sponsored, and browsing websites such as: http://www.greateryellowstone.org ; http://wildmontana.org/orvspubland.htm ; http://www.wildlands.org ; http://montana.sierraclub.org ; http://www.sierraclub.org ; http://www.wildmontana.org ; http://www.wildrockies.org/ ; http://www.wildrockies.org/TECI/ ; http://www.wildlandscpr.org ; http://maps.wildrockies.org/orv/ ; http://www.wildrockiesalliance.org ; http://www.friendsofthebitterroot.org ; and http://www.montanawildlife.com (click on "activism" or "issues" or "news" or "take action" or "opinions" or search for "OHV" or "ATV", etc).

A common stated goal of non-motorized groups is the elimination of as much multiple-use on public lands as possible and the establishment of as much wilderness/non-motorized/exclusive-use area as possible (http://www.weedenfdn.org/grantsummaries.htm). While collaborative agreement on a resource management plan or travel management plan between two opposing interests is a desirable solution from an Agency's perspective, the reality of the current setting is that collaborative sessions have failed because a reasonable allocation of recreational opportunities that would meet the needs of all citizens never stays on the table. The approach to travel management taken by the agencies is to pit user groups against each other in the process. Furthermore, the lack of a reasonable multiple-use alternative combined with the significant cumulative negative effects that motorized recreationists have experienced (loss of over 50% of motorized recreational opportunities during the past 35 ± years) precludes motorized recreationists from accepting any additional unbalanced proposals coming out of collaborative sessions. The collaborative approach must produce reasonable multiple-use alternatives for all (100%) of the remaining lands intended for multiple-use.

Additionally, we must make decisions based on adequate consideration of the needs of both the human and natural environment. Recreational opportunities should be established based on the needs of the public and not the negotiating skills of participants in collaborative sessions.

The reality of the current setting is that we must share public lands with all visitors. Sharing requires coexistence among exclusive-use and multiple-use recreationists. It is not reasonable to take the position that motorized and non-motorized recreationists cannot coexist at the levels of use typical in the project area. The motive behind a non-coexisting attitude is a selfish one. Collaborative sessions and decision-makers must not yield to those unwilling to share or accept diversity. All parties must accept diversity and coexist. All parties must be responsive to and willing to meet the needs of the public. The reality of the current setting is that we must make balanced decisions that meet the needs of the public. We have been told that motorized recreationists must participate in the travel management process and/or collaborative sessions in order to realize future motorized recreational opportunities. While we agree that motorized recreationists have the opportunity to participate in the NEPA process, we disagree that the level and effectiveness of participation should be the factor deciding when making decisions about who gets what recreational opportunities within our public lands.

671. Decisions should be based on;
   a. accurate and unbiased information,
   b. fairness to all members of the public and their needs,
   c. the principles of sharing and tolerance, and

d. an equitable distribution of benefits to all interests.

672. NEPA does not require or suggest that the quality and quantity of individual and group participation be used as a decision-making criterion. Agencies should not be overly influenced by the network of influence groups that environmentalists have established. The network of influence groups has a significant advantage over common citizens in areas including funding, staffing, training and advertising through radio, television, web sites, and newspapers. Collaborative sessions or other types of negotiations often result in undue benefits for environmental groups because they have manipulated the process. The decision-making process should be solidly founded on the principles of unbiased information and public need.

673. Environmental groups have the funding and legal backing to pursue their agenda. Court rulings and negotiations favorable to environmental groups are a heavy influence on the agency decision-making including:

e. The Bitterroot timber salvage settlement (http://www.helenair.com/rednews/2002/02/08/build/headline/1A2.html) is an example of an unreasonable compromise with environmental groups. The Forest Service developed a reasonable proposal to harvest 44,000 acres (14%) out of 307,000 acres burned during the fires of 2000. The final negotiated settlement will allow just 14,770 acres (5%) to be harvested.

f. This pattern of unreasonable negotiation was repeated with the Cave Gulch fire settlement (http://www.helenair.com/articles/2003/01/23/helena_top/a01012303_03.txt). Again, the Forest Service developed a reasonable proposal to harvest 2,767 acres (10%) out of a total of 27,660 acres burned during 2000. The final negotiated settlement in January 2003 allowed just 1,191 acres (4%) to be harvested.

g. This pattern of unreasonable negotiation was repeated with the Snow Talon fire settlement (http://www.helenair.com/articles/2005/12/07/helena/a09120705_01.txt). Again, the Forest Service developed a reasonable proposal to harvest 2,763 acres (7%) out of a total of 37,700 acres burned during 2003. The final negotiated settlement in December 2005 reduced the original proposal by 85% from 27 million board feet of timber to just 4 million board feet to be harvested.

h. This pattern of unreasonable court rulings was repeated with the Lolo National Forest timber salvage sale proposals after the year 2000 fires. Again, the Forest Service developed a sound proposal to harvest about 4,600 acres or 6% out of 74,000 acres that were burned. Environmental groups challenged that proposal all the way to the Ninth Circuit court and successfully stopped the harvest proposal (http://www.missoulian.com/articles/2005/12/10/news/top/news01.prt).

Clearly, these and the many other legal actions by environmental groups with funding and resources have influenced the system and set precedent with federal agencies. Appeals and lawsuits by environmental groups greatly outnumber those of average citizens (http://www.fs.fed.us/r1/projects/appeal_index.shtml and http://www.fs.fed.us/emc/applit/index.htm). The current precedent is that legal actions and appeals are the most effective way to influence decisions on how public land is to be managed. Unfortunately, the true public need for management of public lands for multiple-uses is not adequately defended because agencies are so focused on countering the massive legal attack by environmental groups.

674. The final “negotiated” decision-making in these actions had nothing to do with science or public need. The final “negotiated” decision-making in these actions had everything to do with the amount of money and legal support that special interest environmental groups have available. These resources allow them to routinely pursue actions within the NEPA process and significantly influence the NEPA to benefit their special interests. Environmental groups are not

representative of the overall public need yet their use of legal actions allowed only their perspective to be represented in a negotiating session. This inequity creates a serious flaw in the process. For example in the Bitterroot and Cave Gulch salvage harvest actions, the "negotiated" settlement conceded too many un-harvested acres (30,000 and 1,600 acres respectively) to wilderness oriented groups, was not based on sound technical information, and was not representative of the majority of public needs. The negotiated settlement will likely happen again with the Snow-Talon Salvage Sale decision (http://www.helenair.com/articles/2005/07/17/opinions/a04071705_03.txt) and the Middle East Fork (http://www.missoulian.com/articles/2007/01/14/news/mtregional/znews08.prt). The same sort of influence and "negotiated" settlement is repeated over and over in travel planning actions and has resulted in the closure of over 50% of the existing motorized roads and trails exceeding 50% in most cases. This "negotiated" decision-making has created a significant negative cumulative negative impact on multiple-use and motorized recreationists.

We request that the use of public participation in decision-making for this proposed action be monitored to assure that it is does not obscure the needs of all citizens who rely on this area for their recreation and livelihoods. Collaborative sessions are inequitable and a travesty if they do not meet a true cross-section of public needs. The needs of the public are best met by managing public lands for multiple-uses. Multiple-use includes motorized access and motorized recreation. We request that agencies conduct collaborative sessions that produce reasonable multiple-use outcomes.

675. A sampling of the undue influence that exists:
   i. Alliance for Wild Rockies should work on projects, not lawsuits. http://missoulian.com/news/opinion/columnists/alliance-for-wild-rockies-should-work-on-projects-not-lawsuits/article_2d7b5def-8653-5283-a8ab-c9f4414c76ea.html
   j. http://mtpr.org/post/judge-halts-gallatin-national-forest-timber-sale
   k. http://mtpr.org/post/environmental-groups-suing-over-bull-trout-recovery-plan
   l. http://mtpr.org/post/environmental-group-sues-over-cabinet-yaak-grizzlies
   m. https://allianceforthewildrockies.org/awr-files-lawsuit-east-reservoir-project/
   n. https://allianceforthewildrockies.org/judge-hebgen-logging-project-needs-usfws-assessment-for-bears-lynx/
   o. https://allianceforthewildrockies.org/judge-clarifies-usfs-must-analyze-new-acres-before-logging-in-swan/
   p. http://www.bozemandailychronicle.com/news/environmental-groups-no-strangers-to-courthouse/article_f7af6bb4-58d0-11e0-bf05-001cc4c03286.html
   q. http://www.ntc.blm.gov/krc/uploads/194/2h%20-%20Native%20Ecosystems%20Council%20v%20US%20Forest%20Service%20--%20Jimtown.pdf
   r. http://caselaw.findlaw.com/us-9th-circuit/1510094.html
   s. http://caselaw.findlaw.com/us-9th-circuit/1612126.html
   t. https://allianceforthewildrockies.org/wp-content/uploads/2015/06/04-19_BR_Complaint.pdf
   u. https://www.biologicaldiversity.org/news/press_releases/2016/monarch-butterfly-01-05-2016.html
   v. http://abcnews.go.com/US/wireStory/species-environmental-group-added-endangered-list-37702951

676. A public land use planning action including resource management planning and travel management planning should be about identifying and meeting the needs of the public for use of and access to their land. Less than 1% of the visitors to public land are involved and comment during the plan process. In order to assure a fair and unbiased process it is necessary to separate the true issues and needs of the public from the influence of well-funded

special interest groups with a limited-use agenda. We request that the Agency develop and implement screening procedures to identify influence groups with annual budgets greater than $100,000. These procedures should also identify all of the different influence mechanisms in use by groups meeting these criteria. We also request that the Agency develop procedures that equalize the influence received from groups with annual budgets greater than $100,000 so that this influence does not obscure the needs and benefits of 99% of the public that are less-organized, less-funded, and have a wide diversity of multiple-use interests. The plan must reflect the benefits and needs of the public in a fair and even-handed way. The goal of this program would be to assure that the decision produces a wide sharing of resources and life's amenities. These additions to the planning process are needed to restore the basis of public benefit and need to the process and to remove the political influence that has obscured public benefit and needs from the current process.

677. Environmental groups with substantial funding and paid staff are likely to provide substantial input to the process and to challenge the process through appeals and legal actions. The magnitude of funding and the influence available to these has been documented by the Independent Record in a series of articles found at:
http://www.helenair.com/articles/2002/03/11/stories/headline/1a2.txt ,
http://www.helenair.com/articles/2002/03/10/stories/headline/7a1.txt , and
http://www.helenair.com/articles/2002/03/10/stories/headline/1a1.txt and the Sacramento Bee at
http://www.sacbee.com/static/archive/news/projects/environment/index02.html , at Activist Cash http://www.activistcash.com/index.cfm and at Green-Watch http://capresearch.brinkster.net/search/search.asp .

The greening of the environmental movement

1999 figures, in millions of dollars, for 20 environmental groups with largest contributions

	Group	Public contributions	Total revenue*	Spending	Top executive salary
1	The Nature Conservancy	$403.4	$704.0	$359.4	$210,151
2	Trust for Public Land	$94.9	$105.7	$51.4	$157,868
3	Conservation International	$76.7	$83.5	$26.2	$203,049
4	World Wildlife Fund	$68.4	$111.3	$89.7	$241,638
5	Ducks Unlimited	$63.4	$108.6	$109.1	$346,882
6	Natural Resources Defense Council	$32.6	$36.1	$30.6	$238,964
7	Conservation Fund	$32.5	$41.9	$27.7	$211,048
8	National Wildlife Federation	$31.2	$88.1	85.9	$247,081
9	National Audubon Society	$30.7	$64.7	$53.6	$239,670
10	Environmental Defense	$28.4	$32.0	$26.3	$262,798
11	Sierra Club	$19.1	$56.5	$54.3	$199,577
12	Rocky Mountain Elk Foundation	$17.5	$36.3	$34.9	$186,369
13	The Wilderness Society	$17.4	$18.8	$14.3	$204,591
14	Sierra Club Foundation**	$16.4	$17.8	$12.8	$100,000
15	National Parks Conservation Association	$14.6	$18.3	$16.6	$172,879
16	Earthjustice Legal Defense Fund	$12.2	$16.1	$13.3	$157,583
17	Defenders of Wildife	$10.3	$14.9	$13.3	$201,337
18	Greenpeace Inc.	$9.9	$14.0	$11.1	$54,033
19	Save The Redwoods League	$9.8	$11.4	$8.9	$165,110
20	Center for Marine Conservation	$8.6	$9.9	$8.7	$135,806

*Includes public contributions and government grants, etc. **The Sierra Club Foundation is the tax-deductible fund-raising arm of the Sierra Club.
Source: Bee research

Sacramento Bee/Scott Flodin

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This influence on the agency's decisions must be balanced by the needs and opinions of the public for multiple-use opportunities. Investigation of this balance will determine that the groups listed above are out of line with the majority of the public's needs and interests.

678. A major loophole in the NEPA compliance arena exists. NEPA compliance is not being applied to the actions of foundations that contribute heavily to environmental groups and the actions (campaigns) that those well-funded environmental groups use that funding on. Actions follow funding whether it is for a new highway or an environmental crusade. Certainly these actions such as the environmental crusade against snowmobile use in Yellowstone National Park have affected the quality of the human environment including motorized recreation and interstate commerce opportunities. NEPA was intended to protect the quality of the human environment. Significant funding whether it is used to build highways or finance the campaigns of environmental groups is the source of all actions. NEPA should be applied to the large grant activities (actions) of Foundations and the high dollar action campaigns of environmental groups just as it is for new highway projects.

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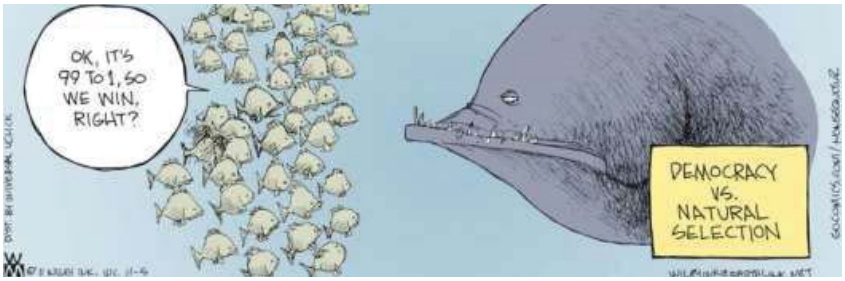
679. Agency decision-making is being driven by accepting actions that will not be challenged in court versus decisions that are in the best interests of the public or that would meet the public's needs. For example, the January 21, 2004 Missoulian newspaper quoted Lolo Forest Supervisor Debbie Austin "Then, too, it's probably not worth taxpayer dollars to propose a big-acreage, big-ticket salvage sale that's likely to be challenged in court, she said." The ethics of making decisions that are in the best interest of the public and that meet the needs of the public must be restored regardless of the dollar cost. Failure to base our government on these principles will be devastating in the end and we must restore decision-making based on these principles.



680. As it exists today, environmental groups are big money, big business influence machines just as much or more than the Copper Kings of Butte; Marcus Daly, William A. Clark, and F. Augustus Heinze. The agency must remember that environmental groups only represent 3% of the forest visitors and 100% of the lawsuits challenging agency decisions. Don't give in to this undue influence and abandon multiple-use which best represents the needs of the public and is required by multiple-use laws.

681. The agency has developed an unreasonable expectation for significant public involvement in exchange for recreation opportunity. At the same time the agency has intentionally created a bewildering involvement process that the majority of the public is not comfortable participating in. The silent majority exists and has significant recreational needs. The agency is not adequately recognizing their needs. The needs of **all** of the public, not just well funded environmental and non-motorized groups, must be adequately recognized by the agency team in the development of the Purpose and Need, Alternatives, evaluations and decisions.

682. Across America, while urban areas enjoy an economic boom, rural communities are suffering unprecedented social and economic losses. Their suffering is directly linked to a bewildering array of government actions allegedly protecting the environment. The federal government is being unduly influenced to perform these actions by an equally bewildering array of agenda-driven employees, environmental organizations, and funders in private foundations. All segments of natural resource goods production – water development, farming, ranching, mining, petroleum, timber, fishing, transportation, and manufacturing projects – are being systematically attacked, thwarted, and eradicated. Natural resource production and related jobs are being forced offshore. Town and county tax revenues fall with natural resource goods production losses, aggravating an urban-rural prosperity gap. Read more about this significant issue at http://www.cdfe.org/uploads/File/Battered%20Communities.pdf

683. With Sacramento County reeling from a federal court jury's landmark $107 million judgment against it, plaintiffs' lawyers said Wednesday the "undue influence" case should serve as a warning shot for any governmental entity that plays political favorites. Read more about this landmark case at http://www.sacbee.com/news/local/article140239443.html

684. Environmental and left-wing foundations have poured millions into "sportsmen," "hunting," and "angling" groups, using them as cover to push their pet causes. These groups have agendas that are contrary to the greater needs of the public for motorized access and motorized recreation. Unfortunately, their undue influence is affecting land management decisions. See the evidence, and learn about the fringe agendas of these organizations.at:
   a. https://www.greendecoys.com/
   b. https://www.greendecoys.com/wp-content/uploads/2015/05/GreenDecoys_Update_April2015.compressed.pdf
   c. https://www.greendecoys.com/montana/

d. Executive Orders Justice Issues

685. Judge Molloy May 21, 2001 Order bottom of page 13. *In 1996, District Ranger Larry Timchak of the Judith Ranger District noted "While motorized users typically have a high tolerance for non-motorized recreationists, the reverse is typically not the case."* We are concerned about the protection of our western culture. This culture is characterized by access to the land for multiple-uses, friendliness, good neighborliness, tolerance and sharing. Motorized access to the land provides opportunities for sightseeing, exploring, weekend drives and picnics, hiking, rock climbing, skiing, mountain biking, riding horses, camping, hunting, target shooting, fishing, viewing wildlife, OHV recreation, snowmobiling, accessing patented mining claims, gathering of firewood, rocks, natural foods, etc. and physically challenged visitors who must use wheeled vehicles to visit public lands. Both our observations and the Social Assessment for Beaverhead-Deerlodge National Forest found that these multiple-use visitors represent over 97% of the total visitors and that these visitors rely on motorized access. We are fortunate to have extensive public lands to support the western culture. While mechanized and multiple-use recreationists are tolerant of others as noted by the District Ranger, this does not mean that non-motorized interests should be allowed to dominate resource allocation decisions. We request, as a reasonable alternative, that multiple-use management principles be used to protect western culture and values including access to the land for multiple-uses, friendliness, good neighborliness, tolerance and sharing.

686. Our public lands are a tremendous national resource both in total area and features. Public lands should be available for conflict-free use and enjoyment by everyone. Unfortunately public lands have been turned into a conflict zone by non-motorized fanatics. What is right about this situation? It is a great disservice to the public. We request, as a reasonable alternative, a management initiative be introduced that will return public lands for the use and enjoyment of everyone for once and for ever.

687. In reality, the most significant conflict of users/user conflict/conflict of uses is not out in the woods. The most significant conflict has been created by non-motorized groups and imposed on motorized recreationists in the courtroom, in the legal filings, and by the organized campaigns and continual visits to the agencies by paid staff where non-motorized groups continually work to influence the agency and the public against motorized recreationists. This conflict of users/user conflict/conflict of uses must be recognized and addressed by this action.

688. Executive Order 11644 was passed on February 8, 1972 and Executive Order 11989 was passed on May 24, 1977. These Executive Orders have been used to enact thousands and thousands of motorized access and recreation closures since the 1970's. The cumulative negative effect of Executive Orders 11644 and 11989 has been a dramatic loss of recreation and access opportunities for motorized recreationists and a dramatic increase in recreation opportunities for non-motorized recreationists.

Executive Orders 11644 and 11989 allow agencies to “minimize conflicts among the various uses”. The Executive Orders did not state “minimize conflict with other users”. However, the implementation of Executive Orders 11644 and 11989 has been largely based on the incorrect interpretation to “minimize conflict with other users”. The bottom line is that "use" conflict is rather different from "user" conflict. There are certainly "uses" that are incompatible from an objective standpoint. For example, a ski run and a mine cannot operate in the same place at the same time...it is physically impossible and therefore a clear "use conflict." However, in the case of a mine located next to a ski hill, both can operate without a use conflict.

689. Whether there is a "user conflict" or not depends primarily on user attitudes. Just because someone says it is a conflict does not mean that it is a “reasonable” or “significant” conflict. We request, as a reasonable alternative, that a reasonable definition for “significant” conflict be developed and used as part of this action.

690. The use of Executive Orders 11644 and 11989 to “minimize conflict with other uses” should be evaluated from the perspective of “fair-mindedness of expectations”. To provide non-motorized experiences we have designated and set-aside wilderness/non-motorized use areas. Just as motorized recreationists do not expect to be able to use motorized vehicles in wilderness/non-motorized use areas, non-motorized enthusiasts should not expect to go to multiple-use areas and experience wilderness conditions. If some non-motorized recreationists cannot accept motorized recreationists in multiple-use areas, then they need to become familiar with travel plan maps and restrict themselves to the many wilderness/non-motorized areas that are available to them.

691. Congress has recognized the need to share our lands for multiple-uses and has directed federal land agencies to manage for multiple-uses under laws including the Federal Land Policy and Management Act of 1976, Multiple Use Sustained Yield Act of 1960 and Public Law 88-657. Executive Orders 11644 and 11989 tend to conflict with these multiple-use directives.

These two executive orders interfere with the management of public lands for multiple-uses and promote non-sharing and intolerant attitudes. We request that the analysis, preferred

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alternative and decision-making not let Executive Orders 11644 and 11989 interfere with an equitable management of public land for multiple-uses.

692. Executive Orders 11644 and 11989 promote intolerance and non-sharing in a manner that allows one group of recreationists to eliminate another group of recreationists from public lands. The Sierra Club ORV Manual (http://www.sierraclub.org/wildlands/ORV/ORV_report.pdf) states, "*Remember, one adverse impact is "user conflict". We are advising a wonderful legal tactic. Next time you are on a hike and a dirt bike roars by, get 40 friends to all call or write to the Forest Supervisor and say, We demand immediate closure of the trail to dirt bikes....".* Other organizations such as Wild Wilderness provide Incident Reporting Forms (http://www.wildwilderness.org/wi/report.htm) to report conflicts with visitors using vehicles and encourage the use of these forms. The National Wildlife Foundation in their June and July 2004 issues of Ranger Rick Magazine presented a strongly anti-OHV cartoon to its readers. As demonstrated by these examples, some non-motorized interests are in the conflict business because they stand to gain by creating conflicts. Actions by some non-motorized special-interests have gotten to the extreme where they should be considered harassment. All visitors to public lands must respect each other and accommodate each other with reasonable expectations and reasonable actions. We have always been respectful of other visitors and have never observed a conflict between non-motorized and motorized visitors during our visits to public lands spanning 40 years.

All users of multiple-use lands must be willing to share and tolerate with all others. Motorized visitors are willing to share and tolerate other visitors. A small minority of non-motorized visitors should not be able to inflict such a large impact on the majority of visitors. We request that the significant negative and inequitable impacts that Executive Orders 11644 and 11989 have imposed on motorized recreationists be adequately evaluated, and factored into the preferred alternative. We request that the decision-making provide for actions necessary to provide responsible use of these two Executive Orders.

693. User conflict is vastly overstated by non-motorized recreationists for self-serving reasons. This overstatement is confirmed by data collected by the Wildlands Center for Preventing Roads (http://www.wildlandscpr.org/bibliographic-database-search). This organization has assembled all of the conflict of users data available from the Forest Service. Records from 134 national forests indicate a total of 1,699 noise violations, 145 smoke violations, and 1,272 safety violations for a total of 3,116 violations during the period from 1987 to 1998. The average violations per year would equal 283 or about 2 violations per forest per year. Most likely, many of these violations were not related to OHV recreationists. Motorized recreationists are

committed to reducing the number of violations and using education to increase public awareness of visitor and land use ethics. However, considering the tens of millions of visitors to our national forests during this 11-year period, the 3,116 violations are statistically insignificant and do not support the argument that user conflict is a significant problem. Lastly, the total number of violations reported in Northern Region forests was zero. Therefore, the conflict myth is being perpetuated by and for the benefit of non-motorized recreationists and must be recognized as such.

694. A recent ruling by United States Court Of Appeals for the Ninth Circuit has provided clear guidance on the use of "user conflicts" and the forest plan to close motorized opportunities. In an opinion found in No. 14-35505 D.C. No. 6:13-cv-00523-TC (http://cdn.ca9.uscourts.gov/datastore/opinions/2017/09/08/14-35505.pdf) the court ruled:

a. In regards to closing an area where the conflict is occurring to motorized use. *"But nothing in this provision mandates closure of any area to motorized use. It merely outlines steps that "will generally be taken" in the event of user conflicts."*

b. In regards to following the guidance in a forest plan the court ruled – "*The Forest Plan outlines "an aspiration, not an obligation" and therefore "there is no law for us to apply in second-guessing the agency." Big Thorne Project, 857 F.3d at 974. The record also does not support Wild Wilderness's claim that the Forest Service has interpreted the Forest Plan to mandate closing areas to motorized use when user conflicts persist*."

695. Over the past 8 years we have met 168 hikers in the multiple-use public lands areas that we visit. There have been no conflicts during these meetings. In fact, most often we have stopped and visited with these hikers and exchanged information. At the same time over the past years we have observed over 10,000 motorized recreationists. We have coexisted for years without any measurable conflict. Why is coexistence suddenly considered such a problem by some people? We are concerned that this position has been taken for self-serving reasons. There is no evidence of any real conflict. Motorized recreationists could complain about the presence of non-motorized recreationists but we have chosen not to complain and we have adopted an attitude of sharing. Motorized recreationists should be given credit for being reasonable and willing to share.

696. In our locale, we see so few non-motorized recreationists on multiple-use trails that we cannot understand how a conflict of uses could be substantiated. Additionally, it is not reasonable for non-motorized users to claim a conflict of uses based on their observation of motorized wheel prints on a road or trail (do they feel the same way about mountain bikes?). It is not reasonable to provide one group of recreationists with the opportunity to claim a "conflict of uses" and use that as a basis to deny other recreationists equal access to public lands. This form of conflict creation and then resolution by elimination of motorized recreational opportunities is not equitable.

697. The reasonable and equitable way to deal with differences is to accept each others difference. How else can diversity survive? All of us have a responsibility to accept and promote diversity of recreation on public lands. An unwillingness to accept diversity is a fundamental failing of those who seek to eliminate things that don't fit their perspective. Diversity of recreation opportunities can only be accomplished through management for multiple-use and attitudes that promote tolerance, sharing and coexistence. Behaviors that are non-sharing or intolerant of other recreationists on public lands should not be rewarded yet it is. The continual loss of motorized access and recreational opportunities and the negative attitudes toward multiple-use recreationists is seriously degrading our culture and quality of life. We request, as a reasonable alternative, that elimination and restrictions of recreation opportunities not be imposed on motorized visitors because other visitors are not able to share and be tolerant. We request, as

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a reasonable alternative, that revisions to Executive Orders 11644 and 11989 be made in order to return equitable guidance to federal land-use managers.

698. During the 1970's, when Executive Orders 11644 and 11989 were created, snowmobile and motorcycles were much louder than today's machines. Concern with sound levels lead to the creation of Executive Orders 11644 and 11989. Today's technology provides machines that are significantly quieter than in the 1970's. Furthermore, the technology now exists to make vehicles even quieter. Therefore, concern with sound levels can be mitigated by establishing a reasonable decibel limit for exhaust systems. States such as California, Oregon, and Montana have enacted sound emission limits. We encourage all jurisdictions to adopt the stationary sound test procedures as set forth in the Society of Automotive Engineers J-1287 June 1980 standard. Public land-use agencies could establish reasonable sound limits and use this approach to address the sound level issue. This alternative would be more equitable than closures. We request that this reasonable alternative to motorized closures be pursued and incorporated into the preferred alternative and decision-making.

699. It is not reasonable to enact motorized closures based on the issue of sound when viable alternatives could be pursued. The Sierra Club's in their ORV Handbook makes the following statement "*The fact is that most ORV noise is unnecessary; even motorcycles can be muffled to relatively unobjectionable noise level"*. We request, as a reasonable alternative, that agencies initiate an education campaign (loud is not cool) to promote the development and use of quiet machines. OHV brochures such as those published by the Wallowa-Whitman National Forest include public awareness information on the importance of sound control.

16. Must Not Overstate the Impact of Motorized Access and Motorized Recreation on Fish and Wildlife

700. Wildlife is being given priority over human use and needs based on qualitative decision-making by those involved internally to the process. For example, the following notes are from a presentation made by Forest Biologists at the Tenmile South Helena Forest Restoration Collaborative Committee Meeting on March 11, 2015. *What was the process to rank impacted species? The FS looked at potential changes in habitat based on projects proposed, species in abundance, and which species look like they may be affected. They didn't use clear quantitative measures, but more of an analysis based on what we expect to see in the near future.*
http://www.helenamt.gov/fileadmin/user_upload/TMCWP/Documents/March_11_2015_notesFinal.pdf
http://www.helenamt.gov/fileadmin/user_upload/TMCWP/Documents/wildlife_document.pdf

a. This form of process is unreasonable because it allows anti-motorized biases to steer the process versus fairly assessing the needs of the public and providing for them in an adequate manner.
b. Because of the significant cumulative impacts to the quality of human recreation opportunities on public lands that involve motorized access and motorized recreation, our position is that human recreation must be given priority over wildlife and especially when wildlife impacts are presented on a "qualitative" basis.

701. The road density analysis must be based on roads in use and located only within the project area boundaries in order to be fair and reasonable. Additionally motorized trails have less impact than roads and to be fair and reasonable, the road density analysis must not consider motorized trails to be equal in impact to roads.

702. The agencies created the wolf predation on wildlife problem by their support for the re-introduction of wolves. Motorized recreationists should not be tagged as creating that problem or having anywhere near as significant an impact on wildlife as wolves or be used as mitigation for wolf problems.

703. New research in Wyoming finds that mountain lions go out of their way to avoid wolves. The research conducted by the Teton Cougar Project finds that the cats In Jackson Hole spend a disproportionate amount of time in parts of their territory that are far from wolves and tend to distance themselves from wolves. The study was published in the Journal of Zoology in late May. http://trib.com/news/state-and-regional/wyoming-study-finds-cougars-avoid-wolf-territory/article_931a0a09-4d4a-59da-9c05-b8b9ab595e6c.html It is also quite likely that wolves affect other species such as grizzly bears and lynx in a similar way.

704. NEPA requires site specific analysis before any motorized opportunity can be closed. There is no proof that wildlife is impacted. A five year study must be done in the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative EISning area to clearly demonstrate significant impact using a sense of magnitude as defined in our objection. We would like to be partners in the study and co-sponsor a grant to fund it.

705. We support reasonable protections for wildlife when real negative impacts to wildlife are clearly demonstrated and when actions such as seasonal motorized closures for elk calving are

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shown to have a reasonable magnitude of positive benefit. There has not been any documentation that clearly demonstrates the impact of OHV recreation on bears, elk and deer. We have not heard of any wildlife being killed, maimed, or otherwise harmed by an ATV or motorcycle. The agencies have been closing roads and trails for years in the name of elk habitat and it is still elk habitat. This is clearly demonstrated in the Swan Valley study referenced below. Additionally, agencies clearly disturb wildlife more than OHV recreationists with their annual capturing, tagging, and collaring for study programs described in the following news release http://archive.greatfallstribune.com/article/20140522/LIFESTYLE05/305220008/Biologists-begin-seasonal-grizzly-bear-capturing-research-management-Montana .

706. The actual zone of influence of motorized trails on wildlife is very small as demonstrated in a later comment.

707. A Grizzly Bear study in the Swan Valley of Montana found that 99 percent of the bears spent 99 percent of their time on Plum Creek property as shown in the following aerial photograph. This property has been heavily logged resulting in undergrowth plant species that support bears. Thick and overgrown timber does not allow for adequate undergrowth. As we now see by this study, critical bear habitat is quite different than what was once assumed and this new information must be incorporated into this evaluation. The Agency should discard the original "road density guidelines" and develop new guidelines that reflect the habitat most critical for bears as one that is timber harvested and roaded. Old outdated science formulated by assumptions should not be used when true science and actual data is now available.

Figure 1. Grizzly bear movements based upon GPS collar telemetry studies conducted by Waller (2005) in the Swan Valley of northwest Montana (from a July 19, 2005 presentation by USFWS Grizzly Bear Recovery Coordinator Chris Servheen in Kalispell, MT).

708. A December 31, 2003 Federal Court ruling found that associated with actions taken under the endangered species action must be paid to the public. The case stemmed from the government's efforts to protect endangered winter-run chinook salmon and threatened delta

smelt between 1992 and 1994 by withholding billions of gallons from farmers in California's Kern and Tulare counties. Court of Federal Claims Senior Judge John Wiese ruled that the government's halting of water constituted a ``taking'' or intrusion on the farmers' private property rights. The Fifth Amendment to the Constitution prohibits the government from taking private property without fair payment. ``What the court found is that the government is certainly free to protect the fish under the Endangered Species Act, but it must pay for the water that it takes to do so,'' said Roger J. Marzulla, the attorney representing the water districts that brought the claim. This same standard should also be applied to the economic and motorized recreational losses that the public has suffered under the ESA including motorized closures justified by wildlife habitat. (http://www.uswaternews.com/archives/arcrights/4caliwate2.html)

709. "Present day populations of white-tailed deer and elk are at their highest levels recorded in recent history" (Montana Wolf Conservation and Management Planning Document, Montana Fish, Wildlife and Parks, January 2000 (http://www.fwp.state.mt.us/wildthings/wolf/wolfmanagement011602.pdf). Additionally, "nearly 60 percent of Montana's original elk management units exceed elk-population objectives, while only 31 percent exceed harvest objectives" (www.fwp.state.mt.us/hunting/elkplan.html).

710. The number of hunters is declining (U.S. Fish and Wildlife Service, 1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. http://library.fws.gov/nat_survey 1996.pdf and http://www.cbsnews.com/stories/2007/09/03/national/printable3228893.shtml). Therefore, there are no compelling reasons "to elevate the level of elk security in the project area and…enhance elk populations" as frequently suggested by wildlife biologists (example; Fish, Wildlife and Parks letter dated February 27, 2002 to Helena National Forest on the Clancy-Unionville Travel Planning Project, bottom of page 9). Additionally, there are no compelling reasons to justify reduced road densities as a sought-after or necessary wildlife management criterion. Lastly, there are reasonable alternatives including permit hunting and seasonal travel restrictions that can better accomplish the outcome sought by reduced road and trail densities. NEPA requires consideration and implementation of all reasonable alternatives. Not considering and implementing reasonable alternatives demonstrates a predisposition in the process.

711. The habitat analysis does not adequately consider all of the surrounding private lands that are closed to the public and provide significant contribution to habitat functions and "hiding places".

712. Wildlife does well in places without trees. For example, elk were originally a plains animal and survived just fine without trees. Effective elk hiding is provided by mountains, hills, ravines, ridges, rocks, brush. These land factors must be incorporated into the elk hiding cover equation. Recent analysis by the Helena National Forest for the Elkhorn Wildlife Management Area has demonstrated that a reasonable consideration of the topography in the area would meet the requirements for elk security. This reasonable and realistic approach to elk cover and wildlife security requirements was not applied to the analysis for this project area.

713. Additionally, wolves have radically changed elk behavior and use of tree canopy. Elk now avoid tree cover because the cover allows wolves to prey upon them easier. Elk now prefer open areas where they can "keep an eye" on the wolves and defend themselves. Therefore, tree cover is not a significant benefit to elk at this time and this changed condition must be recognized.

714. Research and documents including the following clearly demonstrate that OHV recreation has no more impact on wildlife than other forms of recreation and is in fact less in many cases (references available upon request):

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a. Chapter 6, Ungulates, Effects Of Recreation On Rocky Mountain Wildlife, A Review For Montana, 1999.
b. A Partial Literature Review Of The Effects Of Various Human Activities On Wildlife, Compiled By Nora Hamilton, Bureau Of Land Management, National Technical Assistant For Trails, September, 1997.
c. Ward, Lorin A., Jerry J. Cupal, "Telemetered Heart Rate of Three Elk as Affected by Activity and Human Disturbance", Planning for Trailbike Recreation, US Department of the Interior Heritage, Conservation and Recreation Service, 1976.

715. The impact of OHV recreation on wildlife has been overstated by the agency and wildlife biologists. First, wildlife populations are at all time high (http://www.mtstandard.com/articles/2005/11/30/outdoors/hjjeiigjjcefjb.txt, http://fwp.mt.gov/FwpPaperApps/hunting/ElkPlanFinal.pdf) at the same time when OHV use is increasing. If there is any impact to be identified, it appears that it should be that the positive impact associated with increasing OHV use and increasing wildlife populations. Secondly, OHV use does not kill wildlife. Wildlife coexists just fine with OHVs. This was recently confirmed again by a study in Yellowstone Park which found that "Most elk, bison and trumpeter swans barely reacted last winter to the presence of snowcoaches and snowmobiles in Yellowstone National Park, according to a study released Tuesday. Scientists watched more than 2,100 interactions between over-snow vehicles and wildlife last year to try to determine how they responded. Of those, 81 percent of the animals had no apparent response or they looked and then resumed what they were doing, the study said" (http://www.helenair.com/articles/2005/12/14/montana/a10121405_04.prt and http://www.nps.gov/yell/parkmgmt/upload/winterrec05.pdf).

716. The disturbance of wildlife by OHV issue including wildlife corridors is being exaggerated to further the conversion of multiple-use lands to non-motorized lands. The agency is encouraged to avoid road and trail closures based on wildlife concerns except where negative wildlife impact can be specifically identified and documented. Motorized use on existing trails has little or no verified effect on game animal welfare. In fact, areas that have been more intensely visited by motorized visitors have experienced significant increases in wildlife populations; further substantiating the fact that motorized recreation does not create a significant impact on wildlife.

717. Wildlife managers need to change their attitudes about summer motorized recreation and elk populations and admit that the two are compatible. Managers are seeing the need for a shift in thinking (http://www.helenair.com/articles/2009/04/26/state/top/55st_090426_elk.txt). Elk populations are healthy. The wants and needs more motorized access and recreation. There is no plausible reason that multiple-use land cannot be managed for a better balance of motorized access and recreation.

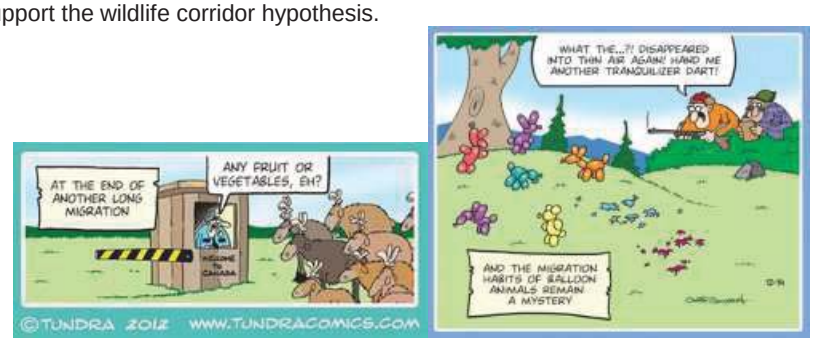
718. Hikers and wolves impact wildlife more than OHV use yet hikers and wolves are unrestricted.

719. Some interests are pushing the wildlife corridor concept as a reason to close areas to motorized use. We have not seen adequate documentation or reasoning to justify this position and suspect that it is being used inappropriately as a reason to justify defacto wilderness by non-motorized interests. Significant issues must be answered before this concept can be given any credibility. Issues include:

a. Why would wildlife follow physically challenging basin divides where food and water is scarce versus other corridors? They don't. This is easily verified by open areas such as McDonald Pass or the jagged areas of the continental divide where we have never

observed any significant number of wildlife crossings versus great numbers of wildlife crossings that we have observed in other areas that are more favored by wildlife.

b. There is no data or credible documentation that the continental divide or other basin divides are favored for wildlife migration. Especially theories that purport that wildlife will migrate from Mexico to Canada. This is counter to the types of habitat that different species require in order to survive. There is a significant lack of credible evidence to support the wildlife corridor hypothesis.



c. The lack of authorization or mandate from congress for this sort of designation and use of public land.

d. The socio-economic issues associated with the attempt to use the wildlife corridor concept to convert multiple-use lands to defacto wilderness.

720. A study of sound levels from OHV use was found to be less than the background noise of the wind in treetops (Nora Hamilton, Mendocino National Forest, memorandum to the file, November 17, 1992). Also, the USDA FS Technology and Development Program in a report prepared in 1993 and titled "Sound Levels of Five Motorcycles Traveling Over Forest Trails" found that at distances over 400 feet, motorcycles do not raise the ambient sound level (they are no louder than background levels of noise). Absolute quiet is not a reasonable expectation. Sound from motorized sources such as airplanes exists even in the most remote areas. It is not reasonable to expect absolute quiet in areas intended for multiple-use. The sound level of motorized recreation use is not greater than natural sounds, and therefore, sound level should not be used as a reason to justify motorized recreation and access closures.

721. A study of National Park elk habituated to human activity and not hunted were more sensitive to persons afoot than vehicles (Shultz, R.D. and James A. Bailey “Responses of National Park Elk to Human Activity”, Journal of Wildlife Management, v42, 1975). Therefore, hikers disturb elk more than motor vehicles and “disturbance of wildlife” should not be used as a reason to justify motorized recreation and access closures. Additionally, when there are concerns with wildlife disturbance, restrictions on hikers should be given a greater emphasis than restrictions on motorized visitors.

722. Hikers disturb nesting birds (Swarthout, Elliott and Steidl, Robert, Journal of the Society of Conservation Biology, February 2003) yet restrictions on hiking and other non-motorized recreationists to reduce impacts on nesting birds are rarely imposed.

723. Hiking, cross-country hiking and wilderness uses also causes trail impacts yet these impacts are seldom acknowledged. For example, the USDA FS Intermountain Research Station Research Paper INT-450 "Changes on Trails in the Selway-Bitterroot Wilderness, Montana, 1978-89" and dated 1991 found that many trail segments changed markedly, depending on site and use.

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724. Additionally the report "Keeping Visitors on the Right Track - Sign and Barrier Research at Mount Rainer", Park Science 14(4) published in 1994 found that off-trail hiking is a major source of impact that creates trails and erosion throughout the several thousand acres of sub-alpine meadows.

725. Additionally the report "Erosional Impact of Hikers, Horses, Motorcycles, and Off-Road Bicycles on Mountain Trails in Montana", Mountain Research and Development, Volume 14, No, 1, and published in 1994 found that multiple comparison test results showed that horses and hikers made more sediment available than wheels, and this effect was most pronounced on pre-wetted trails.

726. There are many double-standards in the impact analyses and decision-making. If the issues surrounding motorized travel are significant enough to justify closures, then, in order to avoid introducing a bias to the evaluation and process the same issues and restrictions should also be applied to hiking, mountain climbing, cross-country hiking, wilderness users, etc.

727. A study of the heart rate of elk found that humans walking between 20 to 300 meters from the elk caused them to flee immediately 41% of the time while an OHV passing within 15 to 400 meters of the elk caused them to flee 8% of the time (Ward, A. L. and J. J. Cupal. 1976. Telemetered heart rate of three elk as affected by activity and human disturbance. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station. Laramie, WY. 9 pp.). Therefore, hikers disturb elk more than motor vehicles and “disturbance of wildlife” should not be used as a reason to justify motorized recreation and access closures. Additionally, when there are concerns with wildlife disturbance, restrictions on hikers should be given a greater emphasis than restrictions on motorized visitors.

728. At the August 4th, 2015 meeting of the Custer Gallatin Working Group (CGWG) meeting in West Yellowstone a presentation from Julie Cunningham, a wildlife biologist with FWP Region 3, was provided. Ms. Cunningham made the following statement at the meeting “Non-motorized recreation can be more disturbing than motorized and non-motorized wildlife disturbance is often under estimated or under recognized.” Why is motorized recreation being targeted by some biologists within the FWP when facts show non-motorized recreation has as much or more wildlife disturbance than motorized?

729. A study of mule deer found that 80% fled in reaction to encounters with persons afoot while only 24% fled due to encounters with snowmobiles (David J. Freddy, Whitcomb M. Bronaugh, Martin C. Fowler, “Responses of Mule Deer to Persons Afoot and Snowmobiles”, Wildlife Society Bulletin, 1986). Therefore, hikers disturb deer more than motor vehicles and “disturbance of wildlife” should not be used as a reason to justify motorized recreation and access closures. Additionally, when there are concerns with wildlife disturbance, restrictions on hikers should be given a greater emphasis than restrictions on motorized visitors.

730. A lynx study completed in the Seeley Lake area found no adverse impact to Lynx from winter snowmobile use. The results of this study and the data that was collected must be used in evaluating areas open or closed to snowmobiles. The closure of any area because of winter motorized impact to lynx is not valid and, therefore, must not be used to initiate closures.

731. The wildlife sections of the travel plan document tends to promote two underlying themes; (1) wildlife and forest visitors cannot coexist, and (2) there are significant negative impacts to wildlife from visitors to the forest. Observations of wildlife in Yellowstone and Glacier National Parks and the 600 deer that live within the Helena city limits combined with common sense tell us that wildlife can flourish with millions of visitors and motorized vehicles. Wildlife can and do effectively coexist with motorized visitors in even the most heavily visited places. Therefore,

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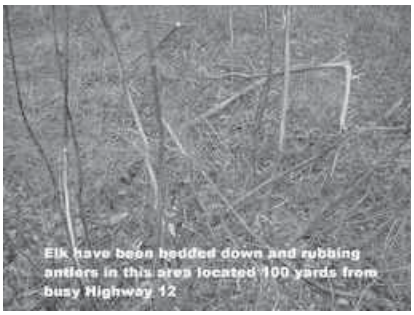
concerns with motorized forest visitors and wildlife are over-stated and over-emphasized which unfortunately demonstrates a predisposition in the process.

732. The wildlife/visitor interaction in national parks demonstrates that the manner in which visitors coexist with wildlife is the most significant factor in the interaction between wildlife and visitors. The manner in which visitors coexist with wildlife in national forest can be shaped by adequate use of mitigation measures including seasonal closures, educational programs and trail rangers. Therefore, reasonable alternatives to the closure of motorized roads and trails exist and can be used to address wildlife concerns. We request that these sorts of reasonable alternatives to closure of roads and trails to motorized visitors be adequately considered and incorporated into the preferred alternative.



733. The road density criteria is not valid because hundreds of deer in Helena and elk in the Montanan City area exist just fine with road densities far in excess of the targets for the project area. Obviously there are other factors that have a far greater influence on deer and elk populations and the analysis must uncover and use those.

734. The actual zone of influence of motorized trails on wildlife is very small.

735. "Present day populations of white-tailed deer and elk are at their highest levels recorded in recent history" (Montana Wolf Conservation and Management Planning Document, Montana Fish, Wildlife and Parks, January 2000 (http://www.fwp.state.mt.us/wildthings/wolf/wolfmanagement011602.pdf). Additionally, "nearly 60 percent of Montana's original elk management units exceed elk-population objectives, while only 31 percent exceed harvest objectives" (www.fwp.state.mt.us/hunting/elkplan.html).

736. The number of hunters is declining (U.S. Fish and Wildlife Service, 1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. http://library.fws.gov/nat_survey 1996.pdf and http://www.cbsnews.com/stories/2007/09/03/national/printable3228893.shtml). Therefore, there are no compelling reasons "to elevate the level of elk security in the project area and…enhance elk populations" as frequently suggested by wildlife biologists (example; Fish, Wildlife and Parks letter dated February 27, 2002 to Helena National Forest on the Clancy-Unionville Travel Planning Project, bottom of page 9). Additionally, there are no compelling reasons to justify reduced road densities as a sought-after or necessary wildlife management criterion. Lastly, there are reasonable alternatives including permit hunting and seasonal travel restrictions that can better accomplish the outcome sought by reduced road and trail densities. NEPA requires consideration and implementation of all reasonable alternatives. Not considering and implementing reasonable alternatives demonstrates a predisposition in the process.

737. In the past many of the impacts associated with motorized recreation were based on opinions about the impacts on wildlife. The courts have clearly established the prevailing standard for evaluating scientific evidence in Daubert vs. Merrell Dow Pharmaceuticals Inc. (DAUBERT v. MERRELL DOW PHARMACEUTICALS, INC., 509 U.S. 579 (1993)) (http://caselaw.lp.findlaw.com/scripts/printer_friendly.pl?page=us/509/579.html), in which the U.S. Supreme Court ruled that expert testimony must be based on a testable theory or method that has passed peer review, has a known error rate and has reliable results. In part, the Daubert ruling was triggered by the proliferation of experts and professional witnesses who

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expressed their opinion in reports and testimony as opposed to sound scientific principles and evidence. Therefore, peer reviewed reports and recommendations are mandatory in order to protect the public from personal opinion. We request that an adequate peer review plan and process be used for all impact analyses and include experts that are neutral about motorized recreation.

738. Wildlife security criteria and standards are out of date. The science, data and findings as far as road density and impact of motorized vehicles on wildlife have changed significantly. This new information must be considered in this evaluation as required by federal best available science and data accuracy requirements.

739. OHV use and wildlife can and do coexist. We do not see any evidence in the field that would indicate that summer motorized recreation use is a significant wildlife problem. We support motorized closures where necessary to protect wildlife during the spring calving season and hunting season while maintaining a reasonable level of access during those periods.

740. There is no actual site-specific data that shows that OHV recreation has significant impact on wildlife including bear, lynx or elk. Studies do show that OHV recreation certainly does not have any greater impact on wildlife than hiking and horseback use which are not restricted in any way. The evaluation and record of decision must manage OHV recreation in the same manner as hiking and horseback use.

741. Research indicates that elk avoid contact with human activities. This will come as no surprise to hunters or forest visitors who usually see elk from the rear. Flight is the primary defense mechanism for elk and they will run from almost anything that they view as a potential threat. The intensity of the flight response of elk (how far they flee, respiration and heart rates, etc.) is dependent up-on a wide variety of factors, including the extent to which they have become habituated to particular encounters. The collection of large herds of elk in pastures along state Hwy 93 in Ravalli County and in Yellowstone National Park demonstrates that elk can become habituated to traffic.

742. The primary measure of elk habitat on public land is a parameter called Elk Habitat Effectiveness (EHE). The Forest Management Plan establishes targets or standards for EHE for every watershed in the Forest. The Agency is directed to manage the Forest to meet these EHE standards. The only parameter that goes into the calculation of EHE is open road density. An “open road” is defined to be any road that is not closed to all motorized traffic yearlong. We know that a great many roads and trails on the Forest are closed during hunting season “to provide wildlife security”. But these closed roads are in no way accounted for in the EHE calculation. An EHE calculation using roads open during hunting season would be a more meaningful parameter.

743. There appears to be no empirical connection between EHE calculations and elk abundance and health. For example, in the Sapphire Mountains of Montana, which have a network of roads, most drainages do not meet EHE standards established in the Forest Plan, yet elk populations in the Sapphires have doubled since the Forest Plan was established and meet population goals established by Montana FWP. On the other hand, elk populations in the Selway-Bitterroot Wilderness, which has perfect EHE scores, are at historic all-time lows. Therefore, the impact of roads on elk populations is overstated. In reality areas with a network of roads support healthy elk populations and un-roaded areas have unhealthy populations. If elk have abundant food and predators are controlled, they will thrive. It’s almost just that simple. Well, you don’t have to have a Ph.D. in wildlife biology to answer that question. We all know that the dominant controlling influences on elk populations and health are availability of food and abundance of predators (including humans). If elk have abundant food and predators

are controlled, they will thrive. It's almost just that simple. Reliance on the EHE parameter, as currently calculated, to determine significant impact on elk populations is not reasonable. Motorized roads and motorized trails may move elk around in the forest at least temporarily, and closure of roads during hunting season may serve to manage human predation but the existence and density of road systems on the forest and their use by forest visitors seems to have little or no influence on elk populations or health.

744. In an article on road de-commissioning (http://www.greatfallstribune.com/article/20110824/NEWS01/108240302/National-road-trail-reme), a Forest Service fisheries technician stated that "Fish and aquatic life are adapted to natural influxes of sediment in the spring, but too much material fills spaces in the rocks where the fish lay eggs or covers the eggs." In order to establish this sort of impact and associate it with OHV recreation, the Forest Service must have site-specific data on natural sediment loads in a stream and site-specific data on the gradation of the sediment from trail erosion and where it ends up. Fine-grained material may wash through the system and cause virtually no impact to fish spawning beds. Any purported impact by OHV recreation without site-specific data and analysis that connects the relatively minor amounts of sediment produced by OHV recreation on critical fish habitat is pure conjecture. Motorized recreationists have been paying a significant price in the form of lost opportunities due to the lack of site-specific data and conjectures. We request that any conjectures about potential impacts be carefully evaluated and only allowed in the analysis when confirmed by actual site-specific proofs and data.

745. Gravel bottom stream crossings such as those in the project area do not produce appreciable fine sediment when crossed by OHVs because fine-grained materials have been washed out by natural high water events. In other words, these crossings are fairly clean of fine materials that impact fish spawning areas and, therefore, the impact from OHV use at these crossings on fish spawning and habitat is insignificant.

746. Elk are considered to be an indicator species for most other ungulates, so the focus of state and Federal biologists is on counting, analyzing and managing elk populations. The primary parameter that is used by the Forest Service to measure the quality of elk habitat is the Elk Habitat Effectiveness (EHE) parameter. Target values for EHE are specified for every area, and the Forest Service is tasked to try to achieve these target EHE values during any project they propose to do. Sounds great, right? After all, we are all in favor of maintaining healthy ungulate populations on public land and providing those critters with a healthy environment. It's like motherhood and apple pie - no one can object to managing our public land to maintain healthy elk populations.
    a. The problem is that EHE doesn't have anything to do with how effectively the Forest provides suitable habitat for elk or any other species. It's a **nonsense parameter** that has absolutely no correlation to elk health or abundance, yet the Agency persists in using EHE to make land management decisions that drastically affect motorized recreationists.
    b. There is only one variable that goes into the EHE calculation: Open road densities. Any Forest road that is open for any period of time during the year is included in the EHE calculation for an area. EHE does not account for the abundance or quality of food for elk, the amount of cover for elk (elk like a particular mixture of open space and forested areas), the cover effect that hilly and mountainous topography provides or the abundance of natural and human predators. Only road densities.
    c. A demonstration of EHE as a useless parameter is provided in the Bitterroot Valley. Few drainages in the Sapphire Mountains (generally roaded) meet EHE objectives, yet elk populations generally meet or exceed FWP goals in the Sapphire Mountains. In contrast, the Selway-Bitterroot Wilderness areas on the west side of the valley, which contain perfect EHE measures (no roads), have elk populations approaching historic all-

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time lows. Clearly, if roads were a dominant influence on elk, this situation should be reversed and the Bitterroot Mountains would be loaded with elk.

d. Montana FWP advocates for managing open road densities during hunting season, and there is some flawed logic to that tactic, since it limits the number of human predators of elk, deer, sheep and other game species. This thinking is flawed because it concentrates hunters into small areas and penalizes the majority of hunters who first choice is to access their favorite hunting areas using motorized vehicles.
e. Environmentalists love EHE, because it's a feel good parameter that furthers their real agenda of closing as many roads and motorized trails as possible. Providing good habitat for wildlife sounds good while the closure of roads and trails to motorized use creates widespread public outcry and resistance. So a parameter that measures road densities and then is misrepresented as having something to do with elk meets their agenda quite nicely.
f. Making land management decisions based upon a parameter that has little to do with actual elk population produces bad management decisions. The BLM, Forest Service and wildlife agencies should abandon EHE as a meaningful measure of the effectiveness of elk habitat. Both agencies should develop and pursue a mitigation to correct for all of the bad decisions that have resulted from the use of the EHE parameter.

747. Wildlife are naturally adaptable. For example, the 400 deer that live within the Helena city limits are not disturbed at all by motor vehicles. Millions of visitors have observed bison and elk on the Yellowstone National Park roadways. Additionally, we are not aware of any OHV/wildlife collisions that have killed an animal. OHVs travel relatively slow and wildlife can easily move off the route and can easily hide themselves. Moreover, OHVs are restricted to routes and the corridors are narrow and impact very little area. Scientific studies that CTVA has cited in previous travel plan documents have confirmed this readily observable fact that OHVs do not create a significant disturbance of wildlife yet the wildlife evaluation in Agency document continue to inaccurately paint the picture that OHVs create a significant disturbance of wildlife. This misrepresentation must be corrected.

748. There is no documentation or data to support closure of any motorized routes in the project area to improve wildlife connectivity. The existing level of roads and trails does not significantly impact wildlife connectivity, i.e. it functions as such with the existing level of roads and trails and closing any roads or trails to motorized use would not make any measurable difference. Connectivity is another concept being promoted by extreme green groups such as the Wildlands Project to further their agenda to close all land to the public. Additionally, non-motorized routes would have the same impact on wildlife connectivity as motorized routes and the evaluation must recognize this fact.

749. The road density evaluations must also consider the viable alternative of closing a reasonable number of routes during hunting season and other critical seasons and then opening them during the summer recreation season. This strategy would effectively address road density criteria without nearly as many motorized closures as proposed.

750. Road density criteria must be used with reasonable judgment and consider the mitigating effects that an adjacent block of roadless area has on a roaded area that exceeds the desired road density. Oftentimes these areas that exceed the ideal density are very valuable multiple-use motorized areas and border on large roadless areas that provide more than adequate wildlife security thereby effectively mitigating the impacts associated with the roaded area.

751. Road density does not equal motorized trail density. Impact information developed based on roads should not be used to estimate impacts from ATV and single-track motorcycle trails. ATV

trails has far less impact than roads in all resource areas and motorcycle single-track trails have far less impact than roads in all resource areas. Motorized trails have less impact than roads and this condition must be recognized during the analysis and decision-making.

752. If protection of fish and game species is a significant issue, then a reasonable alternative that would produce far more positive results would be a different management scenario for fishing and hunting in the area rather than the closure of trails to OHV use. OHV recreationists have been the only recreationists to pay the price for improvements to fish and game populations. At the same time the improvements to fish and game populations from motorized closures is miniscule and the cumulative impact on motorized recreationists has been significant and negative. Motorized recreationists have been the first to be eliminated for far too long. The human environment is also important but it has been ignored and not adequately quantified. If there is some over-arching mandate to maximize fish and wildlife populations, then fishing and hunting management scenarios must be developed as reasonable alternatives to be considered. It is time for a reasonable approach to the management of fish and wildlife. If maximizing fish and game populations is that significant, then the opportunities for others besides motorized recreationists (who have paid their dues many times over) should be reduced. This concept is entirely reasonable and particularly when fishing and hunting closures or management would be far more effective in producing the desired outcome. We request consideration of fish and game management alternatives and a more balanced consideration of recreation versus fish and wildlife populations in the decision-making.

753. Wildlife populations are at all time highs. Wildlife has consistently been given higher priority over motorized recreational opportunities for the past 30 years. This priority has led to significant cumulative effects on motorized recreationists which must now be addressed and mitigated. The project must seek a more reasonable balance of multiple-use and motorized recreation opportunities and a lesser, yet reasonable, priority for wildlife management.

754. The Agency must support any claim that various recreational activities (e.g., off-highway vehicle use, camping, equestrian use, hunting etc.,) pose significant threats to endangered species. Claims that are highly speculative and based on little or no reliable data should be excluded from the environmental analysis.

The Agency must establish much more than a casual connection between recreation activities and any perceived declines in the population of any threatened or endangered species known to reside in the project area. At most, the technical data shows that some recreational activities, in some areas, have the potential to displace some species on a very local level. This, however, cannot establish that recreational activities pose a substantial threat to an entire population or subpopulation of a particular plant or animal.

Suggestions:
a) The agency should not utilize technical data that displays a pronounced bias against public recreation.
b) The agency must not jump to conclusions regarding the effects of recreation on threatened and endangered species.

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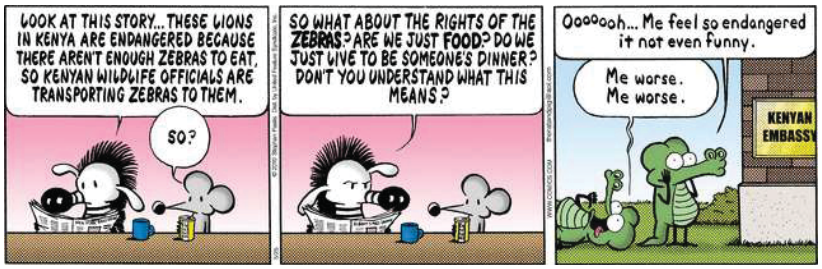

755. Our observations over decades of trail riding have established that significant wildlife mortality does not result from OHV activity. We are not aware of any reports of large animals such as deer, elk, or bear being hit or injured by OHV activity. Additionally, it is extremely rare for OHVs to injure any small animals such as squirrels or chipmunks. We request that wildlife mortality from OHV activity be considered minor and that wildlife mortality not be used as a reason to close roads and trails to OHV visitors.

756. Wildlife management also depends on adequate motorized access. For example, the lack of adequate roads and motorized access for hunter access has led to reduced hunter success and reduced harvest of game animals and affected the overall number and balance of game animals. This in turn has led to the need for cow permits and special hunts. In order to be consistent and meet the goal of no net change in herd numbers requires no net change in hunter access which in turn justifies the current level of motorized roads and trails.

757. The encroachment of residences into the forest is often the most significant factor contributing to the loss of summer and/or winter wildlife habitat. First, we request that the impact of these permanent encroachments be quantified and compared to the relatively minor impact that mechanized forest visitors have on wildlife habitat. Secondly, public land visitors should not have to pay the price in the form of motorized closures required to offset the impact of permanent encroachments by private residences. Proper assignment of restrictions would rest on those private individuals who permanently encroached on the natural habitat.

758. Independent scientist should review and participate in all aspects of planning, broad-based assessments, local analysis, and monitoring. Independent scientists must review the published results of all partnership studies including those prepared by students under the direction of professors, in order to be sure that they are appropriately interpreted and documented and that the supporting data is adequate. Scientists may come from within federal or state agencies, or the general public, and may hold a variety of important and influential positions. The study team should:
    a. require minimum standards and criteria for qualifications which must be met before a scientist can be deemed an "expert";
    b. provide minimum standards and criteria for determining when a scientist may be deemed "independent"; and
    c. provide a minimum amount of public notice and opportunity to object whenever any such scientist is considered for such participation, whether such position is permanent or temporary, full time or part time, voluntary or compensated. Such notice should include the qualifications of the individual, the role which the individual will have in such participation, and the type and duration of the position.

    Review and participation by independent scientists is a good thing, provided the process require standards which assure that such scientists are in fact qualified and independent, and provide the public the opportunity to review such factors.

759. The Elkhorn Wildlife Management Area in the Helena National Forest is an example of management of an area for a relatively narrow range of public needs. The underlying management criterion in the Elkhorn area is for ideal wildlife conditions and not for the diverse needs of the public. The diverse need of the public can only be met by management for multiple-use. While there are designated routes within the area, they are mostly roads with no challenge and limited access to interesting areas and features. There are few OHV loops or destinations. Roads and trails such as those in Section 1 and 11, T6N, R2W; Sections 13 and 4, T6N, R3W; Sections 31 and 31 in T7N, R2W; Section 36, T7N, R3W; Sections 25, 35, and 36, T8N, R1W and others could have been kept open for summer season recreation use and closed during calving and hunting seasons where necessary for wildlife management. Instead, they were closed. The alternative of seasonal closures would have benefited far more people and still maintained a more than reasonable wildlife habitat.

760. Impacts from OHV recreation on fish and wildlife must be backed up by facts, site specific studies, data, and monitoring, and overall public need and must not be used as a ploy to close motorized recreational opportunities.

761. According to the study published as "U.S. Forest Service and Montana Department of Fish Wildlife and Parks Collaborative Overview and Recommendations for Elk Habitat Management on the Custer, Gallatin, Helena, and Lewis and Clark National Forests" (http://fwp.mt.gov/fwpDoc.jsp?id=69521 September 27, 2013) the following factors should be adequately and reasonably considered besides closing roads and trails to motorized use during Archery season:

1. Length of hunting seasons
2. Timing of hunting seasons
3. Limited entry (permits, quotas, no limits) vs. general
4. Hunting area designations or closures
5. Type of season and/or license type (either sex, brow-tined bull; permit only)

The US. Forest Service publication listed above has been cited as part of the decision-making process to expand seasonal motorized closures to include the Archery season.

Similar language about limiting hunting seasons rather than closing roads can be found in the first paragraph of page 10 of the MFWP document "Security areas for maintaining elk on publicly accessible lands during archery and rifle hunting seasons in southwestern Montana" which can be found at http://fwp.mt.gov/fwpDoc.html?id=76099.

Even though wildlife agencies recognize other reasonable alternatives to motorized road and trail closures, the Agency did not include them in any of the alternatives considered. Instead, the Agency has placed the whole burden on motorized users. In other words, reasonable alternatives to motorized closures have not been given a hard look as required by NEPA.

762. Road density is aimed at controlling hunting season pressure on wildlife. There should be two different values of allowable road density, one for road density during hunting season and one for road density during the summer recreation season. Summer motorized recreationists do not kill wildlife and we coexist just fine. This approach is an accurate representation of the impacts of hunting wildlife. This approach has not been adequately studied and has not been adequately considered by the biologists and the agencies. This approach would benefit the summer motorized recreation season and provide much needed opportunity instead of unnecessary summer motorized closures and the significant cumulative impact that unnecessary summer motorized closures have had on public access and recreation. Moreover, hunting is causing the impact on wildlife and closures during hunting season are the most

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equitable way to mitigate those impacts while allowing motorized use during the summer recreation season.

763. Studies cited in our comments clearly establish that other forms of recreation including hiking, horseback riding, fishing, and mountain biking have as much or more impact on fish, wildlife, and the natural environment. However, motorized recreation is singled out as the only recreation group to have significant impacts. This erroneous supposition has been used to justify massive motorized recreational closures. When motorized closures are made other forms of recreation are rewarded by these closures even those they have similar impacts. This discrimination of motorized recreationists must be recognized and corrected in the analysis and decision. Impacts from all forms of recreation must be equally recognized. Impacts on fish, wildlife and the natural environment associated with other forms of recreation are well documented including the following references and the references cited within each reference.

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764. SAGE GROUSE ISSUES

IMPLICATIONS FOR VEHICULAR RECREATION – A COMMON SENSE STRATEGY

In response to the listing decision and as the lead agency, the BLM, where most of the Grouse habitat is located, issued its National Greater Sage-Grouse Planning Strategy (Charter) and subsequent Instruction Memorandums (IM), along with various FAQ sheets, range maps and other incidental publications.

The production of a National Environmental Policy Act (NEPA) document and subsequent Environmental Impact Statement/Supplemental Environmental Impact Statement (EIS/SEIS), when completed, will guide future management decisions for the Grouse and its sage based habitat. Because of the size of the landmass involving current Grouse habitat and distribution, the CTVA considers the production of this NEPA document to be a major landscape level decision. The subsequent Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) will affect motorized recreation in the 11 states where the Grouse currently occurs (both East and West planning units).

In addition the BLM has published 2 Instruction Memorandums (IM) dated 12/22 and 12/27 2011 that will provide *"interim conservation policies and procedures for BLM field level operations".* These will also have the potential to greatly affect/impact all aspects of motorized recreation, from traditional camping, hunting and fishing access to access for photography, bird watching, mountain bicycling, boating, cross country skiing and wilderness areas. Most of all, these IM's could have a serious negative impact on casual OHV use and permitted special events such as enduros, trials, hare-scrambles and dual sport rides to name a few. All forms and aspects of motorized recreation…off-highway/off road motorcycle, dual sport/adventure sport motorcycle, ATV, SBS, OSV, 4WD and even all street legal vehicles…may be affected if the IM's are interpreted in the wrong manner in a "one size fits all" decision.

This has occurred in the past when elements of the motorized recreation community were not included in the planning process. CTVA is very concerned that may well be the final outcome if the motorized recreation community members are not involved in this planning process from the beginning. We also believe that rather than the broad sweep of the brush as thusly painted in the most recent IM's and summaries of said, a more **"common sense"** approach (already suggested for adoption by BLM in other Grouse Management Strategy documents) needs to be implemented in order to minimize the affects/impacts on both the Grouse and the recreating public.

In order to accomplish this **"common sense"** approach to management, local land managers at the Ranger District and Field Office level need to be heavily involved with the motorized public to establish achievable goals for protection of the Grouse (lek /nest disturbance, wintering areas and sage habitat degradation) and to mitigate potential affects upon recreation through closure of existing, inventoried and managed routes. These types of closures should always be viewed as the most extreme measure to undertake after all other management techniques and measures have failed. Under the IM's, the CTVA believes that sound, proven OHV management techniques can allow the agency to protect the Grouse and habitat and to provide for responsible, family oriented OHV/ORV recreation, regardless of which form it takes.

Part of this process is to determine time and use regulations that minimize real conflicts between the recreating public and the Grouse. CTVA notes that hunting of the Grouse is still allowed in at least 8 of the 11 states where it is found and that by setting reduced seasons and bag limits, the Grouse is not considered at risk and that hunting can still occur. The same can be said for motorized access and use.

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For example, Grouse leks are concise, well-established, historic areas that can last for decades. Add to this that the leks are mostly in use for strutting/mating during crepuscular hours and that motorized recreation is generally NOT undertaken during those hours…the two can be successfully separated. CTVA also notes the BLM, like the Forest Service, state, county, local and tribal land management agencies is also moving towards a mostly "designated route" planning effort for use of roads and trails that are compatible for motorized recreation use and we support that concept. Except for OSV winter use, where snowpack allows, CTVA recognizes that unauthorized/unmanaged cross country travel can be damaging to both wildlife and habitat.

The local Ranger District and Field Office level recreation planners and managers are the best suited to work with the motorized stakeholders to establish a manageable, designated, user and nature friendly route network for motorized access. This includes access roadways away from paved highways, high clearance routes for pickups, jeeps and other 4WD vehicles that can be shared under combined use by other OHV/ORV categories such as trail bikes, ATV/SBS and or OSV in the winter. Lesser used but just as important to the motorized community are rural 2 track routes that may see little use throughout the year, ATV width trails and trail bike single track width routes. Routes that are duplicitous or fill no need or are illegally established may be considered for closure and rehab. The desired condition is an adequate system/mixture of routes of suitable length and skill levels that follow Best Management Practices (BMP) established by Best Available Science (BAS).

CTVA commends the agency(s) for identifying the concept of limiting OHV use to existing and/or designated roads and trails as a primary strategy to help protect Bi-State Sage Grouse habitat. CTVA believes this is the appropriate method by which to "minimize" environmental impacts.

CTVA also commends the agency for its comprehensive review of the recreation activities that occur in the amendment area. It is noted that said activities are mostly dispersed and do not rely on developed facilities and use is year-round and consists of varied activities including hiking, mountain biking, OHV riding, camping, hunting, and scenic touring. Day use is high, and there are very few developed facilities. Areas of concentrated use occur at popular destinations.

CTVA appreciates agency management direction (including development of standards) as stated in the DEIS. The proposed OHV management prescriptions in the DEIS's preferred alternative (PA) have already identified the need to eliminate cross-country travel in the project area where BLM lands are "open" to cross-country travel.

The PA also states on page 29 of the DEIS, that while recreation special use permits would still be granted depending on need and other factors, mitigation or restrictive measures could be placed on types, locations, and timing of activities to ensure consistency with the proposed amendment. Group events could be subject to timing limitations, which could limit the ability of some participants to attend. For example, many recreation events for which permits are issued on public land take place on June 7. In June the grouse are on nests and brood rearing. If the proposed activity poses a threat, the event may be moved or timing changed in order to the meet standard 2b to reduce impacts during this period. It is possible that organizers may decide not to hold their event if they cannot hold the event at a particular time. This would represent a reduction in opportunity for participants who would otherwise have been attending such events each year. However, there are many acres of BLM and Forest Service land outside of the amendment area that would be available for these types of events. Current events are evaluated and modified if necessary under the existing interim direction for both agencies, so it is expected that changes to existing events would be minor.

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U.S. Fish and Wildlife Service's Proposed Rule (PR) to Designate Critical Habitat for the Bi-State Distinct Population Segment (DPS) for the Greater Sage-Grouse - 78 Fed.Reg. 64328-64355 - was published on Oct. 28, 2013.

In total, approximately 755,960 hectares (1,868,017 acres) fall within the boundaries of the proposed critical habitat designations in Carson City, Lyon, Douglas, Mineral, and Esmeralda Counties, Nevada, and Alpine, Mono, and Inyo Counties, California. If this PR is finalized, it would extend the Act's protections to this DPS's critical habitat.

In order to enhance critical habitat, inhibit degradation, and avoid unwarranted impacts to historic OHV recreation including permitted events in proposed unit lands, CTVA is recommending the FS (and BLM) review – and adopt as appropriate - the following (and proven) OHV management prescriptions into the FEIS and Record of Decision.

a. **OHV Management Guideline One**: Limit Use to Existing and/or Designated Roads and Trails

Overview: On Forest Service lands, no off-road driving is allowed; the BLM does allow some cross-country travel. Existing travel routes on BLM have not been completely evaluated through a travel management planning process and have not been completely "designated". The current OHV designation for much of the BLM managed land in the amendment area is "open" to unrestricted cross-country travel. Approximately 45,000 acres along the Pine Nut Crest are currently designated as limited to designated routes; however, the travel management process has never been completed for this area. A small portion (25,000 to 30,000 acres) of the Pine Nut Range includes lands that limit motorized use to existing routes through the 2009 Omnibus Act. The rest of the public lands in the Pine Nuts are designated open to OHV.

Prescription: Prohibit cross-country travel in the unit. Limit OHV use to existing use where travel plans have not yet been completed and restrict OHV use to designated roads and trails where travel plans have been completed. Casual driving and use of existing or designated trails should be considered a diffuse disturbance with no long-term effects.

b. **OHV Management Guideline Two** – Limited Operating Period for OHV Permitted Events

Overview: According to the BLM and Forest Service, there are many motorized special events on unit lands, mostly in June. These include competitive motorcycle races, OHV and other vehicle races, competitive horse endurance rides, organized camping events, and competitive mountain bike races. Leking occurs between March 1 and May 15.

Prescription: Between March 1 and May 15, prohibit OHV events from using routes that pass through an active lek. Impose a time of day restriction (after 10 a.m.) for routes that pass within ¼ mile of an active lek.

c. **OHV Management Guideline Three** – OHV Sound Restriction

Overview: Although there are not studies specifically focused on the noise effects of OHV use on the Grouse, there are OHV noise studies related to the Northern Spotted Owl (specifically OHV events) and other wildlife. At least one project, shows that noise levels could affect the breeding

success of the owl. CTVA believes that noise impacts to wildlife must be when managing routes for OHV use. Land managers in states including Nevada that do not have any statewide OHV sound laws should consider adopting sound laws for special management areas or units that have been designated as critical habitat. (40 CFR, Chapter 1, Section 201.158)

Prescription: Adopt the 2003 California State OHV Sound Law which states, "Sound emissions of competitive off-highway vehicles manufactured on or after January 1, 1998, shall be limited to not more than 96 dBA, and if manufactured prior to January 1, 1998, to not more than 101 dBA, when measured from a distance of 20 inches using test procedures established by the Society of Automotive Engineers under Standard J-1287, as applicable. Sound emissions of all other off-highway vehicles shall be limited to not more than 96 dBA if manufactured on or after January 1, 1986, and not more than 101 dBA if manufactured prior to January 1, 1986, when measured from a distance of 20 inches using test procedures established by the Society of Automotive Engineers under Standard J-1287, as applicable." Link to CA Sound Law - http://ohv.parks.ca.gov/?page_id=23037

d. **OHV Management Guideline Four** – Invasive Species

Overview: Cheatgrass and medusahead have become the most problematic of the exotic annual grasses within the Sage-grouse Conservation Area" (Miller et al. 2011) OHVs can inadvertently spread invasive/noxious weeds including cheatgrass and medusahead. It is important that vehicles be weed-free before travelling off-highway. Thoroughly washing the OHVs will ensure that the seeds are removed and will help mitigate the spread of noxious weeds.

Prescription: Adopt and promote an invasive species related prevention/education program based on the tenets at - http://playcleango.org/

765. ISSUES WITH THE QUALITY OF SAGE GROUSE INFORMATION THAT MUST BE CORRECTED

As allowed by the information quality guidelines pursuant to Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 and 44 U.S.C. 3502 with adherence to Part 5: "Request for Correction Procedures" of the U.S. Fish and Wildlife Service Information Guidelines and Peer Review, I urge the U.S. Fish and Wildlife Services (FWS) and interconnected federal and state agencies to consider correction and subsequent removal of errant and unproven population data included in the U.S. Fish and Wildlife Service Species Assessment and Listing Priority Assignment Form for Centrocercus urophasianus (Greater sage-grouse) (current version as of 04/24/2013) (heretofore referred to as Sage-Grouse ESA Species Listing Form).
The following is an explanation of reasoning for this request and is intended to urge the FWS and Department of Interior (DOI) to re-examine methodology for estimating sage-grouse populations before classifying the species as a "Continuing Candidate" under petition for listing under the Endangered Species Act (ESA). A general overview and in-depth analysis of references reveals that FWS population estimates for the Greater sage-grouse are based on inaccurate/un-proven and largely un-recognized scientific methodology lacking measurable accountability metrics and comprehensive standards sufficient enough to establish habitat management plans for a state or regional delineation such as Region 6 (Mountain-Prarie Region) or Management Zones (MZ) I – Management Zone VII.

The following explanation of reasoning also includes a Point of Technical Error in Data disbursement and calls to attention of non-compliance with DOI Information Quality Guidelines as the presented in the Sage-Grouse ESA Species Listing Form applies to/affects human populations.

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Point of Technical Error in Data disbursement:
The "U.S. Fish and Wildlife Service Species Assessment and Listing Priority Assignment Form" for Centrocercus urophasianus (Greater sage-grouse) as made available at the URL: http://ecos.fws.gov/docs/candidate/assessments/2014/r6/B06W_V02.pdf excludes Figures and Tables from the document. Figures 1 and 2 and Tables 3, 5 and 7 do not appear on the downloadable version of this document. A properly formatted version including these missing figures and tables should be made available to the public for better data understanding prior to FWS decision making to allow for an adequate public review of this information as it is referenced within the context of the document. This exclusion of figures and tables is non-compliant with U.S. DOI Information Quality Guidelines Section II: 4 (c).

Quality of Data for Population Estimates:
Pursuant to U.S. DOI Information Quality Guidelines Section II: 4 (a), (b), (c), the population estimates described in the "Sage-Grouse ESA Species Listing Form" under the heading "Population Estimates/Status" fail to *"Use the best available science and supporting studies conducted in accordance with sound and objective scientific practices…"*. In using these population estimates the FWS, DOI and other agencies relying on the "Sage-Grouse ESA Species Listing Form" fail to *"Use data collected by standard and accepted methods…"* pursuant to U.S. DOI Information Quality Guidelines (Section II: 4 (b)).
Under the heading "Population Estimates/Status" within the "Sage-Grouse ESA Species Listing Form," there are numerous cases of admission to the fact that methodology reliant upon male lek counts in extrapolating data to determine total species population estimates is *"difficult as the relationship of those data to actual population size (e.g. ratio of males to females, percent unseen birds) is usually unknown (WAFWA 2008, p.3; Fedy and Aldridge 2011, p.17)."* Subsequently, all estimates of sage-grouse populations are inadequate to qualify as quality data under the U.S. DOI Information Quality Guidelines Section II: 4 (a) and (b).

Statements such as: *"In summary, since neither pre-settlement nor current numbers of sage-grouse are accurately known, the actual rate and magnitude of decline since pre-settlement times is uncertain"* from the "Sage-Grouse ESA Species Listing Form" are unsettling given the ramifications of this document's purpose.

Alternative studies documented in this form (e.g.: *"However, three groups of researchers using different statistical methods (but the same lek count data) concluded that rangewide…"*) still use lek count data, disregarding the document's revelation that such methodology is unreliable and inaccurate.

The use of anecdotal information included in the "Sage-Grouse ESA Species Listing Form" is also non-compliant with U.S. DOI Information Quality Guidelines Section II:4 (a) and (b). The following statements under the "Population Estimates/Status" heading exemplify a reliance on anecdotal evidence, which is not *"sound and objective scientific practices"* or *"standard and accepted methods"* as required by U.S. DOI Information Quality Guidelines Section II: 4 (a) and (b).
"Estimates of greater sage-grouse abundance were mostly anecdotal prior to the implementation of systematic surveys in the 1950's (Braun 1998, p. 139). Early reports suggested the birds were abundant throughout their range, with estimates of historical populations ranging from 1,600,000 to 16,000,000 birds (65 FR 51580). However, concerns about extinction were raised in early literature due to market hunting and habitat alteration (Hornaday 1916, pp. 181-185). Following a review of published literature and anecdotal reports, Conelly et al. (2004, ES-1-3) concluded that the abundance of sage-grouse has declined from pre-settlement (defined as 1800) numbers. Most of the historical population changes were the result of local extirpations, which have been inferred form a 44 percent reduction in sage-grouse distribution described by Schroeder et al. 2004 (Connelly et al. 2004, p. 6-7).

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The previous passage is contradicted with the following under "Population Trends":
"Although population numbers are difficult to estimate, the long-term data collected from counting males on leks provides insight to population trends. Periods of historical decline in sage-grouse abundance occurred from the late 1800s to the early 1900s (Hornaday 1916, pp. 179-221; Crawford 1982, pp. 3-6; Drut 1994, pp.2-5; Washington Department of Fish and Wildlife 1995; Braun 1998, p. 140; Schroeder et al. 1999, p. 1).Other noticeable declines in sage grouse populations occurred in the 1920s and 1930s, and then again in the1960s and 1970s (Connelly and Braun 1997, p. 3-4; Braun 1998, p. 141). Declines in the 1920s and 1930s were attributed to hunting, and declines in the 1960s and 1970s were primarily a result of loss of habitat quality and quantity (Connelly and Braun 1997, p. 2).

Using estimates from the late 1800s-1950 are anecdotal and are therefore non-compliant with U.S. DOI Information Quality Guidelines Section II: 4 (a) and (b) because *"Estimates of greater sage-grouse abundance were mostly anecdotal prior to the implementation of systematic surveys in the 1950's."*

Lacking Comprehensive Quality of Data for Populations Affected:
Pursuant to U.S. DOI Information Quality Guidelines Section II: 4 (c), (i, ii, iii), which states:
"(c) In the dissemination of influential scientific information about risks, ensure that the presentation of information is as comprehensive as possible, informative, and understandable. In a document made available to the public, specify, to the extent practicable:
(i) Each population addressed by an estimate of applicable effects
(ii) The expected risk or central estimate of risk for the specific populations affected.
…
(iii) Each significant uncertainty identified in the process of the risk assessment and studies that would assist in reducing the uncertainty.
…
The "Sage-Grouse ESA Species Listing Form" includes no data on one of the major *"population(s) addressed by an estimate of applicable effects"* which is the human population that will be affected by the data that would determine an ESA ruling for listing the greater sage-grouse for protection under the ESA. Data and information included in the form excludes an evaluation of the negative and positive condition of the human habitat that will be altered by decisions made using the "Sage-Grouse ESA Species Listing Form." More comprehensive data is necessary to meet the U.S. DOI Information Quality Guideline's requirements for quality as stated in Section II: 4: *"With respect to influential scientific information disseminated by the Department, regarding analysis to human health, safety, and the environment, the Department will ensure to the extent practicable, the objectivity of this information by adapting the quality principles found in the Safe Drinking Water Act Amendments of 1996."* These guidelines for quality data and information hold FWS and DOI accountable to regard *"human health, safety and the environment"* in influential scientific data. The current "Sage-Grouse ESA Species Listing Form" does not meet these criteria by excluding data that calculates the impact of the sage-grouse species on human health and safety. (e.g.: Bad land management decisions using this data could lead to fuel heavy forests which burn and release smoke into the air, which harms human health and safety. Removing grazing access to public lands will lead to a decrease in beef production, beef production profitability and will in turn lead to harms on human health and safety due to the lack of economic opportunity and so on…)
A comprehensive determination of the interconnected relationship that is mutually beneficial, between humans and sage-grouse must be included in the "Sage-Grouse ESA Species Listing Form" prior to listing decisions for sage-grouse under the ESA.

Effect of the Error:

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Human health and safety, as well as harms to the environment would be significant without adequate and accurate population estimates and impact data on the affected populations (humans, other species and sage-grouse).

Specifically, the requester (Mitch Staley) uses this data to contribute to public comments, legislative assistance duties and other means that create public land use management plans. Without accurate population estimates, any measure of accuracy for management plans would be invalid because there is no scientifically valid base-line (control group) population count to measure any progress made by management or protection plans. Any scientific study must have a control group to measure the effect of a treatment. A management plan or protection plan for sage-grouse is the equivalent of an experiment testing a hypothesis. A hypothetical example would be: There are 100,000 sage grouse in MZ-I in 2014 (the 100,000 sage-grouse are the control group in this experiment), our hypothesis states that decreasing predators will increase the health of sage-grouse populations in MZ-I. Our treatment in this experiment is to "decrease predators." After six-years, we will be able to determine the validity of our treatment because we knew our control group was 100,000 grouse. If we find that we have 150,000 grouse in 2020, we will know that our treatment was effective. If we find fewer than 100,000 grouse in 2020, we will know that we did not impact the issue.

Not knowing an accurate control number for sage-grouse prior to implementing any management treatment (whether its ESA listing or stricter management) is un-scientific and would determine invalid results that no proper conclusions could be drawn to infer upon the greater sage-grouse population. Planning without accurate data—planning that includes removing grazing access, hinders private land development, hinders public forest management and impacts local economies—is harmful to the requester and the human population in Region 6 (Mountain-Prairie Region) and the economies that rely on Region 6 industries. We must have accountable and scientifically valid methodology to determine control groups to draw inferable conclusions from our efforts. The "Sage-Grouse ESA Species Listing Form" does not reveal such methodology or valid control groups.

Influential Information Classification:

U.S. DOI Information Quality Guidelines Definition 9, which states:

9. Influential, when used in the phrase "influential scientific, financial, or statistical information" means that the Department can reasonably determine that dissemination of the information will have or does have a clear and substantial impact on important public policies or important private sector decisions. The Department, including all offices and bureaus and the NISC, is authorized to define "influential" in ways appropriate for it, given the nature and multiplicity of issues for which the bureau or component is responsible.

Adhering to this definition of "Influential," classifies the information and data (species population estimates and impact to human populations) in question by the requestor as influential as required by Part 5: "Request for Correction Procedures" of the U.S. Fish and Wildlife Service Information Guidelines and Peer Review.

The data in question holds a *"clear and substantial impact on important public policies or important private sector decisions."* The data in question sets a control group to measure progress of any future management plan or listing efforts while excluding data and research on the potential harms to other populations (humans and others) as required by U.S. DOI Information Quality Guidelines.

Relevant Supporting Documentation:

Electronic Communication with Montana Fish and Wildlife and Parks official:

"Hi Mitch,

I don't believe there have been any more recent estimates of population size. FWP doesn't necessarily endorse the USFWS number (but we don't refute it either). We feel that extrapolating our male counts on leks to a population estimate would be so full of assumptions that whatever

number we came up with could potentially miss the true number significantly. We are having discussions internally and range-wide about some survey methods that would allow us to estimate the number of birds with more confidence. The earliest we could start that would be next spring. A lot of people want a population number. Unfortunately we don't have the right information to supply that with any confidence.

Thanks for your interest."
This correspondence provides validating evidence for the concerns expressed in this request.

Links to Concerned Documents:
U.S. DOI Information Quality Guidelines:
https://www.doioig.gov/docs/InformationQualityGuidelines.pdf

U.S. FWS Information Quality Guidelines:
http://www.fws.gov/informationquality/
U.S. Fish and Wildlife Service Species Assessment and Listing Priority Assignment Form for Centrocercus urophasianus (Greater sage-grouse) (current version as of 04/24/2013) (referred to as "Sage-Grouse ESA Species Listing Form")

http://ecos.fws.gov/docs/candidate/assessments/2014/r6/B06W_V02.pdf

766. Wildfires cause far more negative impact on Sage Grouse than motorized recreation. A sense of magnitude must be used when evaluating impacts on Sage Grouse and all impacts must be compared in relative magnitude. Lack of a sense of magnitude comparison represents arbitrary and capricious decision making.

767. Observing increasing conflict and confusion about the authority and responsibility to manage wildlife on federal lands and wilderness, the Bolle Center for People and Forests at the University of Montana has produced an authoritative review of the legal and policy context of wildlife management on federal lands with the objective of providing a more common understanding amongst federal and state agencies. The common claim that "states own wildlife"—full stop—is incomplete, misleading and needlessly deepens divisions between federal and state governments and creates conflicts and impacts on the public that uses federal lands. The claim is especially dubious when states assert ownership as a basis to challenge federal authority over wildlife on federal lands. State assertions of wildlife ownership are subordinate to the federal government's statutory and trust obligations over federal lands and their integral resources, including wildlife. Copies of the Bolle Center reports are available at:http://www.cfc.umt.edu/bolle/files/WildlifeonFederalLandsDRAFTArticle_June2017.pdf and http://www.cfc.umt.edu/bolle/files/Fish%20WildlifeMgmtonFederal%20Lands_Powerpoint_August2017.pdf and http://www.cfc.umt.edu/bolle/files/WildlifeFederalBriefingPaper_June2017.pdf. Motorized recreationists agree with the findings of the Bolle Center. A significant issue is that federal agencies including the BLM and Forest Service are using the "states own wildlife" position to further a management agenda that gives wildlife greater priority than the quality of the human environment on national public lands. This management agenda has produced a significant cumulative impact from all forms of motorized closures which has caused a significant negative impact to the human environment including the pursuit of happiness. This new information must be given a hard look in the analysis and decision.

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17. Must Not Overstate the Impact of Motorized Access and Motorized Recreation on the Natural Environment

768. A meaningful test to determine the significance of impacts from OHV recreation on the environment must be based actual field data that allows a comparison to natural impacts. The evaluation to date lack actual field data. The evaluation to date lacks a comparison to natural impacts. The analysis must develop a reasonable alternative based on comparison of impacts to the natural level for evaluation. Incorporating these flaws into the evaluation will produce a strong anti-OHV bias in the analysis and the resulting decision. Therefore, the analysis must include actual field data and comparisons to the natural level of impacts.

769. Held to an Unnatural Standard – air quality, water quality, impact on fish and wildlife, level of erosion. Fires, floods, natural levels of erosion all produce far greater impacts on air quality, water quality, and fish and wildlife. Motorized recreationists are being held to an unnatural standard which clearly indicates a grievous bias. Impacts associated with motorized recreation including sedimentation and disturbance of wildlife are being judged as significant when in reality they are less than the natural level of sedimentation and impacts on wildlife associated with fires and floods. Being held to a level of impact that is less than the natural level is proof of a strong bias in the evaluation process and arbitrary and capricious decision-making.

770. We are very concerned about the way that the evaluation considers what is considered natural and what is not considered natural. First, the needs of the human environment for motorized recreation should be considered part of the natural environment (as required by the original NEPA) and adequately considered in the evaluation. Secondly, massive impacts from natural events such as fires, floods, and pine beetle (we have witnessed all of them recently) are considered acceptable while relatively miniscule impacts from motorized recreation are considered unacceptable. This sort of reasoning is clearly arbitrary and capricious and we ask that the evaluation define the natural level of impacts, develop a sense of magnitude for those impacts versus motorized impacts and carefully screen out any hint of arbitrary and capricious decision-making. In order to avoid being arbitrary and capricious, all impacts must be compared to natural levels. Impacts associated with OHV recreation should not be considered significant unless they are 50% or more of the natural level.

771. The goal of the agency as stated in the document is to reduce sediment production below natural levels. By reducing the rate of sedimentation to less than natural the agency will create adverse environmental impacts. This goal is not reasonable. This goal needs to be recognized and corrected by quantifying and allowing for a reasonable sediment amount based on the natural level of sedimentation and recognizing the role and benefits that sediment provides to the natural environment.

772. Erosion is the source of sediment. Erosion and sediment occur naturally in a significant magnitude. Erosion and sediment production associated with OHV recreation is insignificant compared to natural erosion and sedimentation. Work published by Andrew Simon of the USDA-ARS National Sedimentation Laboratory demonstrates this fact. Simon has established typical watershed sedimentation yields for ecoregions of the United States. As shown on Figure 7 from the paper “Evaluation of the Importance of Channel Processes in CEAP watershed Suspended-Sediment Yields” the typical rate of sedimentation in western Montana during the 1.5 year flood (common annual event) is 17 tons per day per square kilometer which is equivalent to 44 tons per day per square mile. At a typical sediment density of 90 pounds per

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cubic foot (Table 2.16, Reference 1), the natural erosion/sediment yield is at minimum equal to (44 x 2000 /90) = 978 cubic feet per square mile which equals 36 cubic yards per square mile or almost four 10-yard dump truck loads per square mile.

There are 155,480 acres or 243 square miles in the project area. Therefore, the natural erosion/sediment yield from the project area is on the order of (243 x 36) = 8,748 cubic yards per year or 875 dump truck loads per year. Our observations of the project area do not show any evidence that OHV recreation produces even 1% of this naturally occurring level of erosion and sediment production. The agency has not produced any site-specific data as required by NEPA that demonstrates a significant amount of erosion/sediment production originating from OHV recreation. Statements are made in the document based on a lot of hand waving and un-calibrated computer models. To claim that OHV recreation has a significant impact on erosion/sedimentation (as stated in Chapter 2 of the DEIS) is an erroneous and unreasonable statement. Erosion and sediment production associated with OHV recreation **does not** have a significant magnitude and should not be considered a significant issue.
We strongly disagree with the assertion made in the environmental document that erosion/sedimentation is a significant issue that justifies closing motorized recreational opportunities. Erosion/sedimentation is a naturally occurring process that has created mountains and valleys. Erosion/sedimentation is a necessary natural process and the analysis must adequately recognize this fact and the relative magnitude of erosion/sedimentation from OHV recreation versus the natural rate of erosion/sedimentation. We agree that erosion/sediment production is an issue of concern that can be easily mitigated by following guidance on the construction of water bars and other mitigation measures including those referenced in our comments.
Reference 1: Bunte, Kristin; Abt, Steven R. 2001. Sampling surface and subsurface particle-size distributions in wadable gravel- and cobble-bed streams for analyses in sediment transport, hydraulics, and streambed monitoring. Gen. Tech. Rep. RMRS-GTR-74. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 428 p. http://www.fs.fed.us/rm/pubs/rmrs_gtr074.pdf
Reference 2: Evaluation Of The Importance Of Channel Processes In CEAP watershed Suspended-Sediment Yields, Andrew Simon, Research Geologist, USDA-ARS National Sedimentation Laboratory, P.O. Box 1157, Oxford, MS; asimon@ars.usda.gov, http://pubs.usgs.gov/misc/FISC_1947-2006/pdf/1st-7thFISCs-CD/8thFISC/Session%2010C-3_Simon.pdf

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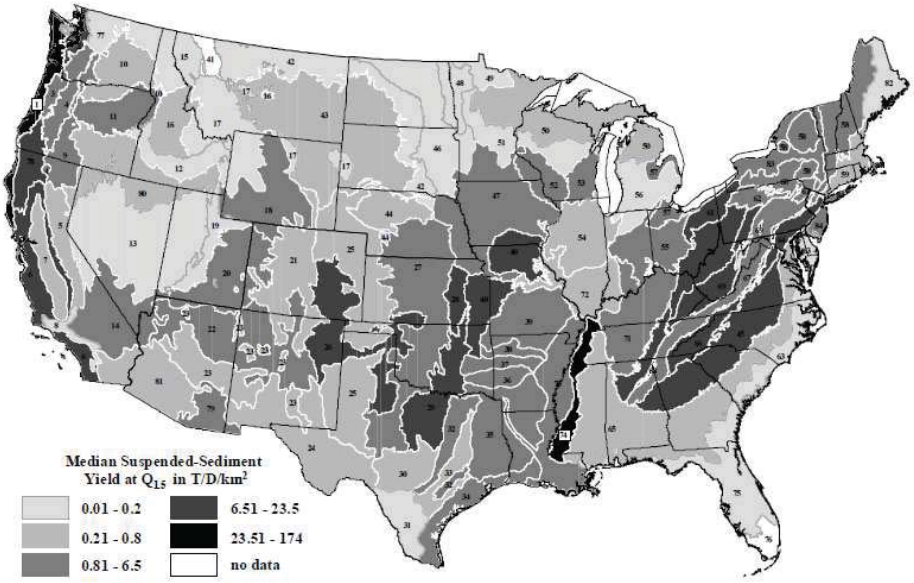

Figure 7 Distribution of median suspended-sediment concentrations and yields at the $Q_{1.5}$ for Level III ecoregions of the continental United States.

773. We have witnessed a significant increase in sediment deposits in the North Fork of the Salmon River and Blackfoot River following forest fires in those drainages. The sediment production from OHV use is insignificant compared to the production from fires. An adequate sense of magnitude must be used when assessing sediment impacts associated with OHV recreation.

774. Sediment deltas formed in the South Fork of the Boise River as shown in the following two photographs by the 2013 Kelly Fire. OHV recreation has never produced this much sediment.

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775. Impacts should be evaluated in a fair and unbiased manner and with a relative sense of magnitude. For example, if natural events including floods, wildfires, and their associated impacts are natural and acceptable as stated by some agency personnel and environmental groups, then (in order to be consistent and equitable) impacts from OHV recreation should be compared in relative magnitude to the impacts associated with floods, wildfire, and other natural events. We are concerned about comments about OHV recreation being such a significant threat to public lands (Bosworth speech, January 16, 2004). The impact of OHV recreation in our area compared to the negative impacts from just one of the 6 significant fires in our area is miniscule (http://www.helenair.com/articles/2004/09/30/top/a01093004_01.prt). Therefore, the impact of recreation should be fairly compared to the impact of floods, wildfire, and other natural events on all resource areas. These comparisons should also include natural levels of noxious weeds, carbon dioxide production (http://www.cbmjournal.com/content/pdf/1750-0680-2-10.pdf), deforestation, erosion and sediment production, and loss of organic material. Impacts associated with OHV recreation should not be considered significant unless they are 50% or more of the natural level.

The use of soil erosion as a reason to close motorized recreational opportunities is an example of the predisposition that exists per the following example. Soil erosion associated with fires that have burned severely has been reported in the range of 50 tons per hectare[1] (20 tons per acre). Nearly all fires increase sediment yield, but wildfires in steep terrain produce the greatest amounts (12 to 165 ton per acre per year, 28 to 370 Mg per hectare per year) (table 5 and figure 11) [2]. This soil loss occurs over the burned area due to the lack of vegetative cover to hold the soil in place on steep slopes during precipitation events and increased peak rates of runoff. Flood peak flows after wildfires that burn large areas in steep terrain often produce significant impacts. Peak flow increases of 10 to 100 times are common, but some have been measured as high as 2,300 times pre-fire conditions[3]. The increase in sediment production and deposition and impacts on the stream channel and over-bank areas following a forest fire is documented in the July 2006 and January 2008 editions of Stream Notes (www.stream.fs.fed.us).

Since 1960 the acres burned nationally have ranged from 2.3 to 8.6 million acres and averaged 4.5 million acres. At a typical sediment yield of 20 tons per acre per year, about 90,000,000 tons of sediment has been produced by fires or about 9,000,000 dump truck loads. On a local basis in Nevada, hundreds of thousands of acres have burned since 1988. Sediment production associated with these fires would equal 4,000,000 tons or 400,000 dump truck loads. Sediment production associated with motorized recreation cannot begin to compare to this magnitude and, therefore, it is not reasonable use sediment as a basis to close motorized recreational opportunities when impacts from “Let it burn” and other management policies are a million times greater and considered acceptable.

Monitoring and evaluation must be made consistent with and pursuant to the best available scientific information, techniques, and methods, and any conclusions based on these evaluations must be statistically significant.

National Interagency Coordination Center Annual Fire Data

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1 http://news.bbc.co.uk/1/hi/world/europe/3164843.stm

2 Robichaud, Peter R.; Beyers, Jan L.; Neary, Daniel G. 2000. **Evaluating the effectiveness of postfire rehabilitation treatments**. Gen. Tech. Rep. RMRS-GTR-63. Fort Collins: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 85 p. http://www.fs.fed.us/rm/pubs/rmrs_gtr63.pdf

3 POST-WILDFIRE WATERSHED FLOOD RESPONSES, Daniel G. Neary*, Gerald J. Gottfried, and Peter F. Ffolliott, USDA Forest Service, Rocky Mountain Research Station, Flagstaff, AZ School of Renewable Natural Resources, University of Arizona, Tucson, AZ http://www.rmrs.nau.edu/lab/4302/Publications/Neary_65982.pdf

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Total Wildland Fires and Acres (1960-2006)		
Year	Fires	Acres
2006 (1/1/06 - 10/30/06)	86,545	9,442,610
2005	66,552	8,686,753
2004*	77,534	6,790,692
2003	85,943	4,918,088
2002	88,458	6,937,584
2001	84,079	3,555,138
2000	122,827	8,422,237
1999	93,702	5,661,976
1998	81,043	2,329,709
1997	89,517	3,672,616
1996	115,025	6,701,390
1995	130,019	2,315,730
1994	114,049	4,724,014
1993	97,031	2,310,420
1992	103,830	2,457,665
1991	116,953	2,237,714
1990	122,763	5,452,874
1989	121,714	3,261,732
1988	154,573	7,398,889
1987	143,877	4,152,575
1986	139,980	3,308,133
1985	133,840	4,434,748
1984	118,636	2,266,134
1983	161,649	5,080,553
1982	174,755	2,382,036
1981	249,370	4,814,206
1980	234,892	5,260,825
1979	163,196	2,986,826
1978	218,842	3,910,913
1977	173,998	3,152,644
1976	241,699	5,109,926
1975	134,872	1,791,327
1974	145,868	2,879,095
1973	117,957	1,915,273
1972	124,554	2,641,166
1971	108,398	4,278,472
1970	121,736	3,278,565
1969	113,351	6,689,081
1968	125,371	4,231,996
1967	125,025	4,658,586
1966	122,500	4,574,389
1965	113,684	2,652,112
1964	116,358	4,197,309
1963	164,183	7,120,768
1962	115,345	4,078,894
1961	98,517	3,036,219
1960	103,387	4,478,188
	Total acres	206,638,790

* 2004 fires and acres do not include state lands for North Carolina
Source: National Interagency Coordination Center (http://www.nifc.gov/stats/fires_acres.html)

776. In a fair and unbiased evaluation, the source of the impacts (natural versus human caused) should not be a factor. In a fair and unbiased evaluation, relative impact associated with natural events including floods and wildfires is thousands of times greater than impacts associated with timber harvests and OHV recreation, yet proposed action involving timber harvests and OHV

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recreation are considered to have unacceptable impacts. The absence of a rational connection between the facts found and the choice made has been defined by the courts as arbitrary and capricious (Natural Resources. v. U.S., 966 F.2d 1292, 97, (9th Cir.'92)). A clear error of judgment; an action not based upon consideration of relevant factors and so is arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law or if it was taken without observance of procedure required by law (5 USC. 706(2)(A) (1988)). We request fair and unbiased evaluations and judgments during this evaluation and decision-making.

777. Impact Assessment. With respect to impact assessment, if you cannot measure an impact then it is not a real impact. Impacts associated with beetle killed trees and fires are acceptable to the agency. OHV impacts are minimal when compared to beetle killed trees and fires.

778. Any measurable impact from OHV use is automatically and incorrectly judged to be significant. OHV impacts are a small fraction of natural actions. Nature should be used as the standard for comparison of OHV impacts.

779. A sense of magnitude must be used when making decisions about road closures based on indicators such as sediment production. For example, a route should not be closed because it is estimated to produce 10 cubic yards less sediment. The sediment yield must be compared to naturally occurring conditions which includes normal runoff, floods, and fires. The recent fires in the National Forest discharged thousands of cubic yards of sediment to the area streams which is more than all of the motorized routes in the project area for the next 100 years. Another example is the assertion that groomed snowmobile trails affect the lynx. Groomed snowmobile trails cover less than 0.001% of the total area and the impact on the lynx is of a similar magnitude. Additionally, if snowmobile trails affect the lynx, then so do cross-country and snowshoe ski trails. Again, we doubt that these impact the lynx but if snowmobiles do, then so do trails packed by non-motorized uses. Quite often non-motorized impacts are equal or greater and they must be fairly assessed also.

780. Road decommissioning funds should be used instead to maintain motorized trails. We suggest that this expenditure would benefit the public and environment in a more positive way and have a more positive environmental impact.

781. The document and decision makers must prove by use of facts and data and without reasonable doubt that the claimed improvements to the natural environment are significant enough to justify the significant impact on the human environment associated with the closure of motorized routes. There must be a measurable and significant improvement. Additionally, there must be monitoring to back-up the claimed improvements to the natural environment.

782. Evaluations and decisions have been limited to natural resource management issues. Issues associated with motorized access and motorized recreation must be adequately addressed during the evaluation and decision-making including social, economic, and environmental justice issues. We are concerned that issues cannot be restricted to just those associated with natural resources. Access and recreation on public lands are essential needs of the public and we respectfully request that issues associated with the human environment be adequately addressed.

783. For the most part, the existing levels of roads and trails have acceptable natural environmental impacts because of the dispersed level of use that it allows. Mitigation can be implemented in those cases where there are environmental problems. The management trend of closure after closure is concentrating recreationists into smaller and smaller areas. The cumulative negative impact of the closure trend will either produce more impact than allowing use of the existing roads and trails or squeeze us completely out from public lands. There is

also a significant public safety aspect associated with squeezing everyone into a small area as accidents will increase with too many motorized recreationists on too few routes. We request that these significant issues be acknowledged and adequately addressed. We also request that the trend of wholesale closures be reversed so that public land can be managed using the most sound natural and human environmental principles.

784. There was considerably more human activity in the project area during the period from 1870 to 1940 when mining, logging, homesteading, ranching, and pioneer activity was high. Therefore, there is considerably less human activity and human-caused impact now than during any period in the last 130 years. We request that the trend of less human impact on the natural environment be adequately recognized and addressed in the analysis.

785. Non-motorized recreationists traveling cross-country produce similar impacts to cross-country motorcycle travel, i.e. impact on weeds, foot prints, and disturbance of wildlife. Therefore, any areas closed to cross-country motorcycle travel should also be closed to non-motorized cross-county use and/or the impacts should be evaluated fairly across the board for all users.

786. Positive impacts to the environment in areas such as fisheries, wildlife habitat, sediment reduction, and noxious weeds are largely based on personal judgment or predictive models. These models are not calibrated or based on data from the study area. All models are wrong, so honest modelers first report the expected uncertainty of the model and then the predictions. There are no case histories and very little data to back up any of the predictions.

All too often actions have been enacted based on proclaimed benefit to the environment and without any tangible evidence or follow-on monitoring to document whether proclaimed benefits occurred or not. All too often these same actions have produced significant negative impacts on multiple-use interests. Significant recreational opportunities have been taken from multiple-use and motorized recreationists based on theoretical environmental improvements that may never happen. This lack of accountability is not acceptable.

We request that sufficient background data be collected to quantify the existing conditions in the resource areas of interest. Then, if a motorized closure is enacted, sufficient data should be collected to demonstrate whether or not there was significant improvement to each resource area. If significant measurable improvement cannot be demonstrated, then, in order to be accountable, motorized closure actions should be reversed. In other words, the public needs to know how the decision made, the data on which it was based on including the source, and whether the data was adequate to substantiate the claimed environmental improvements.

Additionally, we request that the cumulative negative impact from all past actions based on inadequate documentation and accountability for improvements be determined. Again, if significant measurable improvement cannot be demonstrated, then, in order to be accountable, motorized closure actions must be reversed.

787. Recent research (Sediment Production From Forest Roads In Western Montana, Brian D. Sugden and Scott W. Woods, Paper No. J05063 of the Journal of the American Water Resources Association (JAWRA)) has concluded that sediment traps are highly efficient at trapping sediment from routes (page 198-199) and are a reasonable mitigation measure, that the typical sediment yield from roads in Montana is relatively low compared to other regions for a number of reasons including the precipitation regime (page 201-202), that grading or maintenance (or removal) of roads increases sediment production (page 202-203) therefore leaving roadbeds alone is reasonable alternative, and that sediment models typically have a 30% variability in their estimates (page 203) which is probably greater than the total sediment impact from OHVs that the model(s) are trying to predict.

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788. Watershed restoration and road decommissioning are designed to decrease sediment loads to fish-bearing streams over the long term, however, within the first few years of heavy equipment work, sediment loads commonly increase (Klein, R. 2003. Duration of turbidity and suspended sediment transport in salmonid bearing streams, North coastal California. 37 pp.).

789. Past analyses of the affected environment and environmental consequences have failed to adequately recognize that resources such as fisheries, wildlife, and sediment production are affected far more by nature than by motorized visitors. Drought has a significant impact on fisheries, OHV recreation does not compare. Erosion and other activities of interest such as the spread of noxious weeds occur naturally and at significant rates. Floods, fires, drought, and wildlife diseases have historically created significantly greater impacts than motorized visitors have. For example, cutthroat trout have never needed to be relocated because of motorized recreation and motorized recreation has never caused a sediment yield anywhere close to 19 tons per acre which both occurred following the Derby fire in 2006 (http://www.helenair.com/articles/2006/11/07/montana/a07110706_02.prt).

In many cases it is not reasonable to deem as unacceptable the relatively small increase caused by motorized recreation on natural activities. Comparing man-caused impacts to natural impacts is a reasonable approach that should be used to test for the significance of impacts and improvements. The improvements to the natural environment from this action are not significant when compared to the naturally occurring impacts. The picture shows Copper Creek near Lincoln, Montana following the August 2003 fire. Prior to the fire the Forest Service was concerned about the public camping next to the creek. The potential impacts from the public camping along this stream compared to this fire are insignificant yet closure of this recreation opportunity was being considered. Why are there so many double-standards in the impact analyses? We request that all impact analyses in all resource areas compare the relative magnitude of man-caused impacts to the background level of naturally occurring impacts or management actions such as the “Let it burn” policy.

790. Theoretical or assumed impacts must not be used to close motorized recreational opportunities. This is happening way too often. For example, an impact on wildlife by OHV recreation is assumed on a theoretical basis but there is no site specific data or monitoring to back that statement. A similar situation is happening in other resource areas including sedimentation and noxious weeds. Decisions to close motorized recreation must not be made on the basis of theoretical or assumed impacts to the natural environment. In order to avoid arbitrary and capricious decisions, site specific data and monitoring must be presented and demonstrate a measure significant impact.

791. The amount of sediment production from federal lands is relatively small compared to sediment production that ultimately reaches stream courses from non-federal lands. For example, the Bear Canyon sediment study in the Gallatin National Forest found that sediment production at the forest boundary was on the order of 3 tons per year while the sediment production at the mouth of the stream was on the order of 35 tons per year. Therefore, the sediment production from the federal lands is reasonable and any environmental benefit to the stream must be focused on the non-federal lands downstream.

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792. The sediment analysis conducted for this project assumed that all of the increased sediment produced by public access and recreational use can be transported or moved. However, many sedimentation evaluations have found that the amount of sediment moved is often limited by the sediment transport capability of the stream. Hans Albert Einstein stated "The coarser part of the load, i.e. the part that is more difficult to move by flowing water, is limited in its rate by the transporting ability of the flow between the source and the section"[4]. Therefore, the transport capacity of the project streams must be established and compared to the amount of historic sediment transport to determine if there is any additional capacity to transport the increased amount of sediment predicted by the project evaluation. This basic check should be conducted so that the increase in sediment production and associated negative impacts are note over-estimated to the disadvantage of public use and motorized recreation.

793. The estimated reduced annual volume of sediment production attributed to proposed motorized closures versus the annual volume of runoff is an actual reduction in sediment production on the order of 10 or less parts per million. This level of predicted sediment reduction should not be considered significant especially when compared to the baseline sediment production and natural events discussed above. This level of predicted reduction in sediment production should not be used as the basis for motorized closures.

794. Confirmation of the significant magnitude of the impacts of fire versus the relatively minor impacts of recreation are further substantiated by the following article from the Helena IR: *The popular Meriwether picnic area, located along the Missouri River in the Gates of the Mountains corridor, also will be closed until the area is deemed safe for public use. Following the 2007 Meriwether Fire, debris and numerous floods continue to flow through the picnic site, creating a serious safety hazard. The public docks will not be installed this year; instead, people should use Coulter campground. The Meriwether Picnic Area closure could remain in effect for several years, until hydrologic conditions improve in Meriwether Canyon. "Flash floods, as those happening at this site, occur when the ground becomes saturated with water that cannot be absorbed quickly enough," said Mike Cole, acting Helena District ranger. "Without live vegetation to absorb the precipitation up on the mountain, the water runs off and floods the picnic area."* http://helenair.com/news/article_633fdef8-6a1c-11df-8dcf-001cc4c002e0.html?print=1

795. The transport mechanism for noxious weeds includes all visitors and uses of public lands including hikers, equestrians, and cattle grazing in addition to motorized recreationists. Many events including fire, floods, and the importation of invasive species also contribute to noxious weed problems. For the most part, vehicles do not have a surface texture that will pick up and hold noxious weeds seeds. Transport mechanisms based on hair, fur, manure, shoes, and fabrics are more effective that the smooth metal and plastic surfaces found on vehicles. Additionally, motorized recreationists practice the "Wash your Steeds" policy. However, closures due to noxious weed concerns are only placed on motorized recreationists.

We have observed an equal amount of noxious weeds in non-motorized areas as there are in motorized areas. We request that the document make a fair evaluation of all sources and uses that contribute to the noxious weed problem including hikers, mountain bikers, equestrians (non-use of weed-free hay), etc. The document should also fairly evaluate how natural processes and wildlife spread noxious weeds. The document should include a balanced discussion of the noxious weed problem. The discussions, decisions and measures used to mitigate noxious weeds should be applied impartially to all visitors and with a realistic

[4] Einstein, H.A., 1964, "Sedimentation, Part II. River Sedimentation," Handbook of Applied Hydrology, V.T. Chow, Section 17, McGraw-Hill Book Co., NY.

representation of noxious weeds natural ability to spread versus a relative magnitude for every activity's contribution.

796. The environmental document should accurately address the significant negative impacts associated with disturbing existing stable roadways in order to obliterate the existing roadbed. A reasonable alternative would be to reclassify the road to either restricted-width or unrestricted-width motorized trail. We request, as a reasonable alternative, that the preferred alternative make practical use of this management tool and the benefits that it provides including reduced sedimentation impact, reduced fisheries impact, reduced noxious weed impact, much less construction cost, reduced road inventory, reduced road maintenance and increased opportunities for motorized recreationists. Reclassifying roadways to restricted- or unrestricted-width motorized trail also avoids contributing to cumulative negative impacts on motorized recreationists.

797. Natural conditions should be used as the benchmark for the test of impacts on natural resources. All impacts should be measured against a realistic assessment of natural conditions including natural sound levels, sedimentation rates and natural events such as fires, glacial periods, and floods. We request that guidelines be developed to help determine if perceived impacts are significant or insignificant. All measures of perceived impacts should be compared to natural levels of activities over the course of time to test for significance. A significant difference in magnitude should be required before a perceived impact can be considered significant. This standard is required in order to remove personal opinions from the process and to restore impartial and reasonable judgment to the process.

    For example, the lack of adequate policy and implementation of fire management practices has lead to many catastrophic fires. The sedimentation resulting from these fires should be measured and compared to all OHV activity in the forest. The results will demonstrate that the rate of sediment resulting from fires is thousands of times greater than that of all OHV activity in the forest. The determination of the natural rate of sedimentation over the course of time will also demonstrate that the natural rate of sedimentation is many times greater than that of all OHV activity in the forest. These are examples of the sense of magnitude and big picture perspective that should be required when evaluating impacts in the document and decision-making.

798. The Forest Service Stream Systems Technology Center has found, in a paper published in the July 2000 issue of Stream Notes, that roads and trails can easily be hydrologically disconnected from streams. Therefore, the sedimentation concerns can be easily mitigated and should not be used as a reason to justify motorized recreation and access closures except in exceptional cases that cannot be adequately mitigated.

799. Natural resources are renewable and sustainable when reasonably managed and used. Environmental health is not significantly improved under management for wilderness or roadless character. Reasonable management and use for the benefit of all citizens is best provided under multiple-use policies. We request that decision-making be based on restoring reasonable management and use of public lands.

800. In the past, timber harvests have been conducted without consideration for maintaining existing motorized trails through the area. Therefore, motorized recreation opportunities have been eliminated as part of timber sales. The Little Blackfoot and Telegraph Creek areas are examples of motorized closures does as part of timber harvests that have fragmented the motorized road and trail system. Now as mitigation measure to offset the significant impact from the cumulative effect of all past actions, motorized trail systems should be developed using timber sale roads and trails. Existing timber sale roads and trails should be inter-

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connected by construction of new trail segments or rehabilitation of existing trail segments to provide mitigation for lost motorized recreation opportunities. Connector trails should be constructed to avoid dead-end trails. These systems could provide recreation opportunities for a variety of skill levels and visitors.

801. The March/April 2016 issue of Water Resources IMPACT published by the American Water Resources Association in an article titled "Wildfires" concluded that "Large increases in runoff and erosion rates following wildfires have been well researched and documented (Moody and Martin, 2009; Miller, et al., 2011; Robichaud, et al., 2010). For example, Robichaud et al. (2010) used simulated runoff at seven locations in the western United States and Canada to compare rill erosion rates among unburned and burned forest plots. Runoff rates at burned plots compared to the unburned plots increased six times in the year of the fire and two times the rate of the unburned plots in the third year post-fire; sediment flux rates were initially 185 times the rates of the unburned plots and, in the third year post-fire, 130 times the rates of the unburned plots. In New Mexico, following the Cerro Grande fire, Hinojosa, et al. (2004) reported increases in post -fire peak flow rates by a factor of 200 times compared with pre-fire rates.

Photo 1. Flows of sediment and rock debris in the Fourmile Canyon wildfire burn area, west of Boulder, Colorado following a rainfall event with a return frequency of approximately two years. Prior to the wildfire, the same storm event would be expected to generate limited runoff.
Photo by Jon Peter.

802. Impacts from OHV recreation on the natural environment must be backed up by facts, site specific studies, data, and monitoring, and overall public need and must not be used as a ploy to close motorized recreational opportunities.

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18. Motorized Recreation References That Need To Be Used In the Analyses

803. Good resources for the construction and management of OHV trails has been developed at http://www.fs.fed.us/t-d/atv_trails_site/index.html and http://www.nohvcc.org/Resources/great-trails/resources. Use of the practices demonstrated at this web site will minimize the impact of OHV trails.

804. An excellent reference is Tom Crimmins and NOHVCC booklet titled Management Guidelines for OHV recreation which can be downloaded at http://atfiles.org/files/pdf/crimminsNOHVCC.pdf. Other good references for OHV recreation can be found in the American Trails library at http://www.americantrails.org/resources/motors/index.html and on the NOHVCC web site at http://www.nohvcc.org/home.

805. The National Off-Highway Vehicle Conservation Council (NOHVCC) has created a valuable new resource that will realty benefit land management agencies. The document was developed with input from more than 20 experts and funded by 30 OHV agencies and organizations. "Great Trails: Providing Quality OHV Trails and Experiences," a 350-page book, was released October 30, 2015 and is available at www.greatohvtrails.com.

806. A science-based approach to the analysis of forest roads is presented in the Forest Service publication FS-643 Roads Analysis which was published in August 1999. This document includes a comprehensive overview of considerations and issues, suggested informational needs and sources, and analytical tools that should be evaluated during the analysis of forest roads. Many of the considerations and issues presented in FS-643, if evaluated adequately and fairly, would support keeping primitive roads and trails in the project area open for motorized recreation, handicapped, elderly, and physically impaired. We request that FS-643 be used in this evaluation to determine the specific values of each motorized road and trail.

Some of the considerations and issues are:

Economic (EC)

EC (1) How does the road system affect the agency's direct costs and revenues?

EC (2) How does the road system affect priced and non-priced consequences included in economic efficiency analysis used to assess net benefits to society?

EC (3) How does the road system affect the distribution of benefits and costs among affected people?

Timber Management (TM)

TM (2) How does the road system affect managing the suitable timber base and other lands?

Minerals Management (MM)

MM (1) How does the road system affect access locatable, leasable and saleable minerals?

Special Use Permits (SU)

SU (1) How does the road system affect managing special user permit sites?

Protection (PT)

PT (1) How does the road system affect fuels management?

PT (2) How does the road system affect the capacity of the FS and cooperators to suppress wildfires?

PT (3) How does the road system affect risk to firefighters and public safety?

Road Related Recreation (RR)

RR (1) Is there now or will there be in the future excess supply or excess demand for roaded recreation opportunities?

RR (2) Is developing new roads into unroaded areas, decommissioning existing roads, or changing maintenance of existing roads, causing significant changes in the quantity, quality, or type of roaded recreation opportunities?

RR (3) Who participates in roaded recreation in the areas affected by road constructing, maintaining, or decommissioning?

RR (4) What are these participants' attachments to the area, how strong are their feelings, and are there alternative opportunities and locations available?

Social Issues (SI)

SI (1) What are peoples' perceived needs and values for roads? How does road management affect people's dependence on, need for, and desire for access?

SI (2) What are people's perceived needs and values for access? How does road management affect people's dependence on, need for, and desire for access?

SI (3) How does the road system affect access to historical sites?

SI (4) How are roads that are historic sites affected by road management?

SI (5) How is community social and economic health affected by road management?

Civil Rights and Environmental Justice (CR)

CR (1) How does the road system, or its management, affect certain groups of people (minority, ethnic, cultural, racial, disabled, and low-income groups)?

We request full use of the FS-643 Roads Analysis Manual in order to adequately account for the social, economic, cultural, and traditional values that motorized roads and trails provide to the public. FS-643 should be used on every road and trail segment in order to adequately identify and evaluate the needs of motorized visitors and in order to avoid contributing to additional cumulative negative impacts to motorized visitors.

807. Conflict on multiple use trails: Synthesis of the Literature and State of Practice; Report No.: FWHA-PD-94-031 "Conflict in outdoor recreation settings (such as trails) can best be defined as "goal interference attributed to another's behavior" (Jacob & Schreyer 1980, 369). As such, trail conflicts can and do occur among different user groups, among different users within the same user group, and as a result of factors not related to users' trail activities at all. In fact, no actual contact among users need occur for conflict to be felt. Conflict has been found to be related to activity style (mode of travel, level of technology, environmental dominance, etc.), focus of trip, expectations, attitudes toward and perceptions of the environment, level of tolerance for others, and different norms held by different users. Conflict is often asymmetrical (i.e., one group resents another, but the reverse in not true).

808. The National Recreational Trails Advisory Committee identified trail-user conflicts on multiple-use trails as a concern that needed attention. The Committee worked with the Federal Highway Administration to produce a report (https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/9849/GV_191.67_T7M66_1994.pdf?sequence=1) to promote a better understanding of trail conflict, and identify approaches for promoting trail-sharing. The goal of the report was to promote user safety, protect natural resources, and provide high-quality user experiences. It reviews management options such as

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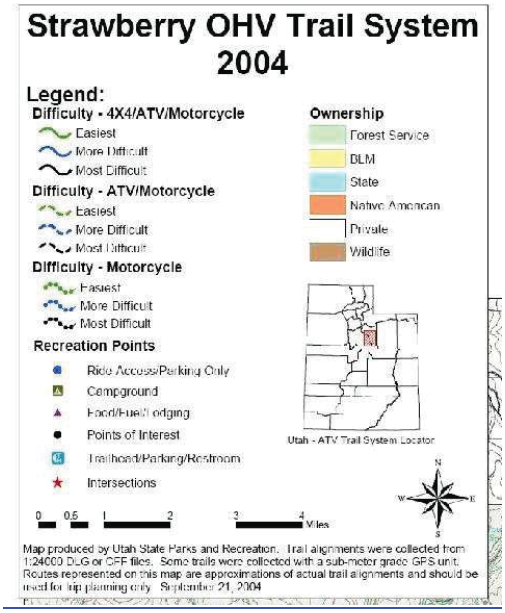
trail design, information and education, user involvement, and regulations and enforcement. The report found very sound ways to promote cooperation and understanding among trail users and presented ideas that will help reduce conflict on multiple-use trails. The report provides 12 principles for minimizing conflicts on multiple-use trails and we ask that each of these principles be incorporated into the resource management plan.

809. The following sort of motorized trail identification and rating system would be very helpful to the motorized public and would allow users to match up their experience level and equipment to the most appropriate trails. This system is similar to ski trails. Note that the easiest = green, more difficult = blue, and most difficult = black. The original map may be viewed at http://www.stateparks.utah.gov/ohv/maps/strawberry_Final2.pdf



810. A great resource to better understand motorcycle single track riding can be found in the video "Trail Masters". The video shows the history of the trail system and how the trails are built to provide a great ride and protect natural resources. The video follows State of Oregon employees as they cut a single track trail on the side slope of a mountain. Using hand tools and the ST240, the duo work on a reroute project on the steep slopes, and talk about using proven, trail-building designs and techniques in an area that gets a lot of rain. "I was blown away by the final video," said Brown, whose official title is OHV Specialist, Oregon Department of Forestry, Tillamook District. "I was proud to be part of the project. It made me excited to showcase a cool aspect of what we do in Oregon, and show people who don't know anything about the sport of motorcycling what it's like."

https://www.youtube.com/watch?v=CfVgMANjYlw

19 Funding, Maintenance and Gas Tax Issues

811. Current management directives seek to aggressively decommission non-beneficial or unclassified roads, reduce the existing backlog on road maintenance and reconstruction, and reduce the resource impacts of the current roads network. The Forest Service in the Roadless Rule EIS reported that the backlog of forest road maintenance was about $8.4 billion. This estimate includes many primitive roads and trails that motorized recreations would prefer not to have improved except for mitigation measures such as water bars and reroutes to avoid sensitive environmental areas. The challenge and recreation value of these types of primitive roads and trails is what most motorized recreationists are looking for. Therefore, this maintenance effort is overstated and a more reasonable alternative would be to incorporate reasonable mitigation measures and convert roads to unrestricted-width or restricted-width trails to provide motorized recreation opportunities and then remove these roads from the roads inventory. We request that this reasonable alternative be included as part of the preferred alternative.

812. Motorized recreationists have a history of clearing trails. The agency's trail maintenance costs could be reduced by up to ½ if all trails were opened to motorized recreationists.

813. Motorized recreationists have historically provided a significant amount of maintenance in order to keep routes open as part of their normal use. Now because of the significant number of motorized closures, the level of maintenance has been significantly reduced. We know of many motorized routes that are now closed and have become impassable to non-motorized recreationists because of the lack of user provided maintenance.

814. Considerable trail and environmental mitigation work could be accomplished by programs similar to AmeriCorps and Job Corps if they were given that direction and organized to provide that assistance.

815. We request, as a reasonable alternative, that maintenance actions be taken before closure actions. We believe that this is a viable alternative that would address many of the issues that are driving the pre-determined decision to closure. OHV recreation generates significant gas tax revenue that could be tapped for this purpose. For more background on this issue please refer to our comments on gas tax and funding.

816. We understand the operation and maintenance budget constraints facing the agency. However, lack of maintenance funding cannot be used as a reason for motorized closures because there is significant gas tax funding that is not being returned to motorized recreationists (see comments on gas tax issues). Motorized recreationists are willing to work in collaboration with the agency to obtain trail and OHV funding for the project area. Additionally, motorized recreationists can be called upon to help with the maintenance of trails in the project area. In many cases motorized recreationists have been providing trail maintenance for many years and are quite willing to continue in return for continued access.

817. The lack of money to maintain OHV routes is being used as a reason to close OHV routes and at the same time Recreational Trails Program (RTP) and gas tax money paid by OHV recreationists is not being returned to OHV recreation. There is also unused motorized RTP

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money available each year. Additionally, the lack of money is used as a reason that new OHV routes cannot be constructed.

a. Solution: The BLM and Forest Service must aggressively pursue and make use of all available forms of OHV trail funding including RTP, and a more equitable return of the gas tax paid by OHV recreationists. As demonstrated in the following comments, the amount of gas tax paid by OHV recreationists is enormous.

818. OHV recreation generates millions of dollars in OHV gas tax revenues which should be used to for trail maintenance (see additional comments and Oak Ridge National Laboratory, 1994, Federal Highway Administration, Report ORNL/TM-1999/100, Federal Highway Administration, An 80 page summary of the fuel used for OHV recreation, http://www-cta.ornl.gov/cta/Publications/Reports/ORNL_TM_1999_100.pdf). Unfortunately, these dollars are not being applied to OHV trails. Bringing volunteers together with funding would solve nearly all of our OHV trail maintenance needs.

819. Our observations of recreationists taking visiting the primitive roads and trails within public lands indicate that 97% of the visitors represented multiple-uses that rely on motorized access and/or mechanized recreation (data available upon request). These needs can be further quantified by researching records from the Motor Vehicle Division (MVD) and the report Fuel Used for Off-Road Recreation (Report ORNL/TM-1999/100, Federal Highway Administration). Both of these sources document OHV numbers by state.

Montana is estimated to have 32,747 off-road trucks, 18,400 off-road motorcycles, and 23,017 off-road atvs for a total of 74,164 OHV recreationists (Report ORNL/TM-1999/100). This total does not include other multiple-use visitors using automobiles, SUVs, etc. Nationally, the total estimated off-highway vehicles equal about 7,400,000 which does not include other multiple-use visitors (Report ORNL/TM-1999/100).

Additionally, there are millions of other multiple-use visitors who use motorized access for sightseeing, exploring, picnicking, hiking, rock climbing, skiing, mountain biking, riding horses, camping, hunting, RVs, target shooting, fishing, viewing wildlife, snowmobiling, accessing patented mining claims, and gathering of firewood, rocks, natural foods, etc. Mountain bikers seem to prefer OHV trails because we clear and maintain them and they have a desirable surface for biking. Additionally, many of the routes within the project area are necessary to maintain access to patented mining claims and historic districts. Also, physically challenged visitors must use wheeled vehicles to visit public lands. The needs of all of these multiple-use visitors have not been adequately addressed and the proposed negative impacts to them have not been adequately disclosed. We request that the cumulative needs of these visitors be accurately quantified and the cumulative negative impacts of closures on these visitors be considered in the decision-making.

820. Finding funding for programs can be a challenge. In the case of OHV recreationists, ample funding is being generated by OHV recreationists, however as demonstrated in the following paragraphs, a reasonable amount of this funding is not being returned to OHV recreationists.

State governments collect excise taxes on gasoline for road and highway improvements ranging from $0.075 to $0.389 per gallon (References 7, 9, and http://www.flyingj.com/s_tax.html). The federal government collects excise tax on gasoline for road and highway improvements equal to $0.184 per gallon, which is earmarked for the Federal Highway Trust Fund (Reference 8 and 10). A federal excise tax refund program for gasoline used for off-road purposes does not exist at this time. Some states allow purchasers of gasoline for off-road use to collect a state tax refund for fuel used in a non-taxable manner. For example, the State of Montana defines fuel consumed by equipment and vehicles

operating off public roads as fuel used in a non-taxable manner (Reference 2). Therefore, excise tax on gasoline used for off-road fuel use should either be refunded to off-highway recreationists or used to fund programs that benefit off-highway recreationists. Neither of these mechanisms are being implemented in an equitable manner at this time. Therefore, a reasonable amount of the gasoline excise tax paid by off-highway recreationists is not being returned to off-highway recreationists or used for their benefit at this time.
The magnitude of gas tax paid by OHV recreationists is significant. Fuel used for off-road motorcycle, atv and 4-wheel drive recreation in Montana is estimated at 18,537,060 gallons per year (Reference 1). The State of Montana fuel tax is $0.2775 per gallon (Reference 2). Therefore, an estimated $5,144,034 in state fuel tax ($0.2775 per gallon times 18,537,060 gallons per year) is paid annually by Montana off-road recreationists. The present worth of this annual amount over the past 30 years is about $88,940,000. Other states can be calculated by referring to the state gas tax amount per gallon published at http://www.flyingj.com/s_tax.html . Unfortunately, most of the state tax paid by OHV recreationists on gasoline ends up being used for other programs and not for OHV programs.

Additionally, federal gas tax paid by OHV recreationists living in Montana is significant and is estimated at $3,410,819 ($0.184 per gallon times 18,537,060 gallons per year). The present worth of this annual amount over the past 30 years is about $58,973,000. There is no method for direct return of the federal excise tax to OHV recreationists. Therefore, most of the federal excise tax paid by OHV recreationists on gasoline ends up being used for other programs and not for OHV programs. In summary, OHV recreationists in Montana generate total state and federal annual gas tax revenue on the order of $8 million and a present worth over the past 30 years of about $150,000,000. Other states are similar or more. This level of funding would be sufficient to fund expanded and enhanced OHV programs in Montana and other states but this objective requires an equitable means of returning off-road gas tax to OHV recreationists.

The amount of gas tax being returned to Montana OHV recreationists through State Trails Program (STP) and Recreational Trails Programs (RTP) is on the order $200,000 per year (References 3 and 4) or about 3% of the actual state and federal gas tax paid by OHV recreationists. This small percentage of return is not equitable and other states also follow this trend. We request that revisions be made to state and federal programs in order to return to OHV recreationists the full amount of gas tax paid by OHV recreationists in the form of funding specifically earmarked for enhanced and expanded OHV Programs.

Furthermore, at the national level, RTP was funded at a $50,000,000 level in fiscal year 2002 (Reference 5). The maximum amount made available to OHV projects by RTP funds is no more than 70% (split of funds is authorized at 30% motorized recreation, 30% for non-motorized, and 40% for diverse trail use, Reference 6). If an estimated 50% (probably high given current circumstances) were returned to OHV recreationists through the RTP program, then the total amount returned to OHV recreationists at the national level would be about $25,000,000.

Table 7.1 in Reference 1 reports the total annual gallons of gasoline used nationally by all off-road recreationists is about 1,882,191,331 gallons. Most states limit a refund of excise tax on gasoline to off-road use to agricultural or commercial off-road use and specifically do not allow a gas tax refund to OHV recreationists. Therefore, about $470,547,832 (assuming a minimum state and federal gas tax rate of $0.25 per gallon times 1,882,191,331 gallons per year) is paid in fuel taxes by all off-road recreationists in the country each year. The present worth of this annual amount over the past 30 years is about $8,135,772,000. At a national level, the amount returned to OHV recreationists by the RTP program is no more than 5% of the actual state and federal gas tax paid by OHV recreationists. This small percentage of return is not equitable. We

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request that revisions be made to state and federal programs in order to return the full amount of the gas tax paid by OHV recreationists to programs that benefit OHV recreationists.

OHV recreationists have significant needs that have gone unmet for many years due to the lack of adequate funding. The lack of adequate funding and attention to these needs has also contributed to some concerns associated with OHV recreation. An adequate level of funding, as discussed above, would address all needs and concerns associated with OHV recreation including environmental protection and mitigation projects, education and safety programs, the enhancement of existing recreation opportunities and, the development of new OHV recreation opportunities necessary to meet the needs of the public. We request the development of a funding mechanism that equitably returns gas tax revenues directly to OHV recreationists.

821. Additional funding is needed for expanded and enhanced OHV programs to effectively address the concerns and needs of OHV recreationists including programs:

b. To provide greater promotion of responsible OHV recreation,
c. To provide greater promotion of OHV tourism,
d. To provide greater promotion of an OHV Safety program and distribution of safety educational materials,
e. To provide greater promotion and distribution of educational materials on land use and visitor ethics,
f. To provide greater promotion and distribution of educational materials on OHV and hunting ethics,
g. To actively promote and support the development of local OHV organizations in all areas of the state to further promote OHV educational and awareness programs,
h. To promote greater registration of OHVs which will produce greater support for the OHV Program,
i. To develop and distribute a monthly or quarterly newsletter to all registered OHV owners,
j. To develop and distribute OHV information including maps and listings of OHV recreational opportunities,
k. To develop multiple-use recreation opportunities on public lands as allowed under existing laws,
l. To develop and operate a collection and distribution point for OHV recreational and educational information, links to OHV clubs, etc.,
m. To provide a Trail Ranger program that supports OHV recreationists similar to the State of Idaho's,
n. To mitigate all existing concerns with OHV recreation on public lands in cooperation with federal and state agencies and in conformance with all existing laws and a Memorandum of Understanding dated February 25, 2002 between U.S. Department of Agriculture, Forest Service and the Blue Ribbon Coalition, and
o. To develop and promote all reasonable OHV recreation opportunities on public lands in cooperation with federal and state agencies and in conformance with all existing laws and a Memorandum of Understanding dated February 25, 2002 between U.S. Department of Agriculture, Forest Service and the Blue Ribbon Coalition.

Note that an OHV Trust Fund should be set up to collect and hold OHV gas tax monies paid by OHV recreationists in the past but not returned to them. This trust fund could also be used in the event of delays in the start-up of OHV Programs and to accommodate the scheduling of NEPA actions for on-the-ground OHV projects.

In summary, we cite a common principle of law articulated in the Montana Codes Annotated "1-3-212. Benefit -- burden. He who takes the benefit must bear the burden." We agree with that principle and the necessary obverse, "He who bears the burden must receive the benefit." We

request that all gas tax revenue generated by OHV recreationists be returned to OHV recreationists for their benefit and used to address; through education, mitigation, enhancement, and development projects; all of the concerns and needs associated with OHV recreation.

Reference 1: Report ORNL/TM-1999/100, Federal Highway Administration
http://www-cta.ornl.gov/cta/Publications/Reports/ORNL_TM_1999_100.pdf
Reference 2: http://www.mdt.state.mt.us/administration/gastaxrefund.html
Reference 3: http://www.fwp.state.mt.us/parks/trails/trailgrantapps.asp
Reference 4: http://www.fwp.state.mt.us/parks/ohvgrantaward.asp
Reference 5: http://www.fhwa.dot.gov/environment/recfunds.htm
Reference 6: http://www.fhwa.dot.gov/environment/rtbroch.htm
Reference 7: http://www.wsdot.wa.gov/KeyFacts/GasTaxRates.htm
Reference 8: http://www.wsdot.wa.gov/KeyFacts/HiwayUserFees.htm
Reference 9: http://www.njpp.org/archives/otr_gastax.html
Reference 10: http://www.bts.gov/transtu/ts2/ts2.htm

822. Past comments made in opposition to the Symms Act by non-motorized groups have tried to establish that the OHV portion of the Symms Act and RTP are subsidized by public funds, however, just the opposite is true. Off-road motorized recreationists do have a funding mechanism available in the form of the gas tax monies collected from their gas purchases and, furthermore, these monies may have been inappropriately used for non-motorized projects. Additionally, wilderness trails are routing maintained without a source of funding tied to the users. In contrast to that situation motorized trails are seldom maintained by the agency even though motorized recreationists generate more than adequate funding through the collection of gas taxes. We request, as a reasonable alternative, that corrective actions (an adequate mitigation plan) be taken to address to return all past and current off-road gas tax monies to OHV recreationists.

823. The lack of funding is often used as an excuse to avoid addressing problems associated with OHV recreation when in reality there is more than adequate funding. This is another example of the absence of a rational connection between the facts found and the choice made. Furthermore, the diversion of gas tax paid by OHV recreationists to other programs has contributed to many of the problems facing motorized recreationists. We request the evaluation of the impact and cumulative negative impacts that have resulted from the diversion of gas tax paid by OHV recreationists to other programs including impacts associated with reduced OHV safety, education, mitigation, and development programs. Additionally, we request that an adequate mitigation plan be included as part of this action to compensate for past cumulative negative impacts.

824. We have noticed that most trails in wilderness areas are adequately maintained with clearing, water bar construction and trail rerouting provided on an annual basis. All of this is done by agencies without any user-generated fees. At the same time motorized resources see very little maintenance and motorized recreationists have had to do a lot of work themselves in order to keep motorized routes open even though OHV gas tax has generated over 8 billion dollars over the last 30 years. Moreover, to top off this incredibly inequitable situation, lack of maintenance is often used as a reason to close motorized recreational resources. We request, as a reasonable alternative, that this issue be addressed and corrected by using OHV generated gas tax monies for maintenance, education, and construction of motorized recreational opportunities.

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825. There are cases where OHV gas tax funding has been used to improve a non-motorized trail. There are also cases where OHV gas tax money has been used to improve a trail and then that trail has been closed to motorized use. The use of OHV gas tax funding for non-motorized recreation is improper. We request that these cases be identified and that they be corrected by replacing motorized recreational opportunities that have been closed with new motorized recreational opportunities of equal recreational value.

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March 8, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

Re: Safari Club International Comments on Draft Legislative Environmental Impact Statement for Nevada Test and Training Range Land Withdrawal

Dear Sir or Madam:

Safari Club International (SCI) submits this comment letter to strongly recommend that the U.S. Air Force abandon its efforts to withdraw and reserve additional public lands from the Desert National Wildlife Refuge (DNWR) in Nevada for military use to increase range capability for improved training and testing of military weapons. To the extent national security absolutely requires some modification to the existing Nevada Test and Training Range (NTTR), SCI recommends that the U.S. Air Force withdraw the minimum necessary amount of land from public use. The U.S. Air Force should withdraw the amount of land that minimizes impacts to access to wildlife water developments, continues the greatest opportunities for desert bighorn sheep hunting, and imposes the least detrimental impact on habitat for bighorn sheep and other desert wildlife. SCI asks the U.S. Air Force to seek solutions that satisfy national security needs while protecting our nation's desert wildlife and the recreational opportunities that help to conserve that wildlife.

Safari Club International

Safari Club International, a nonprofit IRC § 501(c)(4) corporation, has approximately 50,000 members worldwide, many of whom live and hunt in Nevada. SCI's missions include the conservation of wildlife, protection of the hunter, and education of the public concerning hunting and its use as a conservation tool. SCI chapters and members in Nevada have helped contribute to the conservation of Nevada's desert bighorn population and have a direct stake in making certain that this important resource remains available for the public to enjoy.

SCI historically has played a strong role in promoting and protecting opportunities to hunt and otherwise enjoy National Wildlife Refuges. For example, SCI helped the U.S. Fish and Wildlife (FWS) successfully defend against litigation that challenged the FWS's National Environmental Policy Act compliance in providing hunting opportunities on refuges throughout the National Wildlife Refuge System. SCI has also been a staunch supporter of bighorn sheep conservation and the installation, restoration, and maintenance of artificial water developments on public lands to make sure that desert wildlife have adequate water during periods of drought. SCI joined the FWS in litigation to defend the installation and maintenance of water developments designed to

Safari Club International - Washington DC Office
501 2nd Street, NE, Washington, DC 20002 • Phone 202 543 8733 • Fax 202 543 1205 • www.safariclub.org

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provide essential water for the desert bighorn sheep on Kofa National Wildlife Refuge in Arizona.

The Proposed Action

Although DNWR is the largest refuge in the lower 48 states, encompassing 1.615 million acres, much of its land has already been withdrawn from public use for purposes of the NTTR. The NTTR consists of approximately 2.9 million acres of federal land.

In the proposed action, the U.S. Air Force plans not only to renew the existing withdrawal of land, which now is set to expire in 2021, but also to withdraw an additional 301,507 acres to improve the range's capacity to support military testing and training. That land currently serves as habitat for the desert bighorn sheep that populate the DNWR and includes locations where sustainable hunting of the desert bighorn sheep takes place. The inclusion of the new acreage in the withdrawal will result in almost 75% of the DNWR being withdrawn from public use.

Impact of the Proposed Action on the Desert Bighorn Sheep Population

The DNWR was established in 1936 to perpetuate bighorn sheep and its habitat. It contains six major mountain ranges with bighorn sheep populations. While the rugged terrain provides preferred habitat for the desert bighorn sheep, it also provides challenges to species conservation. The area endures extreme variances of rainfall, sometimes making it difficult for the sheep population to find adequate water and making it necessary for the installation of water devices that can collect rainfall and retain it for access during periods of drought. The FWS, Nevada Department of Wildlife, private organizations, and individuals have installed, restored, and continue to maintain artificial water developments that provide the sheep with essential water sources at times of need.

In addition to the military tests and practice activities that are likely to result in direct damage to sheep habitat and may potentially interfere with and/or disturb sheep behavior, the proposed land withdrawal will close the road that provides access to several of the developments that supply water to the sheep. This road closure will make it far more difficult and costly for those who need access to inspect, maintain, and, where necessary, repair those water developments.

PA-1
BI-3
LU-8

The withdrawal of land and the resultant road closure will both deprive hunters of access and of lands on which to hunt desert bighorn sheep. If the withdrawal takes place it will restrict access to several of Nevada's hunting units that are locations for valuable desert sheep hunting opportunities.

LU-8

Request for a Different, Better Solution

SCI highly respects the U.S. Air Force and is grateful to of those who serve to protect our country. Many SCI members are current and former members of the military. We are extremely mindful of the importance of national security and of the need for the Air Force to modernize and maintain an efficient defense system. SCI asks that the planners find a means to achieve this

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goal without further expanding the NTTR. If some land withdrawal is absolutely necessary, we ask the Air Force to do so without withdrawing important sheep habitat, without closing road access and hunting units from public use, and without jeopardizing desert bighorn sheep conservation and recreational opportunities. We also ask the Air Force to find a way to avoid any impact that would interfere with the efforts of those who manage and conserve the sheep and their habitat.

Thank you for giving us the opportunity to provide these comments. If you have any questions about his comment letter, please contact Anna Seidman, Director of Government Affairs and Director of Litigation, at aseidman@safariclub.org.

Sincerely,

Paul Babaz
President, Safari Club International

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6008

From:	Brett Jefferson
To:	nttrleis
Cc:	Blackburn, Matt; Clint Bentley; Bentley, Cindy
Subject:	EXTERNAL: NTTR Military Land Withdrawal Legislative EIS
Date:	Thursday, March 08, 2018 4:41:19 PM
Attachments:	2018-03-08 FDB DNWR USAF NTTR Land Withdrawal Draft LEIS Public Comments.pdf
Importance:	High

March 8, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

Regarding: Public Comment – United States Air Force Legislative Environmental Impact Statement for the
Nevada Test and Training Range Military Land Withdrawal at Nellis Air Force Base

To Whom It May Concern,

On behalf of the Fraternity of the Desert Bighorn (FDB), please accept this comment letter concerning the United States Air Force (USAF) Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Military Land Withdrawal at Nellis Air Force Base.

The mission statement of the FDB is "a membership unselfishly dedicated to the welfare and conservation of Desert Bighorn and Nevada's wildlife." We do this by enhancing and advocating for Desert Bighorn Sheep populations through captures and releases, constructing remote water catchments developments called guzzlers, promoting scientific based wildlife management, educating the public and youth on sustainable use and the conservation benefits of hunting. The FDB is a 100% volunteer non-profit 501(c)(3) organization based in Las Vegas. Founded in 1964 by a handful of concerned conservation advocates at a time when the Desert Bighorn Sheep population in Nevada was at a historic low of less than 2,000 animals; the Fraternity of the Desert Bighorn has worked over the last five decades to recover bighorn sheep populations in Southern Nevada to now over 12,000 animals.

The Desert National Wildlife Refuge (DNWR) is a protected wildlife refuge administered by the U.S. Fish and Wildlife Service (USFWS) and is located a short drive north of Las Vegas, Nevada, in northwest Clark and southwestern Lincoln counties. The DNWR was created on May 20 1936 as the largest wildlife refuge in the lower 48 States with the primary objective to perpetuate desert bighorn sheep and its habitat. Since its inception, the FDB has worked with the Nevada Department of Wildlife (NDOW), the DNWR and USFWS to further the DNWR mission by actively improving bighorn habitat and developing existing and new water sources, as well as annual project maintenance, that also benefit another sixty-seven (67) other wildlife species. There are numerous recreational opportunities available to the public on the DNWR including camping, hiking, backpacking, horseback riding, off highway vehicle (OHV) riding, as well as limited bighorn sheep hunting.

Over half of the land area of the DNWR was incorporated in the NTTR by the Military Lands Act of 1999 resulting in restricted public access by the USAF for security and safety reasons. In 1999 the public was assured by the USAF that no further expansions or land withdrawals would ever be necessary. Within the

PA-76

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current boundary of the NTTR are the Spotted, Pintwaters and Desert mountain ranges, all with Desert Bighorn Sheep populations, as well as other wildlife.

Executive Summary

The FDB strongly supports the No Action Alternative. The USAF has not taken into consideration the public scoping meeting comments provided by many conservation organizations to adequately address the management or impacts of the proposed withdrawals on Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Water Developments and Developed Springs constructed over the years by the FDB, NDOW, the DNWR and USFWS. NP-8

Further, the USAF has not worked in good faith with stakeholders or the public to develop an alternative that considers an area within the existing 2.9 million acres already under the jurisdiction of the USAF, that addresses the public good on the DNWR, management and impacts on Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to Water Developments and Developed Springs, while also maintaining an acceptable level of mission readiness. In fact, the USAF attempted to bypass the NEPA process on two occasions to acquire the desired withdrawal lands through riders on National Defense Authorization Acts. NP-1 NP-16

Further, loss of lands currently under the jurisdiction of USFWS and the DNWR, both inside and outside the existing NTTR perimeter boundary, that have historically been used to improve Desert Bighorn habitat through the development of vital new water sources and maintaining and improving existing springs to benefit sixty-seven (67) other wildlife species, should not be sacrificed again for an expanded readiness mission that could be accomplished on portions of the existing 2.9 million acres already under USAF jurisdiction. In fact, consideration should be given by the USAF to return those withdrawn lands not in use by the USAF to the public and the DNWR as appropriate. PA-5

The FDB also points out that the proposed withdrawal actions will result in significant impacts to the public by reducing the number of acres open to camping, hiking, backpacking, horseback riding, game bird hunting, trapping and other forms of recreation associated with public lands, in particular on the largest wildlife refuge in the lower 48 States; as well as restricting access to five highly sought after Nevada Hunting Units (253, 252, 280, 284 and 283). All five of these units are prized Nelson Desert Bighorn Sheep hunt units that have historically produced large mature animals. LU-1 LU-8

To summarize the public comment by the FDB:

1. The FDB is opposed to Proposed Alternative 1.
2. The FDB is opposed to Proposed Alternative 2.
3. The FDB is opposed to Proposed Alternative 3A.
4. The FDB is opposed to Proposed Alternative 3A-1.
5. The FDB is opposed to Proposed Alternative 3B.
6. The FDB is strongly opposed to Proposed Alternative 3C.
7. The FDB supports Alternative 4A.

8. The FDB is opposed to Alternative 4B.

9. The FDB is strongly opposed to Alternative 4C

10. The FDB strongly supports the No Action Alternative.

Proposed Alternative 1: Extend Existing Land Withdrawal and Management of the NTTR North and South Range

The Fraternity of the Desert Bighorn is opposed to Proposed Alternative 1.

- The FDB is opposed to the expansion of the NTTR and a change in jurisdiction within the NTTR South Range to areas below the 4,000 foot elevation which includes the five target impact areas. The Draft LEIS does not adequately address the management or impacts of Alternative 1 on Nelson Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Wildlife Water Developments constructed over the years by the FDB, NDOW and USFWS on the DNWR within the existing NTTR boundaries. These unaddressed Water Developments and Developed Springs include:

  (1) Desert #5 (Brent's Seep) (2) Quartz Spring (3) Sand Spring

  (4) Desert #3 (Tommy) (5) Indian Canyon (6) Desert #1 (Chuckwalla)

  (7) Dejesus (8) Gravel Canyon (9) Spotted #4 (Foggy)

  (10) Spotted #3 (Patches) (11) Spotted #1 (12) Spotted #2 (Split Apron)

  (13) Spotted #6 (14) Dain Peak (15) Desert #2 (White Sage Gap)

  (16) Heaven's Well (17) Developed Tim Spring

BI-1
BI-3
BI-4
LU-2
LU-9
WA-6

- The FDB recommends that the boundaries of the existing NTTR 112,000 acres remain unchanged or be returned to the public use and full jurisdiction of the USFWS and the DNWR to the extent of the original 1936 dedicated boundaries of the DNWR.

Proposed Alternative 2: Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

The FDB is opposed to Proposed Alternative 2.

- FDB is opposed to providing "ready access" for conducting military operations in the NTTR South Range to improve capability and capacity for testing and training because the introduction of military training to

the South Range would cause adverse impacts to the visual characteristics of the South Range that are otherwise untrammeled. The Draft LEIS does not adequately address the management or impacts of Alternative 2 on Nelson Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Wildlife Water Developments constructed over the years by the FDB and the NDOW within the existing NTTR boundaries. These unaddressed Water Developments and Developed Springs include:

(1) Desert #5 (Brents Seep) (2) Quartz Spring (3) Sand Spring

(4) Desert #3 (Tommy) (Chuckwalla) (5) Indian Canyon (6) Desert #1

(7) Dejesus (Foggy) (8) Gravel Canyon (9) Spotted #4

(10) Spotted #3 (Patches) (11) Spotted #1 (12) Spotted #2 (Split Apron)

(13) Spotted #6 (White Sage Gap) (14) Dain Peak (15) Desert #2

(16) Heaven's Well (17) Developed Tim Spring

BI-1
BI-3
BI-4
LU-2
LU-9
WA-6

- The FDB recommends that the boundaries of the existing NTTR 112,000 acres remain unchanged or be returned to the public use and full jurisdiction of the USFWS to the extent of the original 1936 dedicated boundary of the DNWR.

Proposed Alternative 3A: Range 77 – Electronic Combat (EC) South Withdrawal

The FDB is opposed to Proposed Alternative 3A.

- FDB is opposed to expanding the NTTR boundary by approximately 18,000 acres to add a buffer to the safety footprint of Range 77 because of the reduction of access by the public to public lands for recreational use for bike trails, off road vehicle use, hiking, limits to sportsman access for hunting and fishing, as well as the resulting limited access to management wildlife for NDOW. Proposed Alternative 3A includes habitat suitable to wildlife including Desert Bighorn Sheep. NDOW terrestrial collar data, limited by two years of data collection, indicates that Desert Bighorn have used habitat less than a mile away from the proposed Alternative 3A expansion. In addition, there are a number of water sources located within the area that are critical to Bighorn Sheep and other wildlife that are not sufficiently addressed in the Draft LEIS. Finally, the Proposed Alternative 3A contained in the Draft LEIS does not provide for addressing the issue of adequate terrestrial separation between Desert Bighorn Sheep and domestic sheep grazing allotments to prevent the transmission of deadly disease to the Bighorn Sheep.

BI-3
WA-6
BI-10

Proposed Alternative 3A-1: Amended Range 77 – EC South Withdrawal

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The FDB is opposed to Proposed Alternative 3A-1.

- FDB is opposed to expanding the NTTR boundary by approximately 15,408 acres (18,000 acres – 2,592 acres) to add a buffer to the safety footprint of Range 77 because of the reduction of access by the public to public lands for recreational use for bike trails, off road vehicle use, hiking, limits to sportsman access for hunting and fishing, as well as the resulting limited access to management wildlife for NDOW. Proposed Alternative 3A-1 includes habitat suitable to wildlife including Desert Bighorn Sheep. NDOW terrestrial collar data, limited by two years of data collection, indicates that Desert Bighorn have used habitat less than a mile away from the proposed Alternative 3A-1 expansion. In addition, there are a number of water sources located within the area that are critical to Bighorn Sheep and other wildlife that are insufficiently addressed in the Draft LEIS. Finally, the Proposed Alternative 3A-1 contained in the Draft LEIS does not provide for addressing the issue of adequate terrestrial separation between Desert Bighorn Sheep and domestic sheep grazing allotments to prevent the transmission of deadly disease to the Bighorn Sheep.

BI-3
WA-6
BI-10

Proposed Alternative 3B: Enhanced Operational Security and Safety 64C/D and 65D Expansion

The FDB is opposed to Proposed Alternative 3B.

- FDB is opposed to expanding the withdrawal by approximately 57,000 acres along the existing southeastern NTTR/DNWR boundary due to indirect visual ground disturbance impacts to human beings and auditory impacts to Desert Bighorn Sheep and other wildlife from aircraft or other vehicular operations. The Draft LEIS does not designate a purpose for this portion of the proposed withdrawal other than to "square" off the South Range. No munitions use or emitter use would occur in this withdrawal area. The Draft LEIS does not adequately address the management or impacts of Alternative 3B on Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Spotted #5 Wildlife Water Development constructed by the FDB and NDOW.

BI-3
PA-23
BI-1
BI-3
BI-4
LU-2
LU-9
WA-6

- The FDB recommends that the boundaries of the existing South Range and NTTR remain unchanged or consider areas to be returned to the public use and full wildlife management to the NDOW; and, the 33,000 acres of area proposed as Wilderness outside the existing NTTR boundary remain as proposed Wildness and managed as such.

Proposed Alternative 3C: Alamo Withdrawal

The FDB is strongly opposed to Proposed Alternative 3C.

- The FDB is strongly opposed to expanding the Military withdrawal by approximately 227,000 acres of the remaining DNWR under the Alamo airspace, including opposition to the safety buffer(s) associated with the target areas that would be established as part of this withdrawal action, regardless of promises of blank munitions use, emitter use, and limited construction activities. The FDB is opposed to any impact to the DNWR primary jurisdiction changing to the USAF from the USFWS, and change to the joint management of wildlife by the USFWS and the NDOW; and any impacts to access and limitations in use by the public to Alamo Road which has been the access trail and road from pre-historic times to

the modern era connecting "The Meadows" in the Las Vegas Valley with the Pahranagat Valley to the North along the foot of the eastern slope of the Sheep Range proposed by Alternative 3C.

- The FDB is opposed to any impacts to solitude or primitive and unconfined recreation us by the public in surrounding Wilderness Areas, proposed Wilderness, and Wilderness Study Areas (WSA's) that would result from increased levels of aircraft operations, munitions use, and emitter operations, including increased noise levels, ground disturbance activities that would adversely impact the undeveloped quality of the remaining DNWR and Wilderness outside the existing NTTR boundary as part of Proposed Alternative 3C. — WI-1

- The FDB is opposed to a change in land management as part of the Alamo withdrawal from "undeveloped" areas to one with human development and interference.

- The Draft LEIS does not adequately address the management or impacts of Alternative 3C on Nelson Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Wildlife Water Developments constructed over the years by the FDB, NDOW with the cooperation of the USFWS and DNWR managers within the proposed withdrawal expansion proposed by Alternative 3C. — BI-1, BI-3, BI-4, LU-2, LU-9

- These unaddressed Water Developments within the proposed expansion of Alternative 3C and the Range 62A Safety Buffer which is within the existing NTTR boundary, but appears to include those areas outside of the 112,000 acre limit which are currently under the jurisdiction of the USFWS: — WA-6

  (1) Desert #4 (Blacktop) (2) East Pahranagat #5 (Enclosure) (3) Woody

  (4) East Desert #1 (Rug Mountain) (5) East Desert #2 (Saddle Mountain)

  As well as, the following Developed Springs:

  (1) Sheep Spring (2) Cabin Spring (3) Bootleg Spring

  (4) White Rock Spring (5) Yellow Jacket Spring

- The FDB recommends that the boundaries of the existing NTTR remain unchanged or be returned to the public use and full jurisdiction of the USFWS to the extent of the original 1936 dedicated boundary of the NDWR.

<u>Proposed Alternative 4: Establish the Period of Withdrawal</u>

- The FDB supports Alternative 4A proposing a 20-Year Withdrawal Period. The FDB is of the opinion that 20 years is sufficient time for reporting to the public the use and continued need of the Proposed Withdrawal.

- The FDB is opposed to Alternative 4B proposing a 50-Year Withdrawal Period. The FDB is of the opinion that 50 years is far too long of a time for reporting to the public the use and continued need of the Proposed Withdrawal.

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- The FDB strongly opposes Alternative 4C proposing an Indefinite Withdrawal Period. The FDB is of the opinion that the existing 2.9 million acres (4% of the total area of the State of Nevada) comprising the North Range, South Range, NTTR, and Nevada Test Site require congressional oversight and regular public reporting to justify continued use and need of the Withdrawn Lands and consideration of eventual release and return of portions to the Public Domain.

No Action Alternative

- The FDB strongly supports the No Action Alternative because the USAF has not taken into consideration the public scoping meeting comments provided by many conservation organizations to adequately address the management or impacts on Nelson Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Wildlife Water Developments and Developed Springs constructed over the years by the FDB and the NDOW in conjunction with the USFWS and the DNWR. — NP-8

- Further, the USAF has not worked with stakeholders or the public, other than domestic sheep producers, to develop an Alternative that considers an area within the existing 2.9 million areas already in the USAF's jurisdiction that adequately address the management or impacts on Nelson Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Wildlife Water Developments and Developed Springs constructed over the years by the FDB and NDOW in conjunction with the USFWS and the DNWR and sufficiently maintains the appropriate level of mission readiness. — NP-1, PA-5

- The remaining portion of the DNWR, outside the 1999 Military Withdrawal, is a protected wildlife refuge administered by the USFWS and measures must be employed to prevent further land withdrawals by the USAF. The DNWR was created on May 20 1936 as the largest wildlife refuge in the lower 48 States with the primary objective to perpetuate Nelson Desert Bighorn Sheep and its habitat. This mission has already been infringed upon by the existing NTTR overlay and 1999 Military Withdrawal from the DNWR.

- Further loss of DNWR lands that have historically been actively used to improve Desert Bighorn habitat by developing vital new water sources and maintaining and improving existing springs to benefit sixty-seven (67) other wildlife species should not be sacrificed for a readiness mission that can be accomplished on portions of the existing 2.9 million areas already under USAF jurisdiction.

- The FDB points out that the apparent USAF interest in the Alt 3C withdrawal is based on convenience and proximity to Creech Air Force Base and in a direct line with Nellis Air Force Base; an unfortunate circumstance for the location of the 1936 DNWR. — PA-5

- The FDB points out that the proposed withdrawal actions will reduce the number acres open to the public for camping, hiking, backpacking, horseback riding, game bird hunting, trapping and other forms of recreation associated with public lands, in particular the largest wildlife refuge in the lower 48 states; as well as restrict access to five highly sought after Nevada Hunting Units (253, 252, 280, 284 and 283). All five of these units are prized Nelson Desert Bighorn Sheep hunt units that have historically — LU-1, LU-8

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produced large mature animals. LU-8

The Draft LEIS by the USAF proposes to expand the readiness mission to approximately 75% of the entire DNWR. Important elements must be considered from the standpoints of both conservation and military readiness. It is evident from the content of the Draft LEIS that the wildlife professionals at NDOW, USFWS and the DNWR should be the responsible parties to manage and conserve wildlife. The FDB is providing these public comments, as a follow up to our discussions with the USAF at the public scoping meeting, as well as the public comment meeting. What has not happened from these public forums is the development of an alternative that meets both the conservation mission of FDB, NDOW, USFWS and DNWR and the readiness mission of the USAF. The FDB has offered to engage in direct discussions with the USAF and USFWS as well as the Nevada congressional delegation to remedy an equitable alternative. We offer the enclosed comments for your study and use as the USAF joins us in a rigorous and searching debate about the future of the DNWR, NTTR, and the Desert Bighorns that compose the main strength of the species in Southern Nevada. BI-45 PA-70

Thank you for your consideration.

Sincerely,

Mathew L. Blackburn
President

Brett K. Jefferson, P.L.S.
Legislative Affairs Committee Chair

The Fraternity of the Desert Bighorn is a 100% volunteer non-profit 501(c)(3) organization based in Las Vegas, Nevada, with members unselfishly dedicated to the welfare and conservation of Nevada's desert bighorn and other wildlife. Founded in 1964 by a handful of concerned conservation advocates at a time when the desert bighorn sheep population in Nevada was at a historic low of less than 2,000 animals, the Fraternity of the Desert Bighorn has worked over the last five decades to recover bighorn sheep populations in Southern Nevada now over 12,000 animals.

~ Fraternity of the Desert Bighorn ~

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6009

WILD SHEEP Foundation

March 8, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

To Whom It May Concern:

On behalf of the Wild Sheep Foundation (WSF), please accept this comment letter concerning the United States Air Force (USAF) Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Military Land Withdrawal at Nellis Air Force Base.

The mission of the WSF is to enhance wild sheep populations, promote scientific wildlife management, educate the public and youth on sustainable use and the conservation benefits of hunting while promoting the interests of the hunter. Incorporated within the NTTR, the Desert National Wildlife Refuge (DNWR) was created on May 20, 1936 with the primary objective of perpetuating desert bighorn sheep and their habitat. Thus, WSF strongly supports the objective for which the DNWR was established, and encourages the USAF to consider the implications of all decisions on desert bighorn sheep and those who manage and benefit from them.

Through the cooperative efforts of conservation organizations such as our Affiliate organization, the Fraternity of the Desert Bighorn (FDB), other citizen volunteer groups, Nevada Department of Wildlife, and the U. S. Fish and Wildlife Service (USFWS), DNWR has a long and proven track record of actively managing desert bighorns and other native wildlife. In addition, DNWR provides important recreational opportunities including camping, hiking, backpacking, horseback riding, off-highway vehicle riding, hunting, and other outdoor activities.

NTTR is comprised of approximately 2.9 million acres of federal land that has already been withdrawn from public use and reserved for military use, most recently by the Military Lands Withdrawal Act of 1999. Our concerns relate to additional restricted access that would limit access for wild sheep management and research purposes, and use by the public. Of primary concern is restricted access by FDB to maintain and/or develop critical water sources for the benefit of desert bighorn sheep and other desert wildlife. WSF recommends that the boundaries of the existing NTTR 112,000 acres remain unchanged or be returned to public use and full jurisdiction of the USFWS to the extent of the original 1936 dedicated boundary of the DNWR. LU-5 LU-1 LU-9

Of the 7 proposed alternatives offered in the LEIS, WSF strongly supports the "*No Action*" alternative. Proposed Alternatives 1-3C fail to address concerns expressed by numerous conservation organizations and individuals during public scoping meetings regarding impacts on desert bighorn sheep and other wildlife, access for management purposes and public use, and failure to provide adequate separation between desert bighorn sheep and domestic sheep grazing BI-1 LU-2 BI-10

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allotments to prevent disease transmission (3A-1). WSF strongly opposes Proposed Alternative 3C, which involves expanding the Military withdrawal by approximately 227,000 acres of the remaining Desert National Wildlife Refuge under the Alamos airspace (including safety buffers associated with the target areas). In addition, we oppose any changes to management authority of Desert National Wildlife Refuge (from USFWS to USAF), any impacts to access and limitations on use by the public to Alamo Road, and a change from an "undeveloped" to " human development and interference" management philosophy. BI-10

WSF believes it is vital for the USAF to work with key stakeholders to develop an alternative that adequately addresses these impacts and needs while sufficiently maintaining the appropriate level of mission readiness. As previously indicated, approximately 2.9 million acres of federal land has already been withdrawn from public use. WSF believes that the remaining portion of DNWR should be protected and managed as a wildlife refuge administered by the USFWS. PA-26

Thank you for the opportunity to comment. Please contact us at WSF HQ if you have questions or need additional clarification or assistance from WSF. We look forward to hearing from you on this vitally important matter.

Sincerely,

Gray Thornton
President & CEO

Kevin Hurley
Vice President of Conservation & Operations
Senior Conservation Director

cc: Brett Jefferson, Chairman, WSF
Jack Atcheson, Jr., WSF Conservation Committee Chair

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March 2, 2018

National Parks Conservation Association Comments on the Air Force NTTR LSIS

Contact Information: Neal Desai, Pacific Region Field Director, NPCA Pacific Regional Office, 350 Frank H. Ogawa Plaza, Suite 100, Oakland, CA 94612; Email: ndesai@npca.org

The National Parks Conservation Association (NPCA) has had a long-standing interest and involvement with park and related environmental issues throughout the Mojave Desert in both California and Nevada. The non-profit organization was founded in 1919, and represents 1.3 million members and supporters who care deeply about America's shared natural and cultural heritage. Broadly, NPCA's mission is to protect and enhance America's National Park System and other national conservation assets through advocacy and policy making.

The US Air Force has prepared for Congress a Legislative Environment Impact Statement to renew their present withdrawal that expires in 2021 and to expand those withdrawals to include up to an additional 300,000 acres and change how those withdrawn lands are controlled. We clearly understand the importance of balancing national security needs with the need to protect key elements of America's natural and cultural heritage resources. However, after reviewing the NTTR Legislative Environmental Impact Statement, we are of the belief that the Air Force did not make an adequate national security case for expanding withdrawals and control over an additional 300,000 acres of land within the Desert National Wildlife Refuge for the Nevada Test and Training Range. PA-18

In our opinion, expanding the present land withdrawal and changing primary control from the U.S. Fish & Wildlife Service to the U.S. Air Force is an unacceptable overreach by the Air Force, particularly given the nationally significant natural and cultural heritage values of the Desert National Wildlife Refuge. The adverse impacts of such an expansion and management prescription on the heritage resources for which the Desert National Wildlife Refuge was created and presently managed are significant and irrevocable.

We believe the analysis by the Air Force in the LEIS did not adequately evaluate alternatives to utilize military operational areas in other military ranges in the Mojave Desert that are already withdrawn. There appears to be ample opportunity to develop a more coordinated and integrated military response to nationwide battlefield scenarios utilizing all military assets in the Mojave Desert. Looking at expanded options across the Mojave Desert may develop alternatives that PA-5 PA-5

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better serve the region and county as a whole, both militarily and from a perspective of doing our best to preserve America's heritage resources.

What makes the Desert National Wildlife Refuge so special is its size and the fact that the lands have been very minimally impacted by the presence of man over time. Because the land has been largely unfettered from the activities of man, the habitat and the variety of plants and animals that it supports is intact and quite extraordinary. The biodiversity is extremely rich, supporting some 500 plant species, 52 species of mammals, 320 species of birds, and 40 species of reptiles and amphibians. The entire area maintains a wilderness like setting and this is why the U.S. Fish & Wildlife Service recommended that Congress designate 1.4 million acres of the Refuge for Wilderness designation in the 1970's.

Like the natural heritage values, the cultural sites within the Refuge also remain intact. Around 80% of the Sheep Range is designated as the Sheep Mountain Archaeological site and on the National Register of Historic Places. The Air Force proposed additions would withdraw 50% of the Sheep Range and put it under primary control of the Air Force. This would significantly damage and most likely destroy priceless cultural artifacts and sites. CU-2

From a recreational perspective, the Refuge provides a truly unique experience as visitors can drive the existing two primary roads and experience the wilderness values or hike more into the core of the Refuge and experience real solitude.

The National Parks Conservation Association recommends that Alternative 1 be the preferred alternative. This extends existing land withdrawal & management of the NTTR. This allows the military to continue their mission within the existing NTTR as it exists today where the U.S. Air Force and U.S. Fish & Wildlife Service share use and management of 846,000 acres where the Nevada Test & Training Range overlap the Desert National Wildlife Refuge. It is our belief that the US Fish & Wildlife Service needs to maintain continued primary jurisdiction of land use within the overlap areas.

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Submitted electronically to nttrleis@leidos.com and via website at http://www.nttrleis.com/comment.aspx

March 8, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, Nevada 89191

RE: Draft Legislative Environmental Impact Statement for the Nevada Test and Training Range Military Land Withdrawal at Nellis Air Force Base, Nevada

Dear Planning Officer:

The Center for Biological Diversity, Defenders of Wildlife, and Sierra Club respectfully submit the following comments on the U.S. Air Force's draft legislative environmental impact statement (LEIS) on its proposal to renew and expand its use of and jurisdiction over public land withdrawn for the Nevada Test and Training Range (NTTR) administered by the Nellis Air Force Base.

The Air Force proposes action alternatives that will drastically alter the environmental status quo by eliminating vital protections for lands in the Desert National Wildlife Refuge and enabling the destruction of vital habitat for imperiled species. The preferred alternative, which is hidden in the draft LEIS, encompasses Alternatives 2 and 3, including all sub-alternatives, as well as Alternative 4C. LEIS at 2-20. The document, despite being voluminous, does not provide adequate analysis of the impacts of the preferred alternative or the individual action alternatives. For the reasons detailed below, the draft LEIS fails to provide sufficient information to the public and to Congress regarding the dire consequences of the alternatives that would expand military use and control of more than one million acres of Desert Refuge, remove wilderness–related

management protections for enormous expanses of habitat to facilitate increased military training operations, threaten imperiled species and indefinitely remove lands from the public domain (preferred alternative, Alternatives 2, 3 and 4C).

Sierra Club, Center for Biological Diversity, and Defenders of Wildlife urge the Air Force to recommend that Congress maintain the status quo by selecting Alternative 1 as the preferred alternative in the Final LEIS. We advise the Air Force, and Congress, to reject any combination of alternatives that would diminish current protections for lands and wildlife within Desert National Wildlife Refuge or further threaten imperiled species. Rather than expose the full consequences of its extreme alternatives to public scrutiny, the LEIS obscures, omits and improperly defers analysis of impacts, in violation of NEPA.

The Center for Biological Diversity is a non-profit environmental organization dedicated to the protection of native species and their habitats in the Western Hemisphere through science, policy, and environmental law. The Center has over 1.6 million members and supporters throughout Nevada and the United States, including thousands of supporters from Clark and Nye Counties, many of whom utilize public lands on the Desert National Wildlife Refuge for recreation and other uses. The Center's Nevada program focuses on the protection of wildlife and endangered species, the preservation of public lands, and the sustainability of Nevada's groundwater resources.

Founded in 1947, Defenders of Wildlife is a national non-profit conservation organization focused on conserving and restoring native species and their habitats across the country. Based in Washington, DC, the organization also maintains six regional field offices and represents more than 1.8 million members and supporters in the United States and around the world, including approximately 16,600 in Nevada. Defenders is deeply involved in public lands management and wildlife conservation, including the protection and recovery of flora and fauna in the Great Basin and Mojave Desert ecosystems. Our priorities include supporting proper management of the National Wildlife Refuge System, the only network of federal lands and waters dedicated to wildlife conservation.

Sierra Club was founded in 1892 and is the nation's oldest grass-roots environmental organization. It is a national nonprofit organization of over 800,000 members, and has chapters across the United States, including the Toiyabe Chapter of the Sierra Club, representing about 6,600 members in Nevada and the Eastern Sierra. Sierra Club's purpose is to explore, enjoy and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; to educate and enlist humanity to protect and restore the quality of the natural and human environment; and use all lawful means to carry out these objectives.

Thank you for your attention to these comments.

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Sincerely,

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I. The LEIS Fails to Meet Fundamental Requirements of the National Environmental Policy Act

The National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321–4370h, and its implementing regulations, promulgated by the Council on Environmental Quality (CEQ), 40 C.F.R. §§ 1500.1–1518.4, is our "basic national charter for the protection of the environment." 40 C.F.R. § 1500.1. Recognizing that "each person should enjoy a healthful environment," NEPA ensures that the federal government uses all practicable means to "assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings," and to "attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences," among other policies. 43 U.S.C. § 4331(b). "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." 40 C.F.R. §1500.1(c).

NEPA imposes "action forcing procedures … requir[ing] that agencies take a *hard look* at environmental consequences." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (citations omitted) (emphasis added). These "environmental consequences" may be direct, indirect, or cumulative. 40 C.F.R. §§ 1502.16, 1508.7, 1508.8. A cumulative impact is:

> the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 C.F.R. § 1508.7. To adequately assess the environmental impacts of a proposed action, agencies must assess three types of actions: (1) connected actions, (2) cumulative actions, and (3) similar actions. 40 C.F.R. § 1508.25. Connected actions "are closely related and therefore should be discussed in the same impact statement. Actions are connected if they: (i) Automatically trigger other actions which may require environmental impact statements; (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously; (iii) Are interdependent parts of a larger action and depend on the larger action for their justification." *Id.* Cumulative actions are those actions that "when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement." *Id.* Similar actions are those actions that "when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography. An agency may wish to analyze these actions in the same impact statement. It should do so when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement." *Id.*

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An EIS must do more than merely identify impacts. An EIS must also enable decision makers and other interested parties to "evaluate the severity" of the effects. *See Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989).

NEPA requires that the significance of direct, indirect, or cumulative impacts be determined by accounting for both the "context" and "intensity" of those impacts. 40 C.F.R. § 1508.27. Context "means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality" and "varies with the setting of the proposed action." 40 C.F.R. § 1508.27(a). Intensity "refers to the severity of the impact" and is evaluated according to several additional elements, including, for example: unique characteristics of the geographic area such as ecologically critical areas; the degree to which the effects are likely to be highly controversial; the degree to which the possible effects are highly uncertain or involve unique or unknown risks; and whether the action has cumulatively significant impacts. *Id.* § 1508.27(b).

Military testing and training activities will, by nature, be error-laden and have unintended outcomes. Targets will be missed; weapons will not function as planned; troops in training will make mistakes; there will be accidents; etc. The LEIS must account for these potentialities. Instead, the Air Force claims not to have data and methods to calculate risk and error probabilities into direct, indirect, and cumulative effects analyses to estimate ecological impacts with greater precision, scope, and accuracy and that can quantify projections, where possible. In many, if not most, cases impact determinations in the LEIS seem derived from guesswork with no empirical grounding. Without a more accurate accounting of impacts, it is impossible to trust the projections regarding the likelihood of conservation and minimization measures to mitigate adverse effects from proposed activities. PA-66

NEPA requires that environmental analyses of consequences, which form the basis for the comparison of alternatives, evaluate "possible conflicts between the proposed action and the objectives of Federal, regional, State, and local . . . land use plans, policies and controls for the area concerned." 40 C.F.R. § 1502.16(c). NEPA also requires that "[e]nvironmental impact statements shall state how alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of the Act [NEPA] and other environmental laws and policies." 40 C.F.R. § 1502.2(d). With regard to impacts to lands within the National Wildlife Refuge System, NEPA therefore requires the action agency to evaluate impacts of alternatives on achieving the mandates, mission and values provided by the National Wildlife Refuge System Administration Act as amended by the National Wildlife Refuge System Improvement Act of 1997 (Refuge Improvement Act). 16 U.S.C § 668dd–668ee. PA-67

Finally, the LEIS falls short of NEPA requirements by burying the preferred alternative; failing to consider an alternative that would meet military needs while upholding national wildlife refuge mandates; and failing to provide a detailed analysis of the No Action alternative.

1. The LEIS fails to clearly identify the preferred alternative. The preferred alternative is the alternative or combination of alternatives that the Air Force believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, PA-45

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technical and other factors. NEPA requires the EIS to "identify the agency's preferred alternative if one or more exists, in the draft statement, and identify such alternative in the final statement." 40 C.F.R. § 1502.14(e). This means that if the Air Force has a preferred alternative at the draft stage, that alternative must be labeled or identified as such. In this case, the LEIS hides the preferred alternative among more than one thousand pages, describing it in one obscure sentence, which states that "in order to meet USAFWC's requirements, the Air Force requires implementation of Alternatives 2 and 3, including all subalternatives, as well as Alternative 4C." LEIS at 2-20. PA-45

2. The LEIS neglects to consider a reasonable action alternative that would meet military training needs while preserving Desert Refuge and upholding Refuge System mandates. NEPA requires agencies to "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated" 40 C.F.R § 1502.14(a). The LEIS should include an alternative that maintains the status quo for Desert Refuge, while expanding military use onto Bureau of Land Management lands or Department of Energy lands, or shifting desired combat training operations to other military installations and training ranges. Instead, the LEIS quickly dismisses the universe of all other reasonable alternatives based on vague "infrastructure investment and cleanup costs, airspace attributes, and encroachment issues," without further describing rejected alternatives or providing a brief discussion of where and what they might entail. LEIS 2-3; 2-4. PA-68
3. The LEIS lacks a detailed analysis of the No Action alternative. The No Action alternative provides a baseline against which decision-makers can measure the magnitude of potential environmental effects of the action alternatives. In this case, the No Action alternative is identified as Congress declining to renew the withdrawal of public lands that comprise the NTTR, allowing the authorization for NTTR expire and returning the lands to the public domain. Although the LEIS acknowledges that "CEQ regulations (40 C.F.R § 1502.14(d)) require the alternative analysis in an EIS to 'include the alternative of no action,'" the draft declined to provide such analysis, claiming that "the full scope of the No Action Alternative implementation will be determined in coordination with the Secretary of the Interior." LEIS at 2-33. The LEIS thus denies Congress and the public a baseline against which to compare impacts from the action alternatives and, in fact, fails to explain when or how the Secretary of Interior and the Air Force will provide this required analysis of the No Action alternative. NP-2

II. The LEIS Fails to Disclose that the Preferred Alternative Would Undermine Conservation Mandates for the National Wildlife Refuge System

The preferred alternative would impact more than one million acres of habitat within Desert National Wildlife Refuge, yet at more than 1,000 pages, the LEIS fails to analyze how increased military use and control on the refuge would affect, let alone uphold, National Wildlife PA-45 PA-67

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Refuge System mandates. The preferred alternative, identified as "implementation of Alternatives 2 and 3, including all subalternatives, as well as Alternative 4C" would effectively allow the Air Force to commandeer more than two-thirds of the approximately 1.6 million-acre refuge in perpetuity. LEIS at 2-20. Alternative 2 proposes to transfer primary jurisdiction over 826,000 acres of Desert Refuge from USFWS to the Air Force, to support increased military training activities in what is generally referred to as the NTTR South Range. LEIS at 2-22. Alternative 3B would expand the boundaries of NTTR onto an additional 33,000 acres of the refuge, while Alternative 3C would expand NTTR onto another 227,027 acres encompassing some of the most vital habitat in Desert Refuge. LEIS at 2-25; 2-28. Alternative 4C would authorize the entire NTTR withdrawal indefinitely. LEIS at 2-32. These alternatives would erode the protection of refuge resources by stripping primary management authority from USFWS, allowing further expansion of damaging military activities into vital habitat and reducing public access to the refuge, undermining conservation mandates for the Refuge System.

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Whether selected individually or combined in the preferred alternative, Alternatives 2 and 3 have extensive implications for management of refuge wildlife and habitat, yet the LEIS neglects to sufficiently evaluate them through the lens of Refuge System law and policy. In fact, the LEIS scarcely mentions current conservation mandates for the Refuge System, which provide essential context for analysis of impacts under the mix of action alternatives. A comprehensive analysis would find that proposed activities under Alternatives 2 and 3 entirely contradict the National Wildlife Refuge System Administration Act as amended by the National Wildlife Refuge System Improvement Act of 1997 (Refuge Improvement Act). 16 U.S.C. §§ 668dd-668ee. Implementation would effectively require Congress to legislate a reckless override of this fundamental environmental law, yet the LEIS neglects to acknowledge this crucial fact. Instead, it obscures and omits information that Congress needs to adequately assess the consequences of the action alternatives.

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A. The LEIS Fails to Analyze the Effects of Action Alternatives on the Mission of the National Wildlife Refuge System

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The National Wildlife Refuge System is the only network of federal lands and waters dedicated to wildlife conservation. Encompassing 566 refuges with at least one in every U.S. state and territory, the Refuge System is essential to protecting our nation's astounding diversity of wildlife, supports innumerable recreational and educational opportunities and generates billions of dollars in local, sustainable economic revenue. Desert National Wildlife Refuge is an exceptional unit of the System.

The U.S. Fish and Wildlife (USFWS) Service manages Desert Refuge in accordance with the Refuge Improvement Act, which provides that it is the policy of the United States that "each refuge shall be managed to fulfill the mission of the system as well as the specific purposes for which that refuge was established." 16 U.S.C. § 668dd(a)(3)(A). The mission of the National Wildlife Refuge System is:

> to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." 16 U.S.C. § 668dd(a)(2).

Although the LEIS repeatedly restates that the military mission includes a goal of "maintaining ecosystem integrity through good stewardship" and "protecting existing biodiversity" during planning or activities, those goals are not tantamount to the duty imposed on USFWS to maintain the Refuge System specifically for wildlife conservation. LEIS 3-163; 3-164 It is also essential to acknowledge that the Refuge System mission is distinct from legislated management frameworks for other public lands systems (e.g., multiple-use for Bureau of Land Management (BLM) lands), a concept that appears to be lost in the Purpose and Need of the LEIS. For example, the Air Force laments that the "the lack of ready access for military use within the [Desert Refuge] area of the South Range is the primary reason that [Major Combat Operations] are channeled to the North Range." LEIS at 1-18. However, the LEIS neglects to explain that the reason the North Range is appropriate for MCOs, while the South Range is not is because the North Range is managed by the BLM and the South Range is refuge land.

The LEIS also fails to analyze how each alternative or combinations of alternatives that affect Desert Refuge supports or detracts from the wildlife conservation mission of the Refuge System overall. In discussing the criteria used for selecting alternatives, the LEIS admits that "conceptual ideas described by the Air Force were contrary to the current governing legislation (the Wilderness Act and the National Wildlife Refuge System Improvement Act of 1997) associated with the areas of overlap between NTTR and the USFWS areas in the [Desert Refuge]," and goes on to explain that "such conflicts must be considered (40 CFR 1506.2(d))." LEIS at 2-15. However, the LEIS does not make a sufficient attempt to consider the conflicts with the Refuge Improvement Act, as it provides virtually no explanation of where, when and how these conflicts arise in the alternatives analyses, or what they would mean for the System's wildlife conservation mission. In fact, where the LEIS does reference to the Refuge System mission occurs, it raises more questions without answers. For example, it is unclear why the LEIS refers to the Refuge System mission in the context of Visual Resources in Section 3.4.1.5 and then fails to mention it in describing the multitude of Biological Resources in the planning area in Section 3.8. LEIS at 3-50.

B. The LEIS Fails to Analyze the Effects of Action Alternatives on the Purposes of Desert National Wildlife Refuge

Originally established in 1936, Desert National Wildlife Refuge encompasses six mountain ranges, broad basins and rare springs, providing high-quality, intact habitat for desert bighorn sheep, threatened desert tortoise, golden eagle, mule deer, mountain lion and other

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wildlife that depend on the Great Basin and Mojave Desert ecosystem. The refuge supports approximately 320 birds species, 53 mammal species, 35 reptile species, four amphibian species and 500 plant species. It is a popular destination for recreationalists, offering myriad opportunities for camping, hiking and wildlife viewing. In accordance with the Refuge Improvement Act, USFWS manages Desert Refuge to fulfill the mission of the Refuge System as well as for "the specific purposes for which th[e] refuge was established." 16 U.S.C. § 668dd(a)(3)(A).

Refuge purposes are derived from the laws, executive orders, permits or other legal documents that authorize land acquisition for a refuge. The purposes of Desert Refuge, as cited in the Desert National Wildlife Refuge Complex Final Comprehensive Conservation Plan, include:

> "...the protection, enhancement, and maintenance of wildlife resources, including bighorn sheep..." (Public Land Order 4079, dated August 31, 1966, as amended by PL 106–65).
>
> "...to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants..." (ESA, 16 USC Sec. 1534).
>
> "...suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species..." (16 USC Sec. 460k-1).

USFWS 2009 at 1-31.

Although the LEIS offers some analysis of impacts of alternatives on wildlife and recreation, it fails to address the specific purposes of Desert Refuge and thus cannot sufficiently evaluate the effects of the preferred alternative on those purposes. For example, although the current Memorandum of Understanding between the Air Force and USFWS states that responsibilities of USFWS with respect to NTTR include "conservation of wildlife resources and preservation of the desert bighorn sheep within the [Desert Refuge]"… "[p]rotection of federally listed as threatened and endangered species and their habitats according to the ESA" and assistance in "managing natural resources by providing expertise on issues related to endangered species, fisheries, invasive species, migratory birds, law enforcement, wetlands, and environmental contaminants," the LEIS does not explain how this management regime would change under each alternative and combination of alternatives, what the new MOU proposed in Alternative 2 might entail, and what the impacts would be to refuge purposes. Failure to include this information is a failure to fully inform the public and Congress about the impacts of the preferred alternative for which the Air Force will request legislative approval. Final Integrated Natural Resources Management Plan, 2010 at 24.

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C. The LEIS Lacks Sufficient Analysis of the Effects of Action Alternatives on National Wildlife Refuge System Values and Goals

The Improvement Act requires that USFWS manage units of the Refuge System to "provide for the conservation of fish, wildlife, and plants, and their habitats within the System" and in accordance with the nation's broadest statutory commitment to ecosystem protection, to "ensure that the biological integrity, diversity and environmental health of the System are maintained." 16 U.S.C. § 668dd(a)(4)(A-B). The statute further establishes six "wildlife-dependent recreational uses" − wildlife observation and photography, hunting and fishing, and environmental education and interpretation − as the general public uses of the System "through which the American public can develop an appreciation for fish and wildlife," and requires that USFWS prioritize them when compatible with wildlife conservation. 16 U.S.C. § 668dd(a)(4)(H); 16 U.S.C. § 668ee(2).

The LEIS omits sufficient analysis of the impacts the proposed action alternatives would have on the wildlife conservation and recreational values established under the Refuge Improvement Act. Congressional approval of the preferred alternative would prioritize military training on most of Desert Refuge, opening more than one million acres of habitat to combat exercises. Fences and barriers would be constructed, blocking wildlife from important parts of the refuge, and public access for recreation would be restricted. The preferred alternative would void existing wildlife management prescriptions and strip much of USFWS's authority to conserve sensitive species. Rather than transparently disclosing this resulting loss of protections for refuge values, the LEIS obscures the analysis, leaving it to Congress and the public to extrapolate the potential impacts from proposed activities.

Moreover, while the LEIS evaluates impacts to biological and recreational opportunities,[1] it does not explicitly address how the action alternatives, particularly Alternatives 2 and 3C, would separately and together undermine the values of Desert Refuge and the National Wildlife Refuge System. Nor does it explicitly address the lost opportunities for proactive management to conserve and restore wildlife resources that will result from implementation of each alterative or combination of alternatives in the LEIS. Subordinating the wildlife protection goals of the National Refuge System to the goals of the military mission will likely prevent achievement of Refuge System goals. The LEIS must fully identify that impact.

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D. The LEIS Fails to Consider Whether the Proposed Refuge Uses in Action Alternatives Are Compatible with Wildlife Conservation

The Refuge Improvement Act binds USFWS to additional substantive management criteria for Desert Refuge which the LEIS fails to consider. The Act's compatibility mandate is fundamental to refuge management and implementing the wildlife conservation mission of the

[1] Though for independent reasons detailed below, this evaluation is deficient in numerous respects.

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Refuge System. Congress directed that "the refuge manager will not initiate or permit a new use of a national wildlife refuge or expand, renew, or extend an existing use of a national wildlife refuge unless the refuge manager has determined that the use is a compatible use." 50 CFR § 25.41; 603 FW 2.3; 16 U.S.C. §668dd(d)(3)(A)(i). A compatible use is "a proposed or existing wildlife-dependent recreational use or any other use of a national wildlife refuge that, based on sound professional judgment, will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose(s) of the national wildlife refuge." 50 CFR § 25.12(a); 16 U.S.C. § 668ee(1). In determining whether a use is compatible, the refuge manager must closely consider the purposes for which the refuge was established and ensure the use will not undermine the management, conservation, and restoration of species and habitats specific to the refuge or degrade the ecological integrity of the Refuge System.

While the Air Force is not the agency required to uphold the refuge compatibility mandate, the LEIS must still acknowledge that this requirement exists and that many of the proposed military activities in the action alternatives are unlikely to be found compatible by USFWS. Yet in more than 1,000 pages, the LEIS does not even mention this crucial refuge protection standard, much less explain whether and how it would apply in the various alternatives. Given NEPA's requirement to fully inform the public, the LEIS should at least consider whether activities proposed in the alternatives are compatible with the Refuge System mission and Desert Refuge purposes, or explain in the document why the Air Force declined to do so and how such compatibly determinations would be made if the alternatives are implemented. The noise, infrastructure and damage associated with major combat activities and bombing exercises is obviously not compatible with wildlife conservation, and USFWS has even indicated in policy that habitat fragmentation, such as that caused by fencing off portions of the refuge as proposed in the action alternatives, is incompatible with the wildlife conservation mission and would pose a direct threat to the integrity of the Refuge System. 603 FW 2.5A. Yet the LEIS fails to inform Congress that legislating the preferred alternative could override Congressionally mandated compatibility determinations, removing this fundamental safeguard and effectively turning vast portions of the refuge into a refuge in name only.

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E. The LEIS Fails to Disclose that Transferring Primary Jurisdiction from the Fish and Wildlife Service to the Air Force Would Contravene the Refuge Improvement Act.

Transferring primary jurisdiction over a vast swath of Desert Refuge from USFWS to the Air Force would subvert the Refuge Improvement Act requirement that USFWS maintain sole and exclusive management authority over all national wildlife refuges. Although the plain language of the statute does not itself expressly mandate such exclusive management — it only says that all refuge areas "shall be administered by the Secretary through the United States Fish and Wildlife Service," 16 U.S.C. §668dd(a)(l) — the legislative history of the amendments to the statute adding this language and subsequent court decisions make clear that exclusive jurisdiction

is required. In accordance with its legislative authority, USFWS uses memoranda of understanding to establish co-management of certain refuge resources.

As the legislative history indicates, the amendments to the Refuge Improvement Act were intended to redress the existing problem of dual management over refuge areas, which the Senate thought undermined protection of fish and wildlife resources. S. Rep. No. 94-593, at 2 (1976). The Senate Report accompanying the bill amending the Act specifically explained, in language that could hardly be clearer, that dual administration of refuge areas would be prohibited by the statute. Relying on this legislative history, a district court in Alaska, in a decision summarily affirmed by the Ninth Circuit, held that the Department of the Interior could not designate lead management responsibility over a national wildlife refuge area to the U.S. Geological Survey. *Trustees for Alaska v. Watt*, 524 F. Supp. 1303, 1308-10 (D. Alaska 1981) ("Joint administration over the Refuge is forbidden by Congress."), affd, 690 F.2d 1279 (9th Cir. 1982) (per curiam); see also *Wyoming v. United States*, 61 F. Supp.2d 1209, 1220 (D. Wyo. 1999) (concluding that "it is evident that Congress left little room for any other entity to exert management control over national refuges"). Given this legislative history and caselaw, the LEIS should disclose that adopting Alternative 2 would contradict the Refuge Improvement Act. The current draft fails to even mention this fundamental refuge precept, concealing from Congress and the public the problems that would arise if the Air Force is given primary management authority over the refuge.

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III. The LEIS Obscures the Significant Loss of Wilderness Characteristics Associated with Alternatives 2 and 3

Alternative 2 asks Congress to remove existing requirements to manage 590,000 acres within Desert National Wildlife Refuge as proposed wilderness. *See* LEIS at 3-83. The consequence of such legislation would be that the Air Force would no longer be required to manage that area in a manner that preserves the wilderness characteristics. Rather than transparently disclose how that change will result in a loss of wilderness characteristics on the refuge lands due to the activities that the Air Force plans to implement, the LEIS obscures the analysis, as discussed below, depriving Congress and the public of important information about the environmental consequences of Alternative 2. Moreover, the rationale that the LEIS provides for evaluating the significance of the loss of such an enormous portion of wilderness within the Desert National Wildlife Refuge treats all lands with wilderness characteristics as if they were a fungible commodity, entirely failing to recognize the distinct values of the lands proposed for wilderness designation located within the wildlife refuge.

The LEIS takes the same faulty approach for its analysis of Alternative 3. Alternative 3 would remove the wilderness protections from the areas in Alternative 2, but would also remove wilderness protections for up to an additional 227,000 acres of proposed wilderness in the portion of Desert National Wildlife Refuge that is currently not within the boundaries of the NTTR.

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A. The LEIS Fails to Disclose the Loss of Wilderness Characteristics

Rather than assess the reasonably foreseeable losses of wilderness characteristics that will occur on the 590,000 acres addressed by Alternative 2, the LEIS relies on the premise that there is no need to consider those losses if the lands are no longer proposed for wilderness designation. *See* LEIS at 3-84 ("Impacts to areas proposed for wilderness are typically assessed on the potential effects to wilderness qualities … However, impacts to areas that were proposed for wilderness in the South Range are not assessed within the context of potential effects to wilderness qualities because those standards would no longer apply under Alternative 2."). This premise deprives Congress of the very information that it needs to evaluate the environmental consequences of the legislation that the Air Force would seek if it proposes Alternative 2. Instead of assessing the impacts on the 590,000 acres, the LEIS discusses only the impacts on the wilderness characteristics of adjacent areas that would continue to be managed as proposed wilderness. *See id* at 3-84 through 3-85. While the LEIS mentions that other sections scattered through the LEIS describe impacts to the resources within the 590,000 acres, such as impacts to the biological resources, it does not provide an assessment of how those impacts relate specifically to the loss of the wilderness characteristics that would otherwise continue to be preserved under the status quo. *See id*. at 3-84. WI-25

The LEIS also provides speculation that biological resources may improve without restrictions to maintain wilderness character because monitoring and other management actions for wildlife will not be restrained by the need to protect the wilderness character. 3-84 to 3-85. Decoupled from any assessment of how the preservation of wilderness character, which includes preservation of "ecological …and other features," and therefore conserves wildlife, such assertions regarding benefits to the biological resources are unsupported, arbitrary and capricious, and misleading. In asserting there will be potential benefits to wildlife from removing wilderness management protections, the LEIS fails to assess the *net* effect to wildlife of removing those protections, which would include, inter alia, explicit consideration of how the lost protections will enable destruction and degradation of highly valuable habitat for the species in question. Furthermore, it is speculative that any actual benefits would result from removing the wilderness protections. The Wilderness Act itself provides that wilderness protections are to be "within and supplemental to the purposes for which…units of the national wildlife refuge systems are established and administered," 16 U.S.C. § 1133, making it clear that there is no real conflict between conservation of the biological resources of the refuge and preservation of wilderness characteristics.[2] *See Wilderness Watch, Inc. v. U.S. Fish & Wildlife Serv.*, 629 F.3d 1024, 1027 (9th Cir. 2010) (in managing wilderness within a refuge "the Service must comply WI-20

[2] Moreover, the National Wildlife Refuge System Improvement Act of 1997, 16 U.S.C § 668dd(a)(4)(N) requires the Secretary to undertake monitoring of the status and trends of biological resources in each refuge, making it even clearer that the Wilderness Act, in requiring protections within and supplemental to the purposes of the refuge, does not create obstacles to monitoring activities required for the purposes of the refuge.

with both the Wilderness Act and the Refuge Act"). The requirement to demonstrate that the creation of structures within wilderness be the minimum required to meet the species conservation purposes ensures that agency decisions will optimize the protection of natural resources by properly evaluating whether less invasive means of promoting conservation of the species are available. *See id*. at 1037–39 (finding that the Fish and Wildlife Service had failed to evaluate whether alternatives for addressing Bighorn Sheep decline in refuge, such as eliminating hunting or translocations, would lead to satisfactory recovery before concluding that new water structures were necessary). The complementary requirements of the Wilderness Act and Refuge Improvement Act ensure that management will prioritize natural resource protection over other considerations, such as economic considerations; this is not an impediment to proper wildlife conservation.

The LEIS applies the same faulty methodology to assessing the impacts to wilderness values associated with Alternative 3. *See* LEIS at 3-86 ("potential impacts are discussed in other sections throughout this LEIS. Therefore, this section focuses on potential impacts to areas proposed for wilderness that would remain outside the proposed expansion areas."). Consequently, the analysis for Alternative 3, and its subalternatives, fails to explicitly identify and address the loss of wilderness values that will result from that alternative. WI-23

B. The LEIS Provides an Illegitimate and Deceptive Basis for Assessing the Significance of Diminishing Wilderness Protections

Instead of assessing and disclosing the extent of loss of wilderness qualities that will result from the Air Force activities that will be implemented via Alternative 2 on the 590,000 acres of the refuge in question, as NEPA requires, the LEIS merely compares the acreage that will no longer be proposed as wilderness under Alternative 2 to the total acreage of proposed wilderness, Wilderness Study Areas, and Wilderness Areas in southern Nevada. *See* 3-84. The LEIS concludes that "there would still be over 2.2 million acres of land that possess wilderness qualities within southern Nevada available to the public…Based on the amount of land containing wilderness qualities remaining in the region, combined with existing access restrictions to areas proposed for wilderness within the current NTTR land area, no longer managing [those areas] as wilderness…would not significantly reduce the opportunity for people to experience wilderness in southern Nevada." LEIS at 3-84. This conclusion is shortsighted and ignores that wilderness areas have unique qualities which provide distinct recreational experiences and may contain distinct "ecological, geological, or other features of scientific, educational, scenic, or historical value." Moreover, the draft LEIS fails to assess how proposed wilderness status for lands within the Desert Refuge results in additional protections that benefit wildlife and thereby enhance the value of refuge habitat to species such as Mojave Desert tortoise and Big Horn Sheep. WI-24

First, as the LEIS explains in another section, the access restrictions affecting the lands in question involve the closure of the areas to the public except for certain times of the year, such as

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for hunts of bighorn sheep. LEIS at 3-77. Thus, the public does currently have opportunities for solitude or primitive recreation within the 590,000 acres of Desert Refuge in question. The LEIS speculates that the opportunities for recreation "may not qualify as unconfined" due to the temporal restrictions on access, but neither takes a definitive position, nor goes so far as to assert that the lands in question do not qualify as wilderness. Indeed, the LEIS acknowledges that use restrictions were already in place at the time the lands were first proposed for wilderness in 1971. *See* LEIS at 3-77.

Moreover, the LEIS fails to acknowledge that the Wilderness Act aims to protect lands with wilderness characteristics "for *future* use and enjoyment as wilderness." 16 U.S.C. § 1131(a) (emphasis added). Thus, the Air Force's current restrictions, which may persist for only another 20 years even under the action alternatives, should not be a basis for asserting that the lands are of less value as wilderness. Wilderness is a finite resource, as Congress recognized, and any consideration of its value must look to whether that resource would be available for future generations to enjoy opportunities for solitude or primitive and unconfined recreation. Thus the 590,000 lands in question are no less viable for potential wilderness designation merely because of the current restrictions on access, which could be eliminated in the future, and do not otherwise diminish the wilderness qualities of the lands. WI-26

Second, the comparison in the LEIS fails to recognize the unique qualities of the proposed wilderness within the Desert Refuge, which may not be present on other lands with wilderness qualities in southern Nevada. The 1971 Desert Refuge Wilderness Proposal emphasized that the lands proposed for wilderness designation offered the opportunity for a "truly unique desert wilderness experience" that was considered to be a "very special value of the areas." LEIS at 3-77. The 590,000 acres that would be eliminated from wilderness protections under Alternative 2 represents an enormous 42% of the lands within Desert Refuge that were proposed for wilderness designation. LEIS at 3-83. Moreover, the LEIS fails to assess whether eliminating that enormous section of the proposed wilderness with the refuge would eliminate the persistence of unique values that are not present in the remaining portion. The 1971 Proposal specifically identifies "scenic diversity" as an outstanding quality of the proposed lands within the refuge. Proposal at 28. The LEIS does not address whether the 590,000 acre section contains scenic features not found within the remaining 58% that would continue to be managed as wilderness. More generally, the LEIS does not provide the information necessary to assess whether areas on the western side of the refuge, such as the Spotted Range and Desert-Pintwater Range, which are within the 590,000 acres that would be eliminated from proposed wilderness and no longer protected as such, have qualities that make them distinct from the proposed wilderness on the eastern side in terms of the recreational opportunities that they could provide not only now, but in the future, and in terms of the ecological, geological, or other features of scientific, educational, scenic, or historical value that they may possess. The western areas encompass distinct mountain ranges, include portions of Great Basin, encompass sagebrush habitat, and doubtless harbor certain flora and fauna that are distinct from those in the eastern portion. Rather than make any attempt to recognize or evaluate the distinct value of those WI-21 WI-17

features of the proposed wilderness, the LEIS treats all proposed wilderness within Desert Refuge and all proposed wilderness within southern Nevada as if it was indistinguishable in terms of recreational value to current and future generations. This faulty approach deprives Congress of the important information that it needs to determine whether that 590,000 acres should continue to be protected as proposed wilderness.

With regard to Alternative 3, the LEIS makes the same fundamental error. *See* LEIS at 3-89 to 3-90. Despite conceding that under Alternative 3C, 817,000 acres of proposed wilderness, including 227,000 acres of land in the eastern section of Desert Refuge *that is currently not within the NTTR*, the LEIS concludes that "Alternative 3C would not significantly reduce opportunities to experience wilderness in southern Nevada" because there would still "be nearly 2 million acres of land containing wilderness qualities remaining the region." LEIS at 3-90. Again, this faulty reasoning assumes that all wilderness is fungible, and ignores the unique qualities of the wilderness within Desert Refuge. The magnitude and consequences of this error are even more dire for Alternative 3 because 58% of the proposed wilderness within the refuge would be eliminated from management to protect wilderness characteristics. That area includes the Sheep Range, which, among other features, contains ridgetop pine forests that are not found in most of the wilderness and proposed wilderness that the LEIS relies upon for providing opportunities to experience wilderness. Wilderness lands comprised of canyon or low elevation range, such as those the LEIS relies upon, provide a distinct experience from wilderness in the Sheep Range, which includes pines and firs, with numerous springs, a rarity in the Mojave Desert surrounding Las Vegas, and are not a substitute for its loss. Yet the LEIS makes no attempt to assess what unique opportunities for solitude or primitive recreation, or distinct ecological, geological, or other features of scientific, educational, scenic, or historical value are present on the enormous forsaken portion of the proposed wilderness, and therefore no attempt to assess whether the unique desert wilderness experiences provided by those areas will be lost as a result of implementation of Alternative 3. Consequently, the LEIS fails to provide Congress with vital information that it needs to assess the consequences of Alternative 3.

WI-23

C. The Cumulative Impacts Analysis Fails to Consider Impacts to Proposed Wilderness Resulting from Adjacent Actions

Whereas the section of the LEIS which evaluates impacts on wilderness assesses whether remaining proposed wilderness, Wilderness Study Areas, and designated wilderness will be harmed by activities occurring on *adjacent* areas, *see, e.g.*, LEIS at 3-85, 3-87, the analysis of cumulative impacts to wilderness appears to be limited only to the effects of activities that are directly located within the wilderness areas. *See* LEIS at 4-18. Clearly, the agency has recognized that activities in areas adjacent to wilderness can cause harms to wilderness values. This is no less relevant or important when assessing the cumulative effect of the proposed action with other past, current, and reasonably foreseeably actions that may harm the same wilderness resources. The failure of the LEIS to consider cumulative impacts from activities in areas adjacent to the wilderness affected by the current proposal is thus arbitrary and capricious and

WI-22

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fails to disclose the full extent of environmental harms that will result from adoption of the proposed alternatives that would alter the status quo. WI-22

IV. The LEIS Fails to Assess Other Impacts to Recreational Opportunities Adequately

Rather than use available estimates to disclose potential overcrowding impacts caused by displaced visitation, the LEIS obscures the impact by asserting that it is too "speculative" to assess. This does not comport with NEPA, which courts have found requires agencies to engage in "[r]easonable forecasting and speculation" about future environmental effects. *Save our Ecosystems v. Clark*, 747 F.2d 1240, 1246 n. 9 (9th Cir.1984) (quoting *Scientists' Institute for Public Information v. Atomic Energy Commission*, 481 F.2d 1079, 1092 (D.C.Cir.1973)). The LEIS concedes that due to the displacement of visitors from areas affected by closures within the 227,000 acres of Desert National Wildlife that will be put to military uses under Alternative 3C, recreational experiences at other nearby locations within and near the refuge may be negatively affected by potential crowding. However, the LEIS does not attempt to assess the magnitude or scale of this impact because "the extent of potential impact on adjacent recreational areas from any shift of recreational activity is indeterminable at this time and would be highly speculative without a thorough understanding of the seasonal usage of the Alamo portion of the DNWR." LEIS at 3-64; *see also* LEIS at 3-88 (describing lack of visitation records for Desert Refuge). The LEIS asserts: "DNWR visitor records are kept via a non-mandatory guest registration at the Corn Creek visitor center. As a result, there is not a clear understanding on the current usage of the Alamo areas for recreational activities. The actual number of people potentially displaced under Alternative 3C is not known and difficult to predict; however, it is assumed the displaced recreational users would be evenly distributed across these other recreational areas in the NTTR region. Without data on current usage of the Alamo areas, impacts to the surrounding recreational areas are indeterminable." LEIS at 3-88. Yet the LEIS does not even attempt to use the *available* visitation data to gauge the extent of the potential impact. Nor does the LEIS disclose the data, however limited, actually available for consideration. For example, based on informal personal communications with USFWS staff, it is our understanding that an estimated 70,000 visitors came to the Corn Creek Visitor Center in 2017, not including backcountry visitors to Desert Refuge, which were estimated to represent an additional 25% to that figure. Though such figures clearly provide some basis for understanding the potential magnitude of the impact, particularly in light of the lack of comparable opportunities for recreating in conifer forests in the Las Vegas area, the LEIS does not discuss them. Moreover, the LEIS does not appear to contemplate whether any data is available for assessing the extent to which voluntary sign-ins at visitor centers generally underestimate actual visitation. Such data could allow estimates of actual visitation to be extrapolated from the visitor logs. In sum, the LEIS must at least disclose the visitation figures and related information that are actually available to the agency, as well as any estimates that it in fact has developed. At present, the LEIS obscures the LU-21 LU-21

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potential magnitude of the problem by failing to make reasonable efforts to assess and disclose its scale.

V. The LEIS Fails to Assess Impacts to Wildlife

A. The LEIS Fails to Address Impacts to the Mojave Desert Tortoise in Violation of NEPA and the ESA

The FWS listed the Mojave Desert population of the desert tortoise (*Gopherus agassizii*) as "threatened" under the U.S. Endangered Species Act (ESA) in 1990. 55 Fed. Reg. 12178. The Mojave desert tortoise (desert tortoise) is known to occur in the action area. Habitat modeling found 247,459 acres of the Southern Range contains suitable desert tortoise habitat. USAF 2017 (Desert Tortoise Report) at 28. It was not clear from the LEIS how much suitable habitat occurs in each potential expansion area.

1. The LEIS Fails to Sufficiently Assess and Address Impacts on the Mojave Desert Tortoise as Required by NEPA

The LEIS analysis underplays the severity of direct, indirect, and cumulative impacts to the Mojave desert tortoise and downplays the uncertainty of potential effects of Alternatives 2 and 3A, 3B, and 3C on the desert tortoise. The LEIS is missing a comprehensive analysis that utilizes a complete set of high quality information available to assess impacts to the desert tortoise, as required by NEPA. See for example, Berry et al. 2016, which provides a wide-ranging annotation of studies on anthropogenic impacts on desert tortoise; this wealth of information is ignored in the LEIS. According to the FWS's 2003 Programmatic Biological Opinion for Activities on the South Range of Nellis Air Force Base, Nevada Test and Training Range, and the Nevada Training Initiative, Clark and Lincoln Counties, NV, desert tortoise and their habitat have already suffered significant impacts due to past and ongoing activities in the Southern Range and, because of these impacts in some places, what was once desert tortoise habitat has become unsuitable. FWS 2003.

BI-2

a. The LEIS Fails to Sufficiently Analyze Direct and Indirect Effects of Alternatives and Proposed Mitigation Measures are Unlikely to Avoid, Minimize, or Offset Impacts

i. Effects Assessed in the LEIS

Soil Disturbance

The LEIS identifies soil disturbance from weapons delivery, infrastructure construction, and other activities as direct impacts to desert tortoise habitat. LEIS at B-231 to B-243. But it improperly characterizes these impacts as temporary and mitigatable with very precise, minimal,

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localized footprints. The LEIS does not acknowledge that eroded, windborne soils can cover distant plants and impede their growth or that adverse impacts can be essentially permanent. BI-2

The LEIS demonstrates a weak understanding of the fragility of desert ecosystems, including the sensitivity of the soils to disturbance by human activities (e.g., trampling and OHV use). Soils in desert tortoise habitat are often characterized by the presence of cryptobiotic surface crusts composed of bacteria, lichens, fungus, and algae, which are essential for stabilizing soils and provide numerous other essential ecological functions including germination sites for plants. Berry et al. 2016. Once disturbed, recovering cryptobiotic crusts to functionality can take 250 or more years. Desert soils are also very sensitive to compaction, which can reduce root growth and seed survival. Berry et al. 2016 at 167 state:

> Desert soils may take 10,000 years to develop and thus may not recover within human time frames, and recovery of natural vegetation would probably take centuries. Desert areas disturbed by human activities may take centuries to recover without active intervention, suggesting the critical importance of minimizing intensity, frequency, and area of disturbance. It is difficult and expensive to mitigate damage from disturbance …

Military operations, specifically, can have significant deleterious, long-term impacts to soils. Berry et al. 2016, citing: Lovich and Bainbridge 1999; Belnap and Warren 2002; Belknap et al. 2007; Webb et al. 2009. Even a person walking can damage or destroy soil crusts, and thus, the claim that soil disturbance is not anticipated from "ready access" or "battlefield training" is dubious. LEIS at B-232 & B-242. Bare soils present a haven for non-native invasive plants such as cheatgrass (*Bromus tectorum*) that can encroach on and displace desert tortoise food plants.

The LEIS proposes the following conservation measure to mitigate soil disturbance impacts in desert tortoise habitat:

> Any excavations should be backfilled with deep soils first, with the topsoil being backfilled as the final layer. This allows the site to have a final layer of soil that approximates original soil conditions and that contains a relatively healthy seed bank for regrowth of vegetation, thus rectifying potential soil displacement. Soils may be lightly rolled or compacted to reduce the potential for wind erosion.

LEIS at B-247. That soils will contain a "relatively healthy seed bank" after being disturbed and degraded is purely speculative. Once soil crusts have been destroyed, it is unrealistic to suggest that backfilled soil could approximate original soil condition.

Vegetation Disturbance and Removal and Non-native Invasive Plant Encroachment

The LEIS has not sufficiently analyzed the impacts of proposed activities on native rare plants essential to the desert tortoise diet or the effects of non-native plan encroachment into

suitable habitat. As with soil disturbance, the LEIS underestimates the impacts of battlefield training and ready access on vegetation, describing impacts as minimizable and temporary. Even foot traffic, which will be heavier under the proposed action management scenario, will likely have significant long-term and possibly permanent adverse impacts to vegetation across the action area. Again, disturbance and destruction of cryptobiotic soils and native vegetation enable non-native invasive plants to become established and to spread.

Desert tortoises are primarily herbivorous, and most of their moisture needs are met via the plants they consume. Though the desert tortoise diet is variable, it may not be as variable as portrayed in the Draft BA. LEIS at B-210. The BA acknowledges that 40 percent of the diet may be comprised of uncommon plants. However, Jennings (2002) found that 10 native plant species (several of them rare) made up 81.4 percent of the desert tortoise diet in the western Mojave Desert; these findings indicate that rare species are important for meeting the dietary requirements and the loss of "preferred plants due to habitat deterioration or invasive species would be quite detrimental." Berry et al. 2016 at 45, citing Jennings 2002. Native forbs provide the most favorable diet to support tortoise health, and non-native plant species can have negative health effects, compromising fitness. FWS 2017, citing: Oftedal 2002; Oftedal et al. 2002; Drake et al. 2016.

As with nearly all proposed mitigation, measures presented to address vegetation removal do not indicate a grounding in science-based techniques. Measures such as using only native and endemic nursery stock square with common sense, yet the suggested measures related to vegetation restoration are written in such general terms it is hard to see or evaluate how they will realistically be achieved on the ground.

Noise and Vibration

Vibration and noise can disturb desert tortoises and affect their movement and other behaviors. Berry et al. 2016, citing: Ruby et al. 1994; Lovich and Ennen 2013. Below is a summary illustrating how the LEIS has analyzed noise and vibration impacts to desert tortoises.

> Alternative 3B includes desert tortoise habitat, and recent signs of desert tortoise have been documented (U.S. USAF, 2017j). … Increase aircraft activity could result in indirect effect due to an increase in noise, though effecst are likely to be insignificant. Any potential impacts will be minimized through implementation of mitigation measures for desert tortoise (Appendix H, Biological Resources).

LEIS at 3-179.

> Alternative 3C contains suitable high-quality desert tortoise habitat. Signs of desert tortoise have been identified in the area (U.S. USAF, 2017j).
>
> - Noise from aircraft activity could elicit temporary behavioral responses by tortoises, and tortoises may assume a protective posture by temporarily withdrawing their head

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and limbs into their shells and remain still, much as they do when a human or predator approaches. … *Temporary behavioral responses include voiding their bladders, which can be life-threatening to tortoises*. … A desert tortoise would be expected to resume normal activities following departure of the aircraft from the immediate area of the tortoise.

- Any effect on desert tortoises from aircraft overflight or use of threat emitters would be low and not likely to result in permanent change to the habitat for the species. Implementation of mitigation measures for the desert tortoise would minimize or avoid significant impacts to desert tortoise (99 CES/CEIEA, 2015); see Appendix H, Biological Resources. (emphasis added)

LEIS at 3-181 – 3-182. A behavioral response to noise and/or vibration that results in mortality cannot be characterized as temporary. The BA summarizes some science on potential noise and vibration impacts of weapons delivery, which cannot be interpreted as being "insignificant" or "temporary," including: displacement, stress, increased metabolic function, failure to avert predation, and hearing loss. LEIS at B-236. It is difficult to believe that the Air Force cannot provide more precise projections of noise and vibration impacts, even quantified potential effects, based on available information gleaned from historic activities.

This is the stated conservation measure to address noise and vibration: "The USAF will minimize and avoid excessive noise and vibration associated with various construction and military operations where possible." LEIS at B-250. The LEIS provides no information regarding how minimization and avoidance will be achieved. GE-3

Hazardous Materials, Depleted Uranium (DU), Dust, and Particulate Pollution

The LEIS treats hazardous materials and DU as separate from dust and particulate pollution effects. There is an assumption that hazardous materials and DU introduced into the plan area via weapons testing will remain stable in the soil and be eliminated upon clean-up operations, e.g., "Hazardous materials are removed from the target site during weapons delivery cleanup and impacts by these materials to desert tortoise would not be expected." LEIS at B238. The LEIS does not analyze the effects of hazardous materials and DU permeating the ground and being released into the atmosphere in the dust created by ground disturbance. HZ-12

As we stated above, the LEIS has not provided a complete accounting of how much soil and vegetation will be disturbed and damaged because it discounts the impacts of battlefield training and other activities on these important components of desert tortoise habitat. The significant soil disturbance and vegetation damage and loss, also caused by weapons delivery, will contribute to the release of airborne dust and particulate pollution, as noted in the LEIS. We believe the LEIS underestimates the level of dust and particulates, which will include hazardous materials, that will be released by the estimated 30 percent increase in activities, including battlefield training and weapons delivery, under Alternative 2 and 3A-C and expansion of the range under 3A-C and their significant, long-term impacts to desert tortoise habitat. The LEIS

states, impacts of weapons delivery "could be minimized by avoiding military operations on high wind days" and that "impacts of dust deposition on desert tortoise would likely be minor." LEIS at B-236. Additionally, the LEIS contends dust and particulate release from weapons delivery clean-up, digging burrow pits and landfills, and battlefield training would be minor and it assumes, likely wrongly, that these impacts would be temporary.

The LEIS states, based on a human health study of soil contaminants at the NTTR, "If the area is considered safe for humans, it is probably safe for desert tortoise populations. Therefore, it is unlikely that desert tortoise traversing a target site would come in contact with unsafe levels of metal or explosive materials." LEIS at B-237. This is an erroneous assumptive leap. Desert tortoises are susceptible to upper respiratory disease, and higher concentrations of metals in the blood and liver have been associated with increased vulnerability to desert tortoises. Grillitsch and Schiesari 2010, citing: Jacobson et al. 1991; Berry et al. 2001; Seltzer and Berry 2005.

The Draft BA states, "The USAF will comply with all state and federal regulations to accommodate or remove hazardous materials and DU from target sites, construction sites, etc. Based on this information, the effect of DU on desert tortoise is anticipated to be minimal as a result of the proposed action." LEIS at B-252. State and federal regulations are subject to change and minimal compliance with them may not be sufficient to mitigate harm to desert tortoise, which may be more sensitive to hazardous materials than humans. The conservation measure must be specific about the potential sources of hazardous materials and DU; it is not appropriate to substitute "etc." for a complete list. The LEIS makes no commitment to mitigate for dust and particulate pollution beyond complying with required regulations. GE-3

ii. Effects Not Assessed in the LEIS

Movement of Desert Tortoises from Harm's Way

Moving tortoises found during activities out of "harm's way" is proposed as a conservation measure to mitigate harm. LEIS at B-247 – B-248. However, the LEIS does not acknowledge that handling a desert tortoise could result in the animal's death. Handling tortoises causes physiological stress (Berry et al. 2016, citing Rostal 1994; Tracy et al. 2006; Drake et al. 2012; Agha et al. 2015b), which can lead to increased movement and activity (wasted energy expenditure) and vulnerability to disease. Tortoises do not tolerate frequent handling well and have died during research projects and translocations. Berry et al. 2002. A big risk of handling tortoises is triggering a voiding response (excretion of bladder contents), which can result in dehydration and overheating and death. Agha et al. 2015d. Translocation as a mitigation measure must be analyzed as a direct impact in the LEIS. BI-41

Habitat Fragmentation and Connectivity

The LEIS has not provided an assessment of impacts that could lead to habitat fragmentation. The BA identifies recommendations included in the 2011 Revised Desert Tortoise BI-42

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Recovery Plan to minimize habitat fragmentation, including some that pertain to renewable energy facilities but also should apply to Alternatives 2 and 3A-3C in this case. These include:

- Conserve and protect sensitive areas that potentially connect functional habitat or improve management capability of surrounding areas that may be open to renewable energy development.
- Connect blocks of desert tortoise habitat to maintain gene flow between populations.
- Quantify the lost or restoration of habitat as it relates to renewable energy and other projects.
- Evaluate the effects of corridors and barriers imposed by energy development and other infrastructure on desert tortoise movement and recovery.

LEIS at B-186. Though it included these recommendations, the LEIS does not suggest following them. There are no conservation measures proposed to avoid or minimize habitat fragmentation. GE-3

Climate Change

Changing the management approach of the proposed expansion areas from conservation-based to one centered on intensive use will lessen the ability of desert tortoises to respond to the effects of climate change, and this is not addressed at all in the LEIS. Suitable cover sites that provide refuge from increased temperatures and more frequent drought conditions are becoming more important (Mack et al. 2015), but these will become scarcer in the plan area with increased use and expanded military use in now-protected areas of the wildlife refuge. For a summary of climate change impacts to tortoises and desert tortoise habitat see Berry et al. 2016 at 234-242 and work cited therein; FWS 2017.

iii. Summary

The LEIS must provide a more accurate, science-informed account of direct and indirect effects from the activities described. It must provide more specific analyses of impacts where additional information is known to exist, such as how vegetation disturbance and removal could affect desert tortoise food plant quality and quantity. The LEIS should draw from established tested guidance and best practices for mitigation and restoration in areas by testing and training activities. Examining studies summarized in Berry et al. 2016 at 279-287 and consulting with restoration experts would provide a starting point for developing more specific measures that assure a greater likelihood for soil and vegetation restoration success, for example. BI-43

b. The LEIS Fails to Sufficiently Analyze Cumulative Effects of Alternatives

The draft LEIS improperly relies on the results of future consultations required under section 7 of the Endangered Species Act as a substitute for providing the detailed analysis of cumulative impacts to the species that NEPA requires. *See* draft LEIS at 4-23. NEPA requires the cumulative impacts analysis to encompass "all past, present, and foreseeable future actions, regardless of who performs the action, that combine with the proposed action to cause an incremental environmental impact." *Nw. Envtl. Def. Ctr. v. Nat'l Marine Fisheries Serv.*, 647 F. Supp. 2d 1221, 1247 (D. Or. 2009). By contrast, the scope of cumulative impacts analysis under section 7 of the ESA "requires [the Service] to consider only future non-federal activities that are reasonably certain to occur within the action area." *Id*. Moreover, the agency cannot merely assume that because consultation per the ESA will theoretically prevent any cumulative impacts that would jeopardize the existence of the species, there is no need to assess the actual extent of impacts that will likely occur. *See Makua v. Rumsfeld*, 163 F. Supp.2d 1202, 1218 (D. Haw. 2001)("A [Finding of No Significant Impact] . . . must be based on a review of the potential for significant impact, including impact short of extinction. Clearly, there can be a significant impact on a species even if its existence is not jeopardized."); *National Wildlife Federation v. Babbitt*, 128 F. Supp.2d 1274, 1302 (E.D. Cal. 2000) (requiring EIS under NEPA for ESA section 10 Habitat Conservation Plan even though mitigation plan satisfied ESA); *Portland Audubon Society v. Lujan*, 795 F. Supp. 1489, 1509 (D. Or. 1992)(rejecting action agency's request that the court "accept that its consultation with the United States Fish and Wildlife Service under the Endangered Species Act constitutes a substitute for compliance with NEPA.").

The LEIS concedes that "[p]otential cumulative effects to biological resources would be associated with ground disturbance and long-term loss of desert scrub and other unique vegetation in Nevada, as well as long-term loss of individuals and habitat of federally or state-listed …species, including the federally listed desert tortoise." LEIS as 4-22. But instead of actually assessing the impacts of the alternatives in concert with other past, current, and reasonably foreseeable future stressors on the species, including impacts from other reasonably foreseeably federal actions, the LEIS states: "Potential cumulative effects of federal actions on federally listed endangered species are addressed project by project through the ESA Section 7 consultation process with the USFWS. Through this process, federal agencies and the USFWS jointly assess project-specific effects and develop and implement appropriate measures that reflect current conditions and status of the species." LEIS at 4-23. The LEIS then offers the conclusory assertion that "for any of the action alternatives, military activities would contribute little to regional cumulative adverse direct or indirect impacts on biological resources on a regional level." LEIS at 4-23. This assertion appears to be based on the contention that the areas of impact are small compared to the total size of "the NTTR and the surrounding area." LEIS at 4-23.

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"A cumulative impact analysis must be more than perfunctory; it must provide a useful analysis of the cumulative impacts of past, present, and future projects." *N. Plains Res. Council, Inc. v. Surface Transp. Bd*., 668 F.3d 1067, 1076 (9th Cir. 2011) (internal quotation and citation omitted). "To be useful to decision makers and the public, the cumulative impact analysis must include some quantified or detailed information; . . . general statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided." *Id.* (internal quotation and citations omitted). "Superficial analysis" and "vague generalities" alone are insufficient to satisfy the obligation to assess cumulative impacts under NEPA. *Center for Environmental Law and Policy v. U.S. Bureau of Reclamation*, 655 F.3d 1000, 1008 (9th Cir. 2011).

The cumulative impacts section in the draft LEIS provides no actual analysis of whether the residual loss of desert tortoise and desert tortoise habitat, which is anticipated to occur even after the application of conservation measures, *see* LEIS at B-253 (Biological Assessment listing anticipated take resulting from implementation of the proposed land withdrawal), in combination with other past and ongoing losses of habitat in the region, will constitute a significant impact to the species. In short, the draft LEIS begs the very question that NEPA requires the agency to analyze, whether a small or localized impact from the proposal under consideration will nonetheless combine with other harms in an additive or synergistic way that results in significant losses to a resource. CM-6

Here, the EIS must consider the particular importance of federally owned refuge lands to the conservation of the desert tortoise, and should measure the loss of those habitats in light of development pressures in southern Nevada, shifting habitat suitability due to climate change over the time periods proposed for the withdrawal, existing impedances to connectivity for the species, and other reasonably foreseeable federal activities that will harm the species or its shrinking habitat. As discussed more below, the refuge lands represent opportunities to conserve the species that will be forsaken by the proposal to expand the boundaries of the NTTR into the refuge. The cumulative impact analysis must consider the lost opportunity for conservation in light of the total effect of the stressors described above.

2. Actions Proposed in Alternatives 2, 3A, 3B, and 3C are likely to Jeopardize the Continued Existence of the Mojave Desert Tortoise

Congress enacted the ESA to provide "a program for the conservation of . . . endangered species and threatened species." 16 U.S.C. § 1531(b). Section 2(c) of the ESA establishes that it is "the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." 16 U.S.C. § 1531(c)(1). The ESA defines "conservation" to mean "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this [Act] are no longer necessary." 16 U.S.C. § 1532(3).

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a. The Air Force will not Meet its ESA Section 7 Requirements Under Alternative 2 and Alternatives 3A, 3B, and 3C

Section 7(a)(1) of the ESA explicitly directs all federal agencies to "utilize their authorities" to carry out "programs for the conservation of endangered species and threatened species." 16 U.S.C. § 1536(a)(1). As described in Section II (B) in these comments, a purpose of Desert Refuge is to "to conserve…fish or wildlife which are listed as endangered species or threatened species." USFWS 2009 at 1-31. The current refuge management plan (CCP), written to achieve these purposes, is likely to meet the Section 7(a)(1) mandate for carrying out a desert tortoise recovery program. DNWR 2009.

Proposed activities in the action area include ready access; weapons delivery and cleanup; deployment of new threat emitters; infrastructure construction and maintenance; excavated borrow pits and landfills; equipment testing and evaluation, such as aircraft; battlefield training; and training insertion, extraction, and overland navigation. Anticipated effects to desert tortoises associated with these activities include:

- Crushing, trampling, or colliding with tortoises.
- Disrupting tortoise behavior, including breeding and foraging, and damaging burrows from ground maneuvers and associated noise, and use of simulated weapons.
- Disturbing, damaging, and destroying soil and vegetation from battlefield training and troop movement across the landscape, reducing food availability and contributing to the spread of less palatable and nutritious non-native invasive plants.
- Poisoning from chemical residues from blank munitions.
- Increasing predation by corvids and other species attracted to food and trash and new infrastructure where avian predators can roost.
- Increasing fire risk and associated habitat degradation due to exploding ordnance.
- Increasing effects from dust and other particulate pollution.
- Exposing tortoises to depleted uranium and other hazardous materials in the soil, vegetation (including food plants) and air from munitions testing.
- Increasing impacts from noise and vibration in the area.
- Using electromagnetic radiation, microwave transmissions, and lasers, with uncertain effects to desert tortoises and habitat.

LEIS at B-231 – B-245. Alternative 2 and NTTR expansion Alternative 3B and/or Alternative 3C, would markedly shift management away from supporting refuge purposes and desert tortoise recovery. Under any of the alternatives, the proposed wilderness designation would probably be

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removed. Anticipated take resulting from increased use and expansion is discussed below. Proposed activities under any of these alternatives or combination thereof cannot fulfill the ESA's Section 7(a)(1) requirement. The weak and vaguely described minimization and mitigation measures are unlikely to advance recovery. See LEIS at B-245 – B-253.

The Air Force must revise Alternatives 2, 3A, 3B, and 3C to ensure they support desert tortoise conservation and recovery beyond mitigation that promotes population growth and net habitat gain. The Air Force should explore opportunities for habitat conservation banking, and adopt science-based management and habitat restoration measures (including Berry et al. 2016 at 259-295) and conservation prescriptions in the 2011 *Revised Recovery Plan for the Mojave Population of the Desert Tortoise (Gopherus agassizii)*), revised from the 1994 recovery plan. USFWS 2011; USFWS 1994.

Section 7(a)(2) of the ESA requires the Air Force, in consultation with USFWS, to ensure that any action authorized, funded, or carried out by the agency is not likely to (1) jeopardize the continued existence of any threatened or endangered species, or (2) result in the destruction or adverse modification of the critical habitat of such species. 16 U.S.C. § 1536(a)(2). For each proposed federal action, the Air Force must inquire with USFWS as to whether any listed or proposed species may be present in the planning area. 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12. If listed or proposed species may be present in the area, the Air Force must prepare a "biological assessment" to determine whether the listed species may be affected by the proposed action. *Id*. To date, the Air Force has prepared a Draft Biological Assessment (Draft BA) of the proposed expansion alternatives (Alternatives 3A, 3B, and 3C) on the desert tortoise. LEIS at B-168 – B-260.

The LEIS provides conflicting information about whether a programmatic Biological Opinion from the USFWS for the proposed withdrawal will be included with the package transmitted to Congress. The appendix to the draft LEIS containing the Draft BA states that the Biological Opinion will be included in the proposal package transmitted to Congress. *See* LEIS at B-174. In contrast, text in the LEIS states that the Biological Opinion will not be issued until after Congress acts on the proposal. *See* LEIS at 3-161. At minimum, the public and Congress should have the benefit of the information that will be included in the programmatic Biological Opinion prior to making its decision on the Air Force's proposal. The LEIS repeatedly relies on the assumption that project specific consultations following the dictates of the programmatic Biological Opinion will "minimize" harms to the desert tortoise, *see e.g.*, LEIS at 3-175, 3-178, 3-179, 3-181. Relying on information and analysis in the yet to be produced Biological Opinion as a substitute for NEPA analysis, without offering an opportunity for review and comment on the Biological Opinion, violates NEPA's requirements for public comment. Relying on a yet to be developed Biological Opinion cannot satisfy NEPA's requirement to provide the public with an opportunity for comment on the actual extent of the impacts that will occur under action alternatives. *Cf. San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 649-650, 653 (9th Cir. 2014) (concluding that the implementation of a Biological Opinion was not exempt from NEPA requirements to prepare an EIS or EA and FONSI because "[w]e cannot say that

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Section 7 of the ESA renders NEPA 'superfluous' when the statutes evaluate different types of environmental impacts through processes that involve varying degrees of public participation."); *Portland Audubon Soc'y v. Lujan*, 795 F. Supp. 1489, 1509 (D. Or. 1992) (explaining that ESA consultation cannot substitute for EIS preparation, even where the action agency also prepared an EA, because "The purpose of the Endangered Species Act and the purpose of NEPA are not the same. For example, there is no substitute in the Endangered Species Act for the public comment commanded by NEPA.").

The Air Force should provide an opportunity for comment on the Biological Opinion prior to finalizing the LEIS or transmitting the proposal package to Congress. The Final LEIS should include the Final Biological Opinion and incorporate public comment on the Biological Opinion. BI-39

b. Proposed Activities Under Alternatives 2, 3A, 3B, and/or 3C Contravene Recovery Plan Objectives

The USFWS designated critical habitat for the Mojave population in 1994. 59 Fed. Reg. 5820. Critical habitat was not designated on Desert Refuge specifically because the Service concluded adequate protection existed on this "previously protect area" under the refuge management regime; the final critical habitat rule stated:

> The current management policies of the Desert National Wildlife Range [Refuge], Joshua Tree National Monument, and the Desert tortoise Natural Area provide adequate protection against potential habitat-altering activities because they are primarily managed as natural ecosystems. The Service considered their relative contribution to the tortoise's conservation but *did not include them in critical habitat because of their current classification. These lands are essential to the conservation of the species because they provide important links and contain large areas of contiguous habitat*. (emphasis added)

59 Fed. Reg. 5825. The Air Force acknowledges why critical habitat was not designated in the wildlife refuge in its Draft BA for the LEIS: "because as a wildlife refuge, it affords full protection for the species within its management area boundaries." LEIS at B-185. The federal government's conservation strategy for the Mojave desert tortoise made a commitment to the public, under the assumption that the level of protection for desert tortoises on the wildlife refuge would remain equivalent to, and possibly surpass that provided by, critical habitat. Moreover, the USFWS determined this level of protection across the refuge is required to recover the species.

The Revised Recovery Plan identified Desert Refuge as a "tortoise conservation area" and stated, regarding these areas:

> … applying uniform, highly restrictive regulations across the entire Mojave population is not feasible, even if we knew the precise mechanisms affecting

> population declines at each site. Therefore, aggressive management as generally recommended in the 1994 Recovery Plan needs to be applied within existing **tortoise conservation areas** (Box 2) or other important areas identified by Recovery Implementation Teams (*e.g.*, important genetic linkages identified by Hagerty *et al.* 2010) to ensure that populations remain distributed throughout the species' range (Element 1). Tortoise conservation areas capture the diversity of the Mojave population of the desert tortoise within each recovery unit, conserving the genetic breadth of the species, providing a margin of safety for the species to withstand catastrophic events, and providing potential opportunities for continued evolution and adaptive change (Mace and Purvis 2008). Especially given uncertainties related to the effects of climate change on desert tortoise populations and distribution, we consider tortoise conservation areas to be the minimum baseline within which to focus our recovery efforts. (emphasis in original)

USFWS 2011 at 34-35. Desert tortoise recovery is predicated on all identified tortoise conservation areas adhering to specific recovery actions described in the 2011 recovery plan. *See* USFWS 2011 at 65-88. A sampling of these recovery actions include:

> 1. Develop, Support, and Build Partnerships to Facilitate Recovery … USFWS 2011 at 65.
>
> 2. Protect Existing Populations and Habitat … USFWS 2011 at 67.
>
> 2.1. Conserve intact desert tortoise habitat. Land disturbances should be precluded within tortoise conservation areas. … USFWS 2011 at 68.
>
> 2.5. Restrict, designate, close, and fence roads. Paved highways, unpaved and paved roads, trails, and tracks have significant impacts on desert tortoise populations and habitat. … USFWS 2011 at 68.
>
> - Establishment of new roads should be avoided to the extent practicable within desert tortoise habitat within tortoise conservation areas; tortoise conservation areas should have a minimum goal of "no net gain" of roads. USFWS 2011 at 68.
>
> - Non-essential or redundant routes should be closed, especially within tortoise conservation areas. Emergency closures of dirt roads and routes may also be needed to reduce human access and disturbance in areas where human-caused mortality of desert tortoises is a problem. … USFWS 2011 at 72.

2.6. Restore desert tortoise habitat. … USFWS 2011 at 73.

- Eradicate or suppress invasive weeds. … USFWS 2011 at 73.

- Revegetate degraded areas with native plants of high nutritive quality to desert tortoises, as well as shrubs needed for cover. … USFWS 2011 at 73.

2.11. Connect functional habitat. Connecting fragmented habitat helps to maintain gene flow between isolated populations. This action improves species fitness (ability to maintain or increase its numbers in succeeding generations) by maintaining diversity, allowing populations to interbreed, and providing access to larger habitats (Forman *et al.* 2003). Roads and urban areas form barriers to movement and tend to create small, local populations which are much more susceptible to extinction than large, connected populations (Wilcox and Murphy 1985). USFWS 2011 at 76.

3. Augment Depleted Populations through a Strategic Program … USFWS 2011 at 76.

4. Monitor Progress toward Recovery … USFWS 2011 at 79.

5. Conduct applied research and modeling in support of recovery efforts within a strategic framework … USFWS 2011 at 81.

6. Implement an Adaptive Management Program … USFWS 2011 at 85.

None of these recovery actions are proposed to be continued in LEIS Alternative 2 and Alternative 3 sub-alternatives A, B, and C. We recognize the Air Force intends to revegetate disturbed areas post-disturbance. LEIS at B-248 – B-249. But mitigating harmful effects is not the same (or as effective) as taking proactive recovery actions to restore existing degraded habitat areas and maintaining their integrity. Certainly, it would be ill-advised to reintroduce desert tortoises on lands slated for increased military testing and training exercises.

Radically shifting the management approach on the refuge lands proposed for withdrawal, as proposed by LEIS Alternative 2 and the Alternative 3B and 3C, from an approach aimed at affirmative recovery to one that allows for additional, and possibly substantial, take is inconsistent with recovery goals, objectives, and criteria for the species. This undermines the intent of the recovery plan and the commitments made by other agencies to take on recovery actions. Changed management would introduce and maintain a much higher degree of uncertainty around achieving recovery objectives and criteria including "maintaining self-

sustaining populations" in each recovery unit (Objective 1) with "rates of population change" increasing (Criterion 1), maintaining well-distributed populations for each recovery unit (Objective 2) with increasing distribution across tortoise conservation areas over 25 years (Criterion 2), and ensuring "that habitat within each recovery unit is protected and managed to support long-term viability of desert tortoise populations" (Objective 3) with habitat "maintained with no net loss" (Criterion 3). USFWS 2011 at 59-60.

The Air Force cannot allow the loss or reduction of the tortoise conservation area in Desert National Wildlife Refuge, as currently managed under the refuge CCP, without compensatory mitigation that offsets net losses in tortoises and habitat. The Air Force must work with the USFWS to develop a strategy for implementing recovery actions outlined in the Mojave desert tortoise recovery plan.

c. The LEIS Underestimates Take Projections for Desert Tortoise

The NTTR and Desert National Wildlife Refuge occur within the Northeastern Recovery Unit, as delineated by the USFWS. This unit is the only one of the five where desert tortoise densities are believed to have increased between 2004 and 2014. USFWS 2017. The other four have shown significant declines in density. Though it used different methodologies to measure the relative abundance of tortoises for estimating densities on the South Range, the Air Force also concluded that densities increased between 1992 and 2015, or at least detections increased using the updated transect survey methods. LEIS at 3-161 and LEIS at B-219. The tortoise density is estimated to be 5.2 – 5.8 animals per square mile, though the Air Force notes these figures may be limited in accuracy. LEIS at B-225. No surveys have been conducted on the proposed new expansion areas but tortoises and tortoise sign have been observed, incidentally, and recorded in the Alternative 3B and 3C proposed expansion areas. LEIS at 3-160, Figure 3-30; B-227; B-185. BI-2

The USFWS has determined that populations with densities lower than 10 adult tortoises per square mile are at risk of extirpation and that minimum viability is 30 adults per square mile. USFWS 1994 and USFWS 2017. The USFWS recommends desert tortoise reserves be at least 1,000 square miles; and that reserves provide habitat for 10,000 to 20,000 adult tortoises. USFWS 1994. The desert tortoise population in the planning area is already at extinction risk, given the low estimated densities, and the Air Force's proposed expanded and increased use on Desert Refuge will require an allowance for additional take in tortoises and destruction and degradation of habitat.

The Draft BA predicts take of the proposed action to be: two tortoises killed per year, seven tortoises captured and moved away from harm per year, 150.5 acres of habitat lost—total, and 15,653.5 acres of habitat impacted. LEIS at B-253 – B-254. The LEIS bases its mortality take and take from capture/relocation of live tortoise on its projected 30 percent increase in activity and ready access, but it does not account for the possible extent and types of battlefield training; as such, these estimates seem arbitrary. The projections of habitat likely to be lost or otherwise impacted are also not credible and look to be gross underestimates given the scope and

scale of 30 percent increase in activities described. For example, acres in habitat loss and impacts to "ready access" areas and from "battlefield training" were not included in the take estimate, though high quality information readily available suggests ready access and battlefield training are likely to have significant and possibly permanent effects on habitat. See Berry et al. 2016. The LEIS disregards habitat impacts from trampling by troops, for example. The characterization of battlefield training effects on desert tortoise habitat in ready access areas is overly vague and subjective. BI-44

A study of desert tortoise impacts of military activities conducted at the National Training Center found such activities contributed to tortoise mortality and had significant negative effects on habitat and animal health. Berry et al. 2006. The Draft BA does recognize that military training can reduce desert tortoise densities, and states, "Tortoise densities have been shown to decrease with the addition of military training times were altered, impacts were minimized (Kristin H. Berry, 2016)." LEIS at B-242. However, it's not fully clear that this statement means. The Draft BA goes on to state, "… the actual number of activities and operations is not known at this time, but battlefield training conducted in desert tortoise habitat will be a sufficiently low occurrence to ensure that effects to desert tortoise populations and habitat will not be adversely affected." LEIS at B-242. This is conjecture. We doubt the Air Force can make a commitment to the public that training will remain at a "sufficiently low occurrence," given the uncertainties about the number (and frequency and distribution) of activities intended to be conducted. The Draft BA provides no information about what constitutes a science-based "sufficiently low occurrence" threshold level; the Air Force must define and quantify "sufficiently."

The take levels estimated in the LEIS may surpass the jeopardy threshold. The essential role in desert tortoise recovery on Desert Refuge as a tortoise conservation area will be substantially curtailed by Alternatives 2, 3B, and/or 3C in the LEIS. Much of the conservation area would be lost. It is difficult to see how a management scenario under any alternatives would not jeopardize the continued existence of the Mojave desert tortoise.

The LEIS must correct and broaden its NEPA analysis to include estimated take associated with ready access, battlefield training, and other activities that may have been excluded in the original assessment. BI-2

B. The LEIS Fails to Assess Impacts to Federally Protected Birds

1. The LEIS had not Provided a Comprehensive Assessment of Impacts to Bald and Golden Eagles Protected Under the BGEPA

Golden eagles (*Aquila chrysaetos*) are known to nest in the plan area. LEIS at 2-50; LEIS at 3-156. Bald eagles (*Haliaeetus leucocephalus*) and golden eagles are protected under the Bald and Golden Eagle Protection Act (BGEPA) and Migratory Bird Treaty Act (MBTA).

The LEIS provides an overly general, cursory review of direct and indirect effects to golden eagles and other raptors. It does not meet the standard for a properly developed PA-17

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environmental impact statement under NEPA. Some of these direct effects include: loss of habitat from construction and other activities, increased noise (including subsonic and sonic booms), ground disturbance from the use of range targets and roads, direct mortality (which with the LEIS notes is "common"), dust, soil contaminants, and wind-driven contaminants. LEIS at 3-167 – 3-168. PA-17

While the Air Force projects that the level of all military testing and training activities are likely to increase by 30 percent under the preferred alternative, the LEIS offers no assessment of the potential frequency and duration of described activities associated with these alternatives. The effects assessment focuses narrowly on impacts to golden eagles from overflights of military aircraft, though this analysis is certainly essential. The LEIS notes that bird-aircraft collisions may occur and nest abandonment and depredation are the primary impact from aircraft disturbance. LEIS at 3-173. However, the LEIS minimizes the magnitude of disturbance to golden eagles and other raptors, claiming that impacts will be rendered insignificant and temporary and putting the burden on the birds to adapt to increased noise and other overflight effects. The LEIS suggests possible mitigation, "the NTTR may require breeding season limitations or seasonal restrictions at some landing areas near known raptor nests or migratory bird species to minimize the potential for adverse impacts." LEIS at 3-173. Regarding the golden eagle, the LEIS states:

- To comply with recent Incidental Take and Eagle Nest Take Regulations, activities would be located and scheduled to avoid or minimize adverse impacts to golden eagles, known nests …
    - In order to avoid, reduce, or eliminate potential direct impacts to migratory birds and bald and golden eagles, the Air Force could evaluate whether low-level flight paths used by aircraft traverse areas where habitat conducive to nesting or foraging by significant populations of birds may be present. If information is not available, the 99th Civil Engineering Squadron (99 CES) could survey the areas. Flight paths could then be adjusted to avoid these areas.

LEIS at 2-49 – 2-58. The Air Force has made no commitments to take mitigation measures that may reduce disturbance to raptors from military aircraft overflights. GE-3

The LEIS has not assessed disturbance to nesting and roosting golden eagles and other raptors from activities associated with construction and new permanent infrastructure, battlefield training, emitters, new roads and increased traffic, and possibly other activities. This is a major deficiency in the LEIS. BI-34

The Air Force must provide a comprehensive analysis of all potential impacts and the magnitude of these impacts associated with the alternatives to bald and golden eagles, protected under the BGEPA. Activities that are certain to have adverse effects include: roads and increased

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traffic, increased OHV use, ready access, battlefield training, training to troops across the landscape, weapons testing, and others. The LEIS must detail avoidance, mitigation, and minimization measures that address these impacts and make a commitment to carrying these out. A cumulative effects analysis must also be conducted. GE-3

2. The Migratory Bird Report Relies on Conjecture

The draft LEIS concludes that harm to birds protected by the Migratory Bird Treaty Act will not result in significant impacts at the population level. *See* LEIS at 3-181. The draft LEIS reaches this conclusion based on the data in its Migratory Bird Report. In that report, the Air Force concludes that because a number of migratory bird species continue to be present on the NTTR in "healthy" numbers, the activities at the NTTR must not be having an impact on the populations. *See* Migratory Bird Report at 44. The Report offers this conclusion despite the caveat that "[t]he surveys conducted for this report were not intended to monitor population densities or determine the definitive habitat of each of the species. Therefore, results should be analyzed with proper caution. In the future, more detailed research and comprehensive population surveys may be conducted that can provide more definitive results on population trends for special status species." *Id*. In short, the Air Force lacks the data that it needs to draw a fact–based conclusion about whether the activities at the base are contributing to negative population trends for the species in question or not. Under the rationale in the Report, as long as birds continue to stop over at the base, there is no need to consider whether deaths occurring due to the military operations may be decreasing the overall population of the species. Moreover, the report does not provide information to evaluate what it means by a "healthy" population. In short, despite conceding that it lacks data about population trends and densities to draw a rational conclusion about impacts to the species, it nonetheless asserts that the species are "relatively unaffected" by the military activities at the NTTR.

3. The LEIS Fails to Assess the Impact of the Recent MBTA Solicitor's Opinion on Management Practices

In concluding that there will be no significant impacts to migratory birds, at the population level the LEIS also relies on the assumption that management activities to promote conservation of migratory birds will continue to take place. *See* LEIS at 3-181; Migratory Bird Report at 44 ("With continued proper conservation and management, impacts to special–status migratory bird populations on the expansion alternatives would be expected to be minimal."). Now that the Trump Administration recently issued an interpretation of the Migratory Bird Treaty Act that reverses the government's longstanding interpretation that incidental take is prohibited by the Act, *see* Solicitor's Opinion M- 37050 (Dec. 22, 2017), the LEIS should reassess whether the protective management measures that the Air Force implemented in the past are likely to continue, or whether they will be abandoned or weakened in response to this BI-52

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reversal. In short, the LEIS cannot rely on the assumption that protections for migratory birds from incidental take will be imposed via the MBTA to conclude that harm to migratory birds will be minimized and mitigated when the Trump administration has disavowed the applicability of the MBTA to incidental take. BI-52

C. The LEIS Fails to Analyze Impacts to Desert Bighorn Sheep BI-3

The Desert National Wildlife Refuge ("DNWR") was created in 1936 to provide habitat and protection for desert bighorn sheep, and is the largest wildlife refuge outside of Alaska. At 1.6 million acres (643,000 hectares), the refuge can more than encompass the state of Rhode Island. Teeming with diversity over a vast landscape, DNWR boasts over 500 plant species as it transitions from the Mojave to the Great Basin Desert. It encompasses six major mountain ranges and seven distinct life zones, and showcases the abundance and variety of nature that can be found in Southern Nevada.

The desert bighorn sheep (*Ovis canadensis nelson*) ("bighorn") is a large hooved mammal in which both genders have horns, the males of which are marked with noticeable heavy horns with a curl that is more pronounced with age. Typical bighorn terrain is arid, rough, rocky and steep, broken up by canyons and washes. This type of terrain affords them the advantage in coping with predation. Bighorn live in regions of the state marked by hot summers and little annual precipitation. Bighorn sheep require access to freestanding water during summer months, and in drought conditions they may water throughout the year.

Bighorn are located in mountain ranges throughout the southwest. Besides the southern region of Nevada, populations exist in Arizona, southeast California, Colorado, New Mexico, Utah, Texas and Mexico. The earliest archaeological record of bighorn in Nevada are remains from Pintwater Cave, northwest of Las Vegas, dated at 28,000 years before the present. Archeological investigations based on bones and petroglyphs have shown bighorn to be one of the more numerous and most widely distributed large ungulates throughout historic Nevada. It has been calculated that Nevada's bighorn population in 1860 exceeded 30,000. But by 1960, it was estimated to have declined to a level between 2,000 and 3,000 bighorn. By the 1980s, bighorn sheep management intensified and restored animals to much of their historic range through habitat improvement and translocation programs. The 2001 statewide estimate was 6,500 bighorn sheep (of all species) in 74 mountain ranges. (NDOW, 2001) Estimates in the LEIS for just the North and South Ranges for 2015 report 866 bighorn. LEIS at 3-156.

Of particular concern to the well-being and management of bighorn are Alternatives 2 and 3C. The bighorn in the South Range and DNWR primarily occupy the Spotted, Pintwater, Desert, Sheep Ranges, as well as the bordering East Pahranagat and Arrow Canyon Ranges. (Wehanusen & Jaeger, 2016). These ranges are encompassed by those two alternatives. Bighorn sheep are known to be sensitive to all forms of human presence and disturbance.

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1. The LEIS Fails To Adequately Analyze Impacts to Bighorn From Increased Anthropogenic Noise BI-3

The biological responses and ecological consequences of increase noise on wildlife can be classified into nine distinct categories, all of which can be critical to the health, viability and survival of a species population. These included: (i) physiology (stress, hearing loss/damage, immune function, gene expression); (ii) direct fitness metrics (survival, fecundity, clutch size); (iii) mating behavior (attraction, mating success, territorial behavior, pair bonding); (iv) foraging behavior (foraging rate, predation rate, hunting/foraging success); (v) movement (spatial distribution, fleeing rate, avoidance, dive pattern); (vi) vigilance; (vii) vocal behavior (call rate, intensity/amplitude, frequency shift, song length, call type, signal timing); (viii) population metrics (abundance, occupancy, settlement, density); and (ix) community-level metrics (species composition, predator–prey interactions). (Shannon, et al., 2016)

Shannon et al. learned from their review of the literature that terrestrial wildlife responses begin at noise levels of approximately 40 dBA, and 20% of papers documented impacts below 50 dBA – well below the levels expected from military maneuvers, aircraft and munitions.

There is abundant literature about the effects of disturbance on wildlife. Animal responses to on-foot human presence, terrestrial vehicles, and aerial platforms may vary from punctual behavioral or physiological reactions to reductions in fitness (e.g. mortality by collision with the vehicles or stress-related decrease in productivity) or changes in spatial use (e.g. avoidance of certain area that may fragment or compromise the viability of populations. Studies indicate that the factors determining the probability and intensity of animal, such as bighorn, responses depend on the one hand on the characteristics of the disturbing agent (e.g. size, noise emitted, speed, distance, angle of approach), which affect the perception of the risk by the animal. The larger and noisier the approaching agent is, the stronger the anti-predator responses will be. Animals have also been shown to react at larger distances when the approach is faster and more directional towards them. (Mulero-Pázmány, et al., 2017)

The additional stresses related to the greatly increased and expanded military operations envisioned in Alternatives 2 and 3 are very likely to have severely detrimental effects of individual bighorn and their herds, threatening their very persistence on an area originally set aside for their protection and conservation.

2. The LEIS Fails to Adequately Analyze Impacts to Bighorn From Increased Human Presence

Human recreation has been implicated in the decline of several populations of desert bighorn sheep. In response, land managers have sought research help in better defining the problem and solutions. Papouchis et al. (2001) found that in Canyonlands National park, that hikers caused the most severe responses in desert bighorn sheep (animals fled in 61% of encounters), followed by vehicles (17% fled) and mountain bikers (6% fled), apparently because

hikers were more likely to be in unpredictable locations and often directly approached sheep. Overall, there was an avoidance of the road corridor by most other bighorn sheep in the high-use area where all animals, on average, were found 39% farther from roads than in the low-use area. This avoidance of the road corridor by some animals represented 15% less use of potential suitable habitat in the high-use area over the low-use area. Increased sensitivity to hikers in the high-use area was suggested by a greater responsiveness by males in autumn and greater distance fled by females in spring. Responses of bighorn sheep were greater when human activity approached at the same elevation, when sheep were moving or standing, when female interactions occurred in spring and summer and male interactions occurred in autumn, and when sheep were farther from escape terrain. They recommended managers confine hikers to designated trails during spring lambing and the autumn rut in desert bighorn sheep habitat.

Keller and Bender (2007) studying bighorn in Rocky Mountain National Park, found that the time and number of attempts required by bighorn to reach Sheep Lakes, an important watering and mineral site, was positively related to the number of vehicles and people present at Sheep Lakes. Further, the number of bighorn individuals and groups attempting to visit Sheep Lakes were negatively affected by disturbance associated with the site. The number of vehicles recorded the hour before bighorn tried to access Sheep Lakes best predicted an animal's failure to cross Fall River Road and reach Sheep Lakes. They concluded that human and road-related disturbance at Sheep Lakes negatively affected bighorn use of the mineral site. Further, because Sheep Lakes may be important for bighorn sheep, especially for lamb production and survival, the negative influence of disturbance may compromise health and productivity of the Mummy Range bighorn sheep.

Blum (2017) noted that, “Many prey species exhibit antipredator responses in the presence of humans. These responses may lead to behavioral modification and spatiotemporal avoidance strategies that may have implications for long term population dynamics.” Blum also noted that continued increases in the frequency and diversity of back country recreation are likely to pose challenges to both wildlife and the agencies that manage them, and that bighorn sheep experience behavioral tradeoffs in response to changes in human activity. The results of this study suggest that bighorn respond to perceived risk by decreasing the time they spend active. As a result bighorn tend to bed more and forage less when human use is higher. It found the act of bedding may demonstrate a more passive means by which bighorn may limit the potential for human interaction and thereby avoid risk. There may be nutritional costs connected to both a reduction in forage time or selection of lower quality forage through increased browsing that when sustained could have effects on individual physiology.

Kanalu Sproat (2012), studying bighorn in the Canyonlands National Park area of Utah, observed, “Human encroachment into wilderness areas can influence the persistence of wildlife populations by decreasing and degrading habitat, displacement, and decreasing survival. For bighorn sheep, some human activities are detrimental, causing both physiological stress and habitat abandonment.” Sproat’s study found bighorn sheep spent significantly less time grazing and more time scanning in high human use areas than in low human use areas. Level of human

use (high versus low) was the only variable that significantly affected grazing times for bighorn. In high human use areas grazing times decreased by approximately 7.5 minutes per 30 minute sampling period compared to bighorn in low human use areas. Both human use and group size were significant factors in estimating scanning times. The level of human use was estimated to increase scanning times by 6.6 minutes per 30 minute focal animal sample. Conversely, scanning times decreased by 54 seconds per 30 minute focal animal sample with each individual that was added to the group.

Bighorn altered their behavior in the presence of humans, spending more time scanning and less time foraging (Sproat, 2012). Such behaviors occur at the cost of foraging efficiency, in turn impacting the energy budget of the individual. For many animals, active visual and olfactory scanning increases predator detection and decreases risk of predation. When more time is required for vigilance, a reduced energy budget results in fewer resources being available to compensate for excitation or alarm responses. Vigilance level is positively correlated with increasing predation risk, and smaller groups of bighorn sheep correspondingly have a greater predation risk. The increase in scanning times for bighorn in high human use areas suggests a perceived increase in predation risk. Sproat also notes that the most crucial periods of a bighorn's life cycle include lambing and rutting, which occur in early spring and late fall, respectively, and recommends that managers should carefully consider the temporal and spatial levels of human activity permitted in bighorn habitat, particularly for populations in decline.

These research findings raise alarms as to the potential impacts of cross-country ("ready access") irregular warfare maneuvers on the health, survival and persistence of bighorn in an area that was originally set aside and protected to ensure their continued existence. Such maneuvers have the grave potential of cutting bighorn off from needed water and mineral supplies, disrupting energy balances and hindering rutting and calving.

3. The LEIS Fails To Adequately Analyze Impacts to Bighorn From Increased Aircraft Presence]BI-3

By their very nature, military aircraft of all types constitute a noisy element on the home ranges of the bighorn. As demonstrated by the research and studies cited here, the effects of individual bighorn and their herds are very likely to be extremely detrimental to their health and continued survival and presence in the ranges of the DNWR.

A study was conducted by Krausman et. al. (1998) on the DNWR using a 320-ha enclosure and 12 captured bighorn sheep. Five sheep were instrumented with heart rate monitors and exposed to 149 F-16 jet over flights over 3 1-month periods. Heart rates elevated in some of the subjects but returned to pre-event rates in 2 minutes. The authors concluded that, "the noise levels created did not alter behavior or use of habitat, or increase heart rates *to the detriment of the sheep in the enclosure."* (italics added). The conclusion of "no detriment" is highly speculative and beyond the scope of the study. Likewise, both of the above studies are limited in

nature and may not adequately represent the real world situations that bighorn on the NTTR are exposed to, particularly with respect to location on the terrain and season of exposure.

Frid (2003) produced a paper exploring the responses of Dall's sheep (a close relative to desert bighorn) to overflights by helicopters and fixed-wing aircraft. In his paper he suggested that high rates of behavioral disruption caused by human activities could jeopardize the body condition and reproductive success of wildlife. Dall's sheep (*Ovis dalli dalli*) of the Yukon Territory were exposed to experimental overflights by a fixed-wing aircraft and a helicopter. Aircraft approaches that were more direct (as determined by the aircraft's elevation and horizontal distance from sheep) were more likely to elicit fleeing or to disrupt resting. Latency to resume feeding or resting after fixed-wing overflights was longer during more direct approaches. During indirect approaches by helicopters, sheep far from rocky slopes were much more likely to flee than sheep on rocky slopes. Sheep did not flee while nearby helicopters flew along the opposite side of a ridge, presumably because the obstructive cover buffered disturbing stimuli. Results provide insight into the energetic and fitness costs incurred as a function of overflight rates, and can help mitigate disturbance by guiding temporal and spatial restrictions to aircraft.

Janssen (1980) identified three levels of potential noise effects on wildlife. Primary effects are direct impacts such as hearing loss, ruptured ear-drums or deafness. Secondary effects include physiological responses, behavior changes, interference with reproduction, and reduced ability to obtain adequate food, water or cover. Tertiary effects are changes in age and sex ratios, population declines, habitat abandonment, and potential species extinction.

Disturbance by human activity affects wildlife by increasing the energy invested by an individual in antipredator behavior. Both predation and disturbance can indirectly affect population dynamics by increasing energetic costs. Costs may include: 1) escape behavior (running or moving to different areas), 2) reduction in foraging efficiency by increasing vigilance behavior or by forcing individuals to use habitats in which safety is greater but forage quantity and quality are reduced, 3) interruption of maintenance activity such as feeding or ruminating, 4) increased exposure to natural predators, and 5) higher heart and metabolic rates. These costs could reduce reproductive success of individuals and lead to population declines. (Berger, et al., 1983)

Bleich et al. (1994) observed that bighorn sheep overflown by helicopters during wildlife surveys exhibited marked responses in movement when compared to undisturbed animals. In addition, they found that reactions to overflights during spring were greater than at other times of the year and this response did not vary by sex. They suggested that bighorn sheep did not habituate to numerous helicopter overflights and they noted the potential for disturbance effects to be, "exacerbated for animals living in heterogeneous environments, where critical resources are limited and widely distributed: mountain sheep are an excellent example of such a species".

Within the past decade or so a new type of anthropogenic disturbance/impact to wildlife has emerged in the form of "unmanned aircraft systems" ("UAS") or drones, both small and large in size. Mulero- Pázmány et al. (2017) reported that UAS constitute a potential new source of anthropogenic disturbance, and the extent to which they elicit wildlife reactions depends on

UAS and animal related factors. Smaller UAS, electric engines, and lawn-mower flight patterns generally evoke no disturbance at all or only a short are observed in bird species, larger group sizes, and animals in non-breeding stage. The distances at which animals were observed to flee during UAS flights are smaller (usually below 500 m) than for manned aircraft (105 m-15 km) and for car approaches (e.g. for ungulates, 50 m-2.8 km), and are comparable to those reported for on-foot approaches. Some UAS also produce less noise and have a smaller size than manned aircraft or cars, however large sized military UAS such as Reaper and Predators may better be compared to manned aircraft.

4. The LEIS Fails to Adequately Analyze How The Proposed Action Would Impact Bighorn's Ability to Adapt to Climate Change BI-22

A strong, international scientific consensus has established that human-caused climate change is causing widespread harms to human society and natural systems, and that climate change threats are becoming increasingly dangerous. The Intergovernmental Panel on Climate Change (IPCC), the leading international scientific body for the assessment of climate change, concluded in its 2014 Fifth Assessment Report (IPCC, 2014) that: "[w]arming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen," and further that "[r]ecent climate changes have had widespread impacts on human and natural systems."

The U.S. National Research Council (2010) concluded that "[c]limate change is occurring, is caused largely by human activities, and poses significant risks for—and in many cases is already affecting—a broad range of human and natural systems." Based on observed and expected harms from climate change, the U.S. Environmental Protection Agency (2009) found that greenhouse gas pollution endangers the health and welfare of current and future generations.

The impacts to species and biological diversity are likewise severe. In a study published in *Nature* in 2003, Parmesan and Yohe (2003) reported a "globally coherent fingerprint of climate change impacts across natural systems." In documenting this "fingerprint" of global warming on ecosystems, scientists have predicted three categories of measurable impacts from recent warming: (1) earlier timing of spring events and later autumn events (*i.e.*, changes in "phenology"), (2) extension of species' range poleward or upward in elevation, and (3) a decline in species adapted to cold temperatures and an increase in species adapted to warm temperatures. (Parmesan and Hector, 2004)

In a Ninth Circuit case, *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 508 F.3d 508, 555 (9th Cir. 2007), involving an NHTSA rule for corporate average fuel economy standards for light trucks, the court found that climate change satisfied several of the "intensity" factors in 40 C.F.R. § 5108.27(b). First, the court found that although the NHTSA rule at issue may have an "individually insignificant" effect on climate change, it may nonetheless have a "cumulatively significant" impact, thereby satisfying 40

C.F.R. § 1508.27(b)(7). In addition, the court found that climate change will affect public health and safety, satisfying 40 C.F.R. § 1508.27(b)(2).

The Air Force cannot ignore the gravity of the threat of climate change to life within the planning area, and not take a hard look at the impacts. Federal agencies' mandatory duty to take a hard look at the ongoing impacts of global warming in NEPA documents has been affirmed by the courts. As the Ninth Circuit has recognized:

> "Global warming has already affected plants, animals, and ecosystems around the world. Some scientists predict that 'on the basis of mid-range climate-warming scenarios for 2050, that 15-37% of species in our sample of regions and taxa will be 'committed to extinction.'' In addition, there will be serious consequences for human health, including the spread of infectious and respiratory diseases, if worldwide emissions continue on current trajectories. Sea level rise and increased ocean temperatures are also associated with increasing weather variability and heightened intensity of storms such as hurricanes. Past projections have under-estimated sea level rise. Several studies also show that climate change may be non-linear, meaning that there are positive feedback mechanisms that may push global warming past a dangerous threshold (the 'tipping point')."

CBD v. NHTSA, 538 F.3d at 1190-91 (citations omitted).

At a minimum, a description of the effects of climate change on existing conditions such as the prevalence of exotic plant species, important habitat for wildlife and habitat connectivity, the availability of water and the health of riparian areas, zones of soil erosion or vulnerability to erosion, all provide critical baseline information necessary for the Air Force to determine whether public land resources can withstand any of the proposed management alternatives. Without this basic foundational information about the existing impacts of climate change on the land, and future expected impacts, it is impossible to make informed decisions about the level, location, and kind of activities the land and its ecosystems can support in the future.

Epps et al. (2004) notes that, "metapopulations may be very sensitive to global climate, particularly if temperature and precipitation change rapidly," and "the correlation between low elevation and higher risk of extinction resulted from the highly predictive relationship between elevation and temperature…bighorn sheep *(in lower elevations)* have a greater dependency on water sources or poorer nutrition resulting in poorer survival." They further noted that the relationship between extirpations from isolated mountain ranges, such as those in southern Nevada, resulted from the dynamics of water availability exhibited in soil moisture and forage availability, perhaps more importantly than from the direct lack of access to water. They also noted that observed extirpations of bighorn from California ranges were consistent with "directional climate change", and that global warming could have serious consequences for desert bighorn sheep, particularly if accompanied by the predicted decreases in precipitation.

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Of direct concern regarding the DNWR bighorn population is how the herds will be able to adapt to changes in climate through northward migration. Key to such an adaptation strategy will be the preservation of linkages between southern and more northern mountain ranges and the facilitation of corridors for bighorn movement.

Properly designed networks of wildlife corridors represent one of the best strategies to mitigate the negative impacts of habitat fragmentation and help wildlife species adapt to climate change. (Taylor, et al., 2006) Strategies that seek to maintain or restore connectivity between protected or otherwise intact natural areas are now considered critical to biodiversity conservation. (Haddad and Tewksbury, 2006)

Wildlife population persistence, evolution, and speciation are all driven by genetic factors. As the areas between crucial wildlife habitat patches are converted to human use, fragmenting the landscape, individual wildlife populations become more isolated. (Frankham, 2006) When wildlife is not able to disperse from natal habitats or migrate throughout the landscape then the entire population may face genetic isolation. Genetic isolation increases the prevalence of negative genetic factors that can lead to a higher extinction risk. These genetic factors include "inbreeding depression, decreased ability to adapt to environmental factors, mutation accumulation, and outbreeding depression." In contrast, if individual animals within populations are still able to migrate, even with decreased overall habitat, the genetic effects of isolation can be mitigated.

Wehausen and Jaeger (2016) have documented the existing flow of genes and the genetic diversity of bighorn on the DNWR with those of nearby ranges. Such continued flow of genes will be critically important to maintain especially in light of climatic changes. The potential disruption of these linkages from expanded operations of the DNWR is high troubling and a severe threat to presence and survival of bighorn and their genetic diversity in southern Nevada.

5. The LEIS Fails to Adequately Analyze Impacts to Movement and Migration] BI 1 BI-3

The adverse effects of habitat fragmentation on wildlife, especially on species such as bighorn sheep that migrate and move across large landscapes, have been well-studied. See Hilty et al. 2006. LEIS Alternative 2 and 3 sub-alternatives proposed new roads, increased traffic, substantial lengths of new fence construction that will adversely affect bighorn by putting up new barriers to movement. Despite the LEIS proposal to adhere to BLM fencing standards to minimize fragmentation of ungulate habitat, any addition of fencing is likely to inhibit bighorn movement. For example, we very concerned about fencing in Alternative 3A or 3A-1 expansion areas. An important linkage corridor likely exists between the Death Valley, Pahute Mesa, and Forty-mile Canyon herds via Bares herd and cut off genetic exchange in this area. The fencing proposed in Alternative 3A and 3A-1 are likely to increase grazing and competition to the detriment of bighorn. Fencing is known to disrupt bighorn migration patterns. Courtenmanch and

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Kauffman 2008. These effects must examined and additional steps to prevent and mitigate genetic isolation must be presented in the LEIS.

VI. The LEIS Fails to Adequately Analyze Impacts to Rare Plants of Management Concern]–BI-40

The NTTR and DNWR currently comprise an ecotone between the Mojave Desert and Great Basin Desert, which in times of climate change will become very important for species migration and adaptations. As described in the LEIS, this zone of transition is marked by low to mid-elevation ranges and valleys oriented north-south, with elevation ranging from approximately 3000-5500-feet in valley bottoms with a mountain ranges generally ranging from 6000-8500-feet. LEIS at 3-132.

Vegetation, consistent with well documented ecological principles, is variable with underlying geology and soils and precipitation which are correlated with elevation and aspect. Generally, geology in the south is dominated by limestone/dolomite while in the north by volcanic derived geology. Consistent with elevation and latitude, precipitation ranges from 3-16-inches. LEIS at 3-133. The Air Force reports that according to their surveys and classification systems, there are 44 identified plant communities, which is consistent with being within a major ecological transition zone and likely on the low end of reality. LEIS Table 3-40.

The Air Force presents an impressive inventory of rare plants of management concern ("RPMC") surveys in Appendix H.1 and the "Rare Plant Report of August 2017". Such detailed information is usually lacking for proposals by other, less funded, federal land managing agencies. Some of the information is new enough to be lacking from the Nevada Natural Heritage database.

Unfortunately, the Air Force does not take this excellent information into its analysis and disclosures in the LEIS. To the contrary, treatment of the presence and impacts on RPMC is very sparse and limited to only several sentences. RPMC in the LEIS are limited to those listed (none), a candidate for listing (technically none but the Joshua tree has been petitioned and found to be warranted for further study), or having a Heritage rating of "S1" – "Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, threats or other factors." Left out of consideration completely were other plants that are also very much at risk, the "S2" species – "Imperiled – At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors."[3] Why such an arbitrary distinction was made between "S1" and "S2" species was not disclosed either in the LEIS nor the appendix and supplementary materials.

Adding to the negligence on the part of the Air Force was failure to disclose and discuss in the LEIS all species that meet their arbitrary criteria listed above. The following species are

[3] See the Nevada Natural Heritage Program Tracking List at http://heritage.nv.gov/node/214

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found in the proposal area and not mentioned in the LEIS, either as narrative, lists or on maps.[4] Their omission from the LEIS serves to minimize and hide from the public the potential impacts from Alternatives 2 and 3 and is an affront to public disclosure.

Name	Status/Ranking	Where Found
Pinyon Mesa buckwheat	S1	Alt 3C
Colville abronia	S1	North Range Alt 3C
White bearpoppy	BLM-S	South Range Alt #C
Eastwood milkweed	BLM-S, S2	North Range
Black wollypod	BLM-S, S2	North Range South Range
Halfring milkvetch	BLM-S, S2	South Range Alt 3C
Tonopah milkvetch	BLM-S, S2	North Range
Antelope Canyon goldenbush	S1, BLM-S	North Range Alt 3C
Sheep fleabane	BLM-S, S2	North Range Alt 3C
Darin buckwheat	BLM-S, S2	North Range South Range Alt 3C
Clokey's buckwheat	BLM-S, S2	South Range Alt 3C
Smooth dwarf greasewood	S1, BLM-S USFS-S	South Range
Rough dwarf greasewood	BLM-S, S2	North Range Alt 3C
Bullfrog Hills sweetpea	BLM-S, S2	North Range Alt 3A?
Pahute Mesa beardtongue	BLM-S	North Range
Jaeger beardtongue	BLM-S, S2	Alt 3C
Beatley scorpionflower	BLM-S	North Range South Range
Clarke's phacelia	BLM-S, S2	South Range Alt 3C
Parish's phacelia	BLM-S, S2	South Range Alt 3C

[4] Such as LEIS pages 3-149 – 3- 152;3-171 – 3-182; Table 3-49; and Figures 3-27 and 3-28.

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The Air Force should also include in the LEIS analysis and disclosure the "S2" species not included in the above table, but which are reported in Table 2 in the "Final Report of Rare Plants of NTTR and the Potential Expansion Alternatives," pages 47-48.

Concerns for the well-being, persistence and viability of these plants arise from the Air Force's intention in Alternative 2 and 3 to permit "ready access" cross country vehicle and troop movements in areas where they are currently prohibited; the impacts from fencing the perimeter boundaries in Alternative 3, and the construction of two low elevation airfields in Alternative 3C. It is obvious from the maps provided in the LEIS and Appendix materials and reports[5] that it will be very difficult to avoid the locations of these rare and sensitive plants, even if the Air Force promised to do so. Despite the survey work done to date, many places that would be exposed to new ground disturbances have not yet been surveyed.

The LEIS brushes aside any real discussion and disclosure to the public of the impact on RPMC. Impacts discussed marginally include the miles of new fencing in Alternative 3, and the construction of the two runways in Alternative 3C. Left out completely are the impacts from irregular warfare and "ready access" tactics, and the need to place new electronic and communication sites on previously undisturbed and inaccessible lands. The Air Force tries to assuage such concerns with future promises such as site specific NEPA and adherence to, "the same natural resources management requirements, guidelines, and biological constraints as the existing NTTR." LEIS at 3-180.

Such promises of future actions are wholly insufficient to mitigate the highly impactful, long term management changes envisioned in the LEIS proposals. The DNWR plays a critical conservation role in the protection, conservation and long term viability of these S1, S2 and agency-sensitive plants. To convert the use and mission to war preparedness with ready access is easily predictive as devastating.

The Air Force also neglects to analyze and disclose the potential impacts from climate change on these plants, even seemingly ignoring the Nevada Natural Heritage Program's addition of "Climate Change Vulnerability Index" to its "At-Risk Plant and Animal Tracking List, January 2018." The NTTR and DNWR lie in a strategically important location on the land as an ecotone between the Mojave and Great Basin Desert ecosystems. In light of the highly predictable warming and drying of the desert Southwest, animal and plant species will make use of the habitat connections found in these lands to migrate and adapt northward and up in elevation. (See bighorn sheep section above for more on climate change.)

The Air Force must conduct a thorough analysis of the proposed impacts on rare and sensitive plants to include listed, proposed candidate, S1 and S2 species found on or potentially on the NTTR and expansion areas, with particular reference to proposed activities envisioned in irregular warfare and ready access maneuvers, and disclose the analysis of such analysis to the

[5] Such as Figures 3-27 and 3-28, Appendix H.1, and maps and date found in the Final Report of Rare Plants of NTTR and the Potential Expansion Alternatives.

concerned public. Such analysis must include the impacts from climate change and the role the lands of the NTTR and DNWR will play in climate adaptation strategies.

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6012

March 8, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

RE: COMMENTS –NTTR Military Land Withdrawal Draft LEIS

The Theodore Roosevelt Conservation Partnership (TRCP) appreciates this opportunity to comment on the Nellis Test and Training Range (NTTR) Military Land Withdrawal Draft LEIS. Your consideration and incorporation of our comments and recommendations into your decision making process on this LEIS is greatly appreciated.

The TRCP is a national non-profit conservation organization working to guarantee all Americans quality places to hunt and fish. The TRCP works with our 56 formal partners and represents over 79,000 individual members nationally and more than 2,100 individuals throughout the state of Nevada. Given the resulting impacts to public access and wildlife management by the proposed expansion of the NTTR into the Desert National Wildlife Refuge (DNWR), the future management of these federal public lands is of great interest to us, our partners, and Nevada sportsmen - as these areas are renowned for world class hunting.

The TRCP's concerns regarding the proposed Military Lands Withdrawal include the following:

1. The Desert National Wildlife Refuge was created in 1936 to provide habitat and protection for desert bighorn sheep. The proposed expansion of the NTTR would compromise the intended purpose.
2. The proposed withdrawal will remove 301,057 acres of public land from public access. Together, with the 2.95 million acres already under the jurisdiction of the US Air Force and 1.86 million acres within the Nevada Test Site, this represents over 7% of the state of Nevada which is off limits to the public in one contiguous block of land.
3. The proposed withdrawal will close the primary access road, commonly referred to as the Alamo Road, which is a historic travel route that predates European settlement, to public travel. This road provides the only access to the northern Sheep Range, which has historically been some of the most productive desert bighorn sheep habitat in the world. LU-1

6012

4. Wildlife abundance is tied directly to the availability of quality year round habitat. In Nevada's arid climate, water for wildlife is often the limiting component of quality habitat. Without adequate water, stable wildlife populations simply cannot exist. For that reason there has been a concerted effort in Nevada, including areas identified in the NTTR expansion and the DNWR, to develop dependable water sources reserved specifically for wildlife. The proposed expansion will eliminate public access to numerous bighorn guzzlers that were built with sportsman's conservation dollars and volunteer hours. This represents capital improvements valued at over $225,000 ($18,500 in materials, plus $6,000 labor, plus $13,000 helicopter/materials transport each) on lands being considered closed to public access. This total does not include the on-going cost associated with annual inspection, maintenance and repair. — LU-9
5. The proposed withdrawal will remove public access to natural spring water sources which have historically been maintained for desert bighorn sheep. — LU-9
6. The proposed withdrawal will further restrict access to highly sought-after Nevada Hunting Units (280, 281, and 282). The expansion would also impact the recreational quality of hunt unit 283/284 as a result of shortened seasons and restricted access due to Air Force activities. All of these units are prized desert bighorn sheep hunt units that have historically produced large trophy animals. In 2017, hunt applicants included these four units 2185 times as a preferred choice for 22 permits. The TRCP is appreciative that bighorn hunting on the NTTR has been accommodated by the Air Force through the timing of hunts and hunt party safety training and security clearance. It is our hope that this cooperative access will continue under future authorization of the NTTR. — LU-8
7. The proposed withdrawal will reduce the number acres open to the public for hunting, camping, hiking, backpacking, horseback riding, trapping and other forms of recreation associated with public lands. Outdoor recreation is a major economic driver generating nearly 650 billion dollars in annual spending in the US. — LU-1, SO-3
8. Hunting large and small game is part of the custom and culture of Nevada. A 2011 study by the National Shooting Sports Foundation found hunting to be a major economic driver, contributing approximately $219 million annually to Nevada's economy. Hunting is both a time honored tradition and an important part of many rural economies, and should be preserved throughout Nevada. — SO-3

Comments on Proposed Alternatives:

TRCP supports Alternative 1 with certain emphasis, amendments and modifications.

- NTTR withdrawal boundaries should remain as they presently are.
- Jurisdiction and management of the DNWR should remain with US Fish and Wildlife Service (USFWS) except for those areas in Three Lakes and Indian Springs Valleys below 4000 feet elevation which are currently administered by the Air Force.
- Scheduled access must be provided to NDOW and sportsmen's groups such as the Fraternity of the Desert Bighorn (FDB) to maintain water developments for bighorn sheep on the NTTR South Range. — LU-9

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- Scheduled access must continue to be provided to NDOW for population census, disease surveillance and location monitoring of bighorn on NTTR. — LU-2

TRCP is opposed to Alternative 2 as written.

- "Ready access' must be achieved under the current management practice of no impact zones above 4000 feet elevation. — PA-1
- Jurisdiction and management responsibilities of the DNWR, including the Spotted, Pintwater and Desert Mountain Ranges, above 4000 feet elevation should remain with USFWS.
- Scheduled access must be provided to NDOW and sportsmen's groups such as the Fraternity of the Desert Bighorn (FDB) to maintain water developments for bighorn sheep on the NTTR South Range — LU-9

TRCP is opposed to Alternatives 3A and 3A-1.

- Expansion of EC South north of Beatty removes additional lands from recreation and public access.
- Designating EC South as Range 77 with full air-to-ground operations would negatively affect bighorn and pronghorn in the area. The area proposed as Range 77 supports a healthy population of bighorn in the Thirsty Canyon, Thirsty Mountain, Quartz Mountain areas. If the range was not designated with full air-to-ground operations, additional bighorn hunting opportunity could be allowed in the area where hunt unit 252 and 253 adjoin. A new hunt unit could be described to direct harvest into the area where an untapped resource exists while still restricting hunters to areas that do not compromise the mission of the Air Force. Similar security and safety screening to other hunts on the NTTR would be necessary — BI-9, LU-11

TRCP is opposed to Alternative 3B

- The Draft LEIS does not state a purpose for the expansion south to US Highway 95. This portion of the proposed withdrawal further restricts public access and does not allow for future right of way needs. No munitions use or emitter use would occur in this withdrawal area. — PA-23
- Withdrawal of over 48,000 acres of DNWR and BLM administered land on the southern portion of the Spotted Range under this alternative restricts public access for no stated or apparent purpose. No munitions use or emitter use would occur in this withdrawal area. — PA-23

TRCP is opposed to Alternative 3C

- Turning management of this portion of the DNWR over to Air Force compromises the intended purpose of the DNWR of providing habitat and protection for desert bighorn sheep
- This alternative restricts access to the west side of the Sheep Range and the East Desert Range for recreation including camping, hiking, hunting, viewing and photographing bighorn. — LU-1
- This alternative increase the noise, ground and air traffic impacts to bighorn in the area. — BI-3

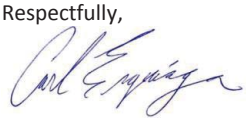
6012

TRCP supports Alternative 4A

- The 20-year withdrawal period under Alternative 4A is adequate for long range planning by the Air Force. After two decades the withdrawal and management plans should be re-evaluated.
- The 50-year withdrawal (Alternative 4B) is too long to provide adequate environmental monitoring and evaluation of the impacts and mission of NTTR.
- Indefinite Withdrawal as proposed in Alternative 4C is unacceptable.

We greatly appreciate the opportunity to comment on this important project. We strongly encourage the Air Force consider the issues raised and alternatives proposed in these comments during the development of alternatives in the LEIS process. If you have any questions regarding our comments, please do not hesitate to contact us.

Respectfully,



Carl Erquiaga
Nevada Field Representative
Theodore Roosevelt Conservation Partnership
1625 Golden Park Way
Fallon, NV 89406

Cc: Senator Dean Heller
Senator Catherine Cortez Masto
Congressman Ruben J. Kihuen

6013

From: Christian Gerlach
To: nttrleis
Subject: EXTERNAL: Additional Comments from Sierra Club
Date: Thursday, March 08, 2018 7:08:23 PM

-Fencing:

In your LEIS you state you will be using fencing that is designed for mule deer and pronghorn deer in places where the fencing should meet the needs of the Desert Bighorn Sheep. The proposed type of fences for use in this expansion by the Air Force are designed for mule deer and pronghorn deer Not Bighorn sheep. The proposed type of fencing has been studied extensively by the BLM and the US Fish and Wildlife Service and has been shown to pose problems for Bighorn Sheep by maiming them, unintentionally capturing them, and in many cases results in their death from either resulting injuries trying to get out of fencing they get caught in or from getting so badly stuck in the fencing and not being able to get out.

Please see the following recommendations:

http://www.azgfd.gov/hgis/documents/110125_AGFD_fencing_guidelines.pdf

Bighorn Sheep: Bighorn will go over, under or through most fences if the spacing between wires is adequate. To be permeable to native sheep the Department recommends a three wire fence no more that 39 inches high, top and bottom wires barbless, and the middle wire barbed. T-posts should be spaced 20-25 feet apart and at least 3 stays should be equally spaced between posts. The bottom wire should be 20 inches off the ground, the second wire 15 inches above the bottom, and the top wire 4 inches above the middle wire. The 4 inch top spacing represents an entanglement threat to deer and elk (see Figure 1). The Department recommends 12 inch spacing for fences in deer or elk habitat. In areas where bighorn and deer or elk share the habitat, the Department requests the fence designer contact the appropriate Department wildlife manager for specific recommendations. 16 Figure 13: Big horn sheep permeable fence Photo from AGFD Fencing Guidelines June 2006 Deer, pronghorn, and sheep, but not elk or livestock To allow deer, pronghorn, bighorn sheep and small animals to cross a fence not permeable to elk or livestock, a special “crossing structure” has been designed and tested (Ver Cauteren et al. 2007). The structure is a “ladder” built into the fence. The ladder is composed of two 10 foot vertical wooden posts 20 inches apart. Cross members are installed every 20 inches. Deer, pronghorn, and sheep can go below the lowest cross member or between the second and third. People can use the structure as a ladder. Adult elk and cattle cannot pass through

http://www.ndow.org/uploadedFiles/ndoworg/Content/public_documents/Wildlife_Education/Publications/bighorn_management_plan.pdf

BI-5

The Division realizes that some fences will be constructed within bighorn habitat. In these instances, the following fence specification should be used: A 39-inch high, three-strand fence with a smooth bottom wire. The wire spacing from ground up would be 20", 15" and 4" (BLM Handbook).

https://www.fs.fed.us/pnw/pubs/pnw_gtr159.pdf

Managers will often be faced with problems caused by the effects offences on bighorn sheep. Fences restrict movement and cause mortality, especially of rams that get their horns tangled in the wire (Welsh 1971). Helvie (1971) has given guidelines for building fences in areas occupied by bighorn sheep. Fences should not be constructed with woven wire, but with smooth or barbed wire, pipe, rails, or poles. Helvie also recommended that posts or stays be placed no farther apart than 3 meters (10ft). Wires should be spaced 51, 89, and 99 centimeters (20, 35, and ~ 39 inches) above the ground, and poles, pipes or rails 51, 97, and 112 centimeters (20, 38, and 44 inches) above the ground (fig. 16). Such spacing allows bighorns to go through or under a fence while restricting livestock movement. Another type of fence that can be used is the lay-down fence (fig. 16). It can be erected when cattle are present and dropped flat when bighorn sheep are present. Use of fences should allow bighorn sheep to move through an area while keeping cattle on designated pastures. In selecting objectives for managing a range for bighorn sheep, a manager should answer three questions: (1) What are the requirements of the particular bighorn sheep population? (2) Do other wild, feral, or domestic ungulates occupy the area with the sheep? and (3) Do these occupants alter the habitat in ways that are detrimental to the sheep? Bighorn sheep are a much more sensitive part of the management equation than mule deer, elk, feral horses, or domestic livestock. Bighorn sheep are comparatively rare. They occupy habitats that are sensitive to alteration, and they respond adversely to disturbance. Unless they are given primary emphasis, bighorn sheep are unlikely to become established or to continue in existence.

--

Christian F Gerlach | Organizing Representative | Sierra Club's Our Wild America Campaign |

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Cell 702.271.6485 | Office 702.489.3643 | 3828 Meadows Ln, Las Vegas, NV 89107

"In this world, hate never dispelled hate. Only love dispels hate. This law is ancient and inexhaustible." — Buddha

6014

99th Air Base Wing Public Affairs
4430 Grissom Avenue, Suite 107
Nellis AFB, Nevada 89191
www.nttrleis.com

March 7, 2018

Dear Sirs:

Thank you for the opportunity to offer comments on the Draft LEIS for the Nevada Test and Training Range (NTTR) Land Withdrawal. While we support the mission of the US Air Force and our military we have some serious concerns about this LEIS and most of the proposed alternatives.

We support Alternative 1, with regard to the Desert National Refuge (DNWR) boundaries and management priority and Alternative 4A in terms of withdrawal period and oppose all the other alternatives. We also feel that there are options for increased utilization of the current North and South Ranges that weren't adequately addressed.

The Desert National Wildlife Refuge is one of the most pristine natural areas in the lower 48 States. The land was first protected in 1907 during the administration of President Theodore Roosevelt as the Moapa National Forest and then transferred to the US Fish and Wildlife Service as the Desert Game Range in 1936. It is currently known as the Desert National Wildlife Refuge. Due to its arid nature and more than a century of protection it is mostly devoid of human impacts and has served as an important refugium for Desert Bighorn Sheep as the remainder of their habitat in the southwest has been impacted by grazing of domestic sheep, water development, road building and other activities. Because of its wide range of elevations it provides habitat for a wide range of plant and animal species in addition to bighorn sheep. It is also an increasingly important recreational area for the growing human population of Southern Nevada. Alternative 3C, which proposes to transfer some 227,000 acres from the DNWR to the Air Force, would cut the heart out of the refuge and seriously compromise the mission of the DNWR. As the climate warms and becomes drier in future years the higher elevation lands in the DNWR will become ever more important in sustaining the viability of the bighorn sheep population on the Refuge.

It appears to us that there are really two separate issues that this LEIS has condensed into one, albeit with a confusing set of mix and match options. The first issue is the extension of the current withdrawal of USFWS and BLM lands for the existing footprint of the NTTR. The second is how to meet future training needs and requirements for existing and next generation (F-35) aircraft.

The purpose of an LEIS as opposed to an EIS is that Congress will be the decision maker rather than an agency of the executive branch of our government. Because Congress has a higher level of responsibility regarding how our military functions and carries out its' mission than any executive branch agency it is appropriate that it be appraised of all known or foreseeable options for pilot training. Hence, options for onboard computer simulation of threat emitter signals should have been included and a discussion of the role and opportunity for expanded use of simulators for pilot training, as happens in the civilian world, should have been included. The Air Force has stated that as munitions have evolved from bullets and dumb bombs to guided missiles of various sorts, live fire practice has become both too expensive and also unnecessary. Hence, expanding the NTTR so that pilots can do more of what they have done in the past, rather than what they will be doing in future, doesn't seem a prudent allocation of resources.

PA-6

6014

The North and South Ranges are partially separated by the Nevada National Security Site (NNSS) which was formerly used for atomic weapons testing. It is our understanding that this rather large area is mostly unused except for small areas that are currently serving for nuclear waste storage/disposal and for equipment development. There is no compelling reason that the airspace over the NNSS should not be available to the Air Force as part of the NTTR. If this change were to occur it would facilitate more routes of approach to the impact areas on the South (and possibly) the North Ranges. This option was not seriously considered in the LEIS. PA-11

The LEIS states that one of the reason for expanding the footprint of the NTTR onto the Sheep Range of the DNWR is the need to insert and retrieve small numbers of ground troops as part of irregular warfare training. In view of the fact that the ground troops would be from the other branches of the Military and that the facilities at Twenty Nine Palms (Marines), Fort Irwin (Army) and China Lake (Navy) have all been expanded in recent years there should be adequate space at those facilities to practice drop-off and pickup of ground troops. There is nothing in the Sheep Range that sets it apart from other military lands in terms of opportunity for ground troops to practice walking from a drop-off point to a target area. PA-5

The LEIS talks about using Desert Lake for landing C-130 and presumably other aircraft. In conversations with Air Force personnel it was indicated that no new roads would be constructed in order to improve the landing area. This seems disingenuous considering the nature of the soil on the Desert Lake Playa, which turns to powder after a very few passages by a standard pickup truck and becomes almost impassable. The US Fish and Wildlife Service has tried to discourage people from using that area due to the danger of getting their vehicles bogged down. If the Air Force is going to transform this remote desert playa into an airstrip we need to know how much infrastructure in terms of roads and auxiliary facilities will be needed and what the impacts will be. PA-17

The Air Force has stated that if Alternative 3C were authorized they would build a “wildlife friendly fence” along the eastern boundary of the withdrawn area in the Sheep Range. In addition to the fact that there is no such thing as a “wildlife friendly fence”, only less unfriendly fences, this would be very difficult and expensive to do and would further reduce the value of the DNWR to the wildlife it serves. BI-5

We support Alternative 4A as the appropriate length of the withdrawal period. The present pace of both political and technological change is such that it is very difficult to predict our needs in the near future, let alone 50 or more years from now. It is appropriate to review military land withdrawals at regular intervals. This country is run by a civilian government to which the military is subservient, not the other way around.

Sincerely,

John E. Hiatt

John E. Hiatt
Conservation Chair
Red Rock Audubon Society
8180 Placid Street
Las Vegas, NV 89123
702-361-1171

6015

Coalition for Nevada's Wildlife
P. O. Box 70143
Reno, Nevada 89570

March 8, 2018

Nellis Air Force Base
Submitted via email to (nttrleis@leidos.com)

Re: U.S. Air Force Legislative Environmental Impact Statement
Nevada Test and Training Range Military Land Withdrawal at Nellis Air Force Base

Gentlemen:

The Coalition for Nevada's Wildlife (Coalition) is hereby expressing our strongest opposition to any proposed withdrawal of lands within the Desert National Wildlife Refuge (DNWR) by the U. S. Air Force. The Coalition represents every major sportsmen/wildlife conservation organization in northwestern Nevada including big game, waterfowl, upland game, fishing, trapping, and sporting dog groups. The nearly 200,000 sportsmen in this state are adversely impacted by these proposed withdrawal actions.

Sportsmen have worked for several decades in the restoration of our wildlife resources that were decimated during settlement of the state. Tens of millions of sportsmen's dollars and tens of thousands of volunteer man hours have been invested in this cause. The DNWR was home to one of the last remaining populations of our state animal, the desert bighorn sheep. The proposed actions do not adequately address the impacts or management needs of our state animal or other wildlife. We find the proposal to be highly detrimental to the public. BI-7

Sportsmen in partnership with the Nevada Department of Wildlife (NDOW) and the U.S. Fish and Wildlife Service (USFWS) over the past decades have constructed many year-around water sources for wildlife in the DNWR. These water developments are in need of access for inspection and maintenance. Land withdrawal would seriously impact these needs. LU-9

Five highly sought after Nevada Hunt Units lie within the NDWR. These units are prized for their number and quality of desert bighorn sheep. Any withdrawal reduces the acreage and access to the public for camping, backpacking, horseback riding, hiking, wildlife viewing and all other forms of outdoor recreation. LU-1

The NTTR already encompasses nearly three million acres; we find it highly unlikely that future U.S. Air Force missions could not be successfully carried out within this vast area. In contrast, the DNWR was created by Congress in 1936 to attempt to stave off the extirpation of our state animal by protecting its home range and habitat. The NTTR has already encroached on the very area Congress set aside; further encroachments are unacceptable.

In conclusion, the Coalition for Nevada's Wildlife strongly recommends the No Action Alternative within the draft Environmental Impact Statement; any other alternative would be highly detrimental to our wildlife resources and the people of this state.

Thank you for your consideration.

Coalition for Nevada's Wildlife

Larry J. Johnson, President

NEVADA SPORTSMEN AND CONSERVATIONISTS WORKING FOR THE ENHANCEMENT OF WILDLIFE AND HABITAT

6016

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March 8, 2018

Information Contact: Jim Rackley
Email: [redacted]

Public Comments Due Before Midnight 3/8/2018

Regarding: United States Air Force Legislative Environmental Impact Statement for the Nevada Test and Training Range Military Land Withdrawal at Nellis Air Force Base

Proposed Alternative 1: Extend Existing Land Withdrawal and Management of the NTTR North and South Range

The Nevada Muleys is opposed to Proposed Alternative 1.

- The Nevada Muleys (NVM) is opposed to the expansion of the Nevada Test and Training Range (NTTR) and a change in jurisdiction within the NTTR South Range to areas below the 4,000 foot elevation which includes the five target impact areas. The Draft Legislative Environmental Impact Statement (LEIS) does not adequately address the management or impacts of Alternative 1 on Nelson Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Wildlife Water Developments constructed over the years by the NVM and the Nevada Department of Wildlife (NDOW) within the existing NTTR boundaries. These unaddressed Water Developments and Developed Springs include:

  (1) Desert #5 (Brents Seep) (2) Quartz Spring (3) Sand Spring
  (4) Desert #3 (Tommy) (5) Indian Canyon (6) Desert #1 (Chuckwalla)
  (7) Dejesus (8) Gravel Canyon (9) Spotted #4 (Foggy)
  (10) Spotted #3 (Patches) (11) Spotted #1 (12) Spotted #2 (Split Apron)
  (13) Spotted #6 (14) Dain Peak (15) Desert #2 (White Sage Gap)
  (16) Heaven's Well (17) Developed Tim Spring

  BI-1
  BI-3
  BI-4
  LU-2
  LU-9
  WA-6

- The NVM recommends that the boundaries of the existing NTTR 112,000 acres remain unchanged or be returned to the public use and full jurisdiction of the U.S. Fish and Wildlife Service (USFWS) to the extent of the original 1936 dedicated boundary of the National Desert Wildlife Refuge (NDWR).

6016

Proposed Alternative 2: Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges

The NVM is opposed to Proposed Alternative 2.

- NVM is opposed to providing "ready access" for conducting military operations in the NTTR South Range to improve capability and capacity for testing and training because the introduction of military training to the South Range would cause adverse impacts to the visual characteristics of the South Range that are otherwise untrammeled. The Draft LEIS does not adequately address the management or impacts of Alternative 2 on Nelson Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Wildlife Water Developments constructed over the years by the NVM and the NDOW within the existing NTTR boundaries. These unaddressed Water Developments and Developed Springs include:

  (1) Desert #5 (Brents Seep) (2) Quartz Spring (3) Sand Spring

  (4) Desert #3 (Tommy) (5) Indian Canyon (6) Desert #1 (Chuckwalla)

  (7) Dejesus (8) Gravel Canyon (9) Spotted #4 (Foggy)

  (10) Spotted #3 (Patches) (11) Spotted #1 (12) Spotted #2 (Split Apron)

  (13) Spotted #6 (14) Dain Peak (15) Desert #2 (White Sage Gap)

  (16) Heaven's Well (17) Developed Tim Spring

  BI-1
  BI-3
  BI-4
  LU-2
  LU-9
  WA-6

- The NVM recommends that the boundaries of the existing NTTR 112,000 acres remain unchanged or be returned to the public use and full jurisdiction of the U.S. Fish and Wildlife Service (USFWS) to the extent of the original 1936 dedicated boundary of the National Desert Wildlife Refuge (NDWR).

Proposed Alternative 3A: Range 77 – Electronic Combat (EC) South Withdrawl

The NVM is opposed to Proposed Alternative 3A.

- NVM is opposed to expanding the NTTR boundary by approximately 18,000 acres to add a buffer to the safety footprint of Range 77 because of the reduction of access by the public to public lands for recreational use for bike trails, off road vehicle use, hiking, limits to sportsman access for hunting and fishing, as well as the resulting limited access to management wildlife for NDOW. Proposed Alternative 3A includes habitat suitable to wildlife including Desert Bighorn Sheep. NDOW terrestrial collar data, limited by two years of data collection, indicates that Desert Bighorn have used habitat less than a mile away from the proposed Alternative 3A expansion. In addition, there are a number of water sources located within the area that are critical to Bighorn Sheep and other wildlife that are insufficiently addressed in the Draft LEIS. Finally, the Proposed Alternative 3A contained in the Draft LEIS does not provide for addressing the issue of adequate terrestrial separation between Desert Bighorn Sheep and domestic sheep grazing allotments to prevent the transmission of deadly disease to the Bighorn Sheep.

  BI-3
  WA-6
  BI-10

6016

Proposed Alternative 3A-1: Amended Range 77 – EC South Withdrawl

The NVM is opposed to Proposed Alternative 3A-1.

- NVM is opposed to expanding the NTTR boundary by approximately 15,408 acres (18,000 acres – 2,592 acres) to add a buffer to the safety footprint of Range 77 because of the reduction of access by the public to public lands for recreational use for bike trails, off road vehicle use, hiking, limits to sportsman access for hunting and fishing, as well as the resulting limited access to management wildlife for NDOW. Proposed Alternative 3A-1 includes habitat suitable to wildlife including Desert Bighorn Sheep. NDOW terrestrial collar data, limited by two years of data collection, indicates that Desert Bighorn have used habitat less than a mile away from the proposed Alternative 3A-1 expansion. In addition, there are a number of water sources located within the area that are critical to Bighorn Sheep and other wildlife that are insufficiently addressed in the Draft LEIS. Finally, the Proposed Alternative 3A-1 contained in the Draft LEIS does not provide for addressing the issue of adequate terrestrial separation between Desert Bighorn Sheep and domestic sheep grazing allotments to prevent the transmission of deadly disease to the Bighorn Sheep.

BI-3
WA-6
BI-10

Proposed Alternative 3B: Enhanced Operational Security and Safety 64C/D and 65D Expansion

The NVM is opposed to Proposed Alternative 3B.

- NVM is opposed to expanding the withdrawal by approximately 57,000 acres along the existing southeastern NTTR/DNWR boundary due to indirect visual ground disturbance impacts to human beings and auditory impacts to Desert Bighorn Sheep and other wildlife from aircraft or other vehicular operations. The Draft LEIS does not designate a purpose for this portion of the proposed withdrawal other than to "square" off the South Range. No munitions use or emitter use would occur in this withdrawal area. The Draft LEIS does not adequately address the management or impacts of Alternative 3B on Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Spotted #5 Wildlife Water Development constructed by the NVM and the NDOW.

BI-3
PA-23
BI-1
BI-3
BI-4
LU-2
LU-9
WA-6

- The NVM recommends that the boundaries of the existing South Range and NTTR remain unchanged or consider areas to be returned to the public use and full wildlife management to the NDOW; and, the 33,000 acres of area proposed a Wilderness outside the existing NTTR boundary remain as proposed Wildness and managed as such.

Proposed Alternative 3C: Alamo Withdrawal

The NVM is strongly opposed to Proposed Alternative 3C.

- The NVM is strongly opposed to expanding the Military withdrawal by approximately 227,000 acres of the remaining Desert National Wildlife Refuge under the Alamos airspace, including opposition to the safety buffer(s) associated with the target areas that would be established as part of this withdrawal action, regardless of promises of blank munitions use, emitter use, and limited construction activities. We are opposed to any impact to the Desert National Wildlife Refuge, primary jurisdiction changing to the Air Force from the U.S. Fish and Wildlife Service, and change to the joint management of wildlife by the U.S. Fish and Wildlife Service and the Nevada Department of Wildlife, and any impacts to access and limitations in use by the public to Alamo Road with has been the access trail and road from pre-historic times to the modern era connecting The Meadows in the Las Vegas Valley with the Pahranagat Valley to the North along the foot of the Eastern slope of the Sheep Range proposed by Alternative 3C.

6016

Proposed Alternative 3C: Alamos Withdrawal (Continued)

- The NVM is opposed to any impacts to solitude or primitive and unconfined recreation us by the public in surrounding Wilderness Areas, proposed Wilderness, and Wilderness Study Areas (WSA's) that would result from increased levels of aircraft operations, munitions use, and emitter operations, including increased noise levels, ground disturbance activities that would adversely impact the undeveloped quality of the remaining NDWR and Wilderness outside the existing NTTR boundary as part of Proposed Alternative 3C. — WI-1

- The NVM is opposed to a change in land management as part of the Alamo withdrawal from "undeveloped" areas to one with human development and interference.

- The Draft Legislative Environmental Impact Statement (LEIS) does not adequately address the management or impacts of Alternative 3C on Nelson Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Wildlife Water Developments constructed over the years by the NVM and the Nevada Department of Wildlife (NDOW) with the cooperation of the U.S. Fish and Wildlife Services and NDWR managers within the proposed withdrawal expansion proposed by Alternative 3C. These unaddressed Water Developments within the proposed expansion of Alternative 3C and the Range 62A Safety Buffer which is within the existing NTTR boundary, but appears to include those areas outside of the 112,000 acre limit which are currently under the jurisdiction of the USFWS: — BI-1, BI-3, BI-4, LU-2, LU-9

  (1) Desert #4 (Blacktop) (2) East Pahranagat #5 (Enclosure) (3) Woody

  (4) East Desert #1 (Rug Mountain) (5) East Desert #2 (Saddle Mountain)

  As well as, the following Developed Springs:

  (1) Sheep Spring (2) Cabin Spring (3) Bootleg Spring

  (4) White Rock Spring (5) Yellow Jacket Spring — WA-6

- The NVM recommends that the boundaries of the existing NTTR remain unchanged or be returned to the public use and full jurisdiction of the U.S. Fish and Wildlife Service (USFWS) to the extent of the original 1936 dedicated boundary of the National Desert Wildlife Refuge (NDWR).

Proposed Alternative 4: Establish the Period of Withdrawal

- The NVM supports Alternative 4A proposing a 20-Year Withdrawal Period. The NVM is of the opinion that 20 years is sufficient time for reporting to the public the use and continued need of the Proposed Withdrawal.

- The NVM is opposed to Alternative 4B proposing a 50-Year Withdrawal Period. The NVM is of the opinion that 50 years is far too long of a time for reporting to the public the use and continued need of the Proposed Withdrawal.

- The NVM strongly opposes Alternative 4C proposing an Indefinite Withdrawal Period. The NVM is of the opinion that the existing 2.9 million acres (4% of the total area of the State of Nevada) comprising the North Range, South Range, NTTR, and Nevada Test Site require congressional oversight and regular public reporting to justify continued use and need of the Withdrawn Lands and consideration of eventual release and return of portions to the Public Domain.

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No Action Alternative

- The NVM strongly supports the No Action Alternative because the U.S. Air Force has not taken into consideration the public scoping meeting comments provided by many conservation organizations to adequately address the management or impacts on Nelson Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Wildlife Water Developments and Developed Springs constructed over the years by the NVM and the Nevada Department of Wildlife (NDOW) in conjunction with the U.S. Fish and Wildlife Service and the Desert National Wildlife Refuge. — NP-8

- Further, the U.S. Air Force has not worked with stakeholders or the public, other than domestic sheep producers, to develop an Alternative that considers an area of the existing 2.9 million areas already in the Air Force's jurisdiction that adequately address the management or impacts on Nelson Desert Bighorn Sheep, other wildlife, wildlife habitat, access to manage wildlife or the management, maintenance and access to the Wildlife Water Developments and Developed Springs constructed over the years by the NVM and the Nevada Department of Wildlife (NDOW) in conjunction with the U.S. Fish and Wildlife Service and the Desert National Wildlife Refuge and sufficiently maintains the appropriate level of mission readiness. — NP-1, PA-5

- The remaining portion of the Desert National Wildlife Refuge (DNWR) is a protected wildlife refuge administered by the U.S. Fish and Wildlife Service (FWS) and must be protected from further land grabs by the U.S. Air Force. The DNWR was created on May 20 1936 as the largest wildlife refuge in the lower 48 states of the United States with the primary objective to perpetuate Nelson Desert Bighorn Sheep and its habitat. This mission has already been infringed upon by the existing NTTR by encroachment into the DNWR.

- Further loss of DNWR lands that have historically been actively used to improve Desert Bighorn habitat by developing vital new water sources and maintaining and improving existing springs to benefit sixty-seven (67) other wildlife species should not be sacrificed for a readiness mission that can be accomplished on portions of the existing 2.9 million areas already under Air Force jurisdiction.

- The NVM points out that the proposed withdrawal actions will reduce the number acres open to the public for camping, hiking, backpacking, horseback riding, game bird hunting, trapping and other forms of recreation associated with public lands, in particular the largest wildlife refuge in the lower 48 states; as well as restrict access to five highly sought after Nevada Hunting Units (253, 252, 280, 284 and 283). All five of these units are prized Nelson Desert Bighorn Sheep hunt units that have historically produced large trophy animals. — LU-1, LU-8

The Nevada Muleys encourages you or your organization to submit your comments prior to midnight, Thursday, March 8, 2018. They can be submitted through the website: http://www.nttrleis.com/comment.aspx, or via email to: nttrleis@leidos.com, or by mail to:

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Avenue, Suite 107
Nellis AFB, NV 89191

The Nevada Muleys is a 100% volunteer non-profit 501(c)(3) organization based in Winnemucca, Nevada, with members dedicated to the welfare and conservation of Nevada's Mule Deer and other wildlife.

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National Wildlife Refuge Association

March 8, 2018

Mr. Michael Ackerman
Project Director
Nellis Air Force Base, NEPA Division
99th Air Base Wing Public Affairs
4430 Grissom Avenue, Suite 107
Nellis AFB, Nevada 89191

Dear Mr. Ackerman:

Thank you for the opportunity to comment on the draft Nevada Test and Training Range (NTTR) Land Withdrawal Legislative Environmental Impact Statement (LEIS).

The National Wildlife Refuge Association (Association) is a national non-profit wildlife conservation organization focused on the protection and enhancement of the National Wildlife Refuge System, the world's largest system of lands and waters dedicated to wildlife conservation. The Association works closely in local communities with over 200 affiliated refuge Friends organizations who also have a strong interest in any proposal that impacts the integrity of the National Wildlife Refuge System and its component wildlife refuges.

The draft LEIS covers the continued and expanded withdrawal of public lands for the U.S. Air Force's (USAF) Nevada Test and Training Range which overlays the Desert National Wildlife Refuge (Refuge). We understand the USAF interest in expanding its training facilities to accommodate new aircraft and weapon systems, but remain greatly concerned about the effects the proposal will have on the National Wildlife Refuge System and on the national interest in conserving our nation's biological and cultural resources. For that reason, we can only support Alternative 1 in the draft LEIS which is the status quo, and Alternative 4A, which maintains the 20-year withdrawal period.

Although we have many concerns with the document, our comments below focus on six areas.

Ready Access: In Alternative 2, the USAF proposes that Congress provide "ready access" to the 846,000 acres of the Refuge which are overlain by the NTTR. (Note that we understand the 826,000-acre figure listed in the LEIS is in error). Within this total acreage, the Refuge holds primary jurisdiction over 734,000 acres while the USAF holds primary jurisdiction over 112,000 acres. The LEIS assumes a 30% increase in operations under this alternative and approximately 11.5 acres of ground disturbance. We understand the difficulty in predicting the future, but believe the draft LEIS is unrealistic in assuming this remarkably low acreage figure. Compare a proposed newly opened

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National Wildlife Refuge Association

South Range to the North Range which falls under all other environmental rules, except Refuge and Wilderness laws and regulations. If Refuge regulations are removed, South Range impacts will be at least as great as those in the North Range. Also, consider all the "informal" trails and off-road disturbances that will occur with increased "Irregular Warfare" activities. Evaluate the disturbance impacts that will occur beyond the immediate construction of a new road or target, due to the new intrusion into previously undisturbed habitat. Include the impacts from the need to periodically move the threat emitters. The affected acreage will be much larger than 11.5 acres if all these impacts are included. PA-17

Impacts to Desert Bighorn Sheep: The draft LEIS neglected to evaluate the impacts of military operations (including fences) on desert bighorn sheep movements. As noted in our scoping comments, studies suggest that gene flow, which is an indicator of unrestricted movement, is much greater between sheep populations on lands managed solely by the Refuge versus those on lands impacted by NTTR operations (Wehausen, J.D. and Jaeger, J.R. *Genetic Population Structure of Bighorn Sheep and Mountain Lions on the Desert National Wildlife Refuge, Nevada*. Final Report to USFWS. 2016). This issue is important for both Alternatives 2 and 3, since bighorn sheep populations may be affected by "ready access" to existing NTTR overlay lands (Alternative 2) as well as by the proposed expanded land withdrawals (Alternative 3). The proposed airstrip on Dry Lake in Alternative 3C is particularly problematic. BI-5

Wilderness: In evaluating the loss of wilderness and proposed wilderness areas in Alternatives 2 and 3, the draft LEIS asserts that the loss of over 800,000 acres of proposed wilderness is not significant because 2 million acres of lands with wilderness qualities would still exist in southern Nevada. We believe the assertion is somewhat ingenuous, and could easily be compared to an assertion that removing 800,000 acres from the NTTR would still leave the USAF with 2.1 million acres which should be sufficient to conduct test and training operations. Wilderness qualities are best realized in large contiguous tracts of land, which are not available on the other wilderness and wilderness study areas in southern Nevada.

Public Access: We are concerned with the additional loss of public access in all three sub-alternatives in Alternative 3, and particularly in Alternative 3C. With expanding populations in southern Nevada, the need for outdoor recreational opportunities is also increasing. Although the draft LEIS implies that some limited, periodic access may be provided to parts of the 300,000 acres proposed for NTTR expansion, we are well aware of the severe restrictions placed on agencies and the public for entry to the existing NTTR lands. It is not unreasonable to assume that safety issues would require similar restrictions to access the expanded acreage and would severely limit access to the general public, including those wishing to traverse the Alamo-Corn Creek Road. HS-3 LU-1

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Public Interest Reviews: Alternative 4 includes options to extend the withdrawal period: 20 years, 50 years or indefinitely. The draft LEIS indicates a preference for an indefinite withdrawal. We disagree and believe that periodic reviews of public land withdrawals for consumptive uses are appropriate and in the public interest. Readiness will likely change quite drastically in just 20 years and in 50 years, the Refuge may not even be needed for training in any way. The Refuge was set aside in 1936 for wildlife conservation and remains vitally important for that mission today, an indefinite withdrawal is completely unnecessary.

PA-45

No Action Alternative: Although we do not recommend the No Action alternative, we note the draft LEIS estimates cleanup costs would be $2.5 billion if the NTTR should be closed under this alternative. We urge the USAF to be fiscally responsible in considering expansion alternatives, not only for the costs of new facilities, but for future cleanup costs. Recent history has shown how many base closures were unanticipated, and how difficult contaminant cleanup then becomes for future base management officials and how difficult, if not impossible, it is to restore disturbed habitats in a desert or other environment.

We appreciate the opportunity to comment on this draft LEIS and look forward to receiving the final LEIS.

Sincerely,

Desiree Sorenson-Groves
Vice President, Government Affairs

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March 07, 2018

FRIENDS of NEVADA WILDERNESS

Mr. Michael Ackerman
Project Director
Nellis Air Force Base, NEPA Division
99th Air Base Wing Public Affairs
4430 Grissom Avenue, Suite 107
Nellis AFB, Nevada 89191

Dear Mr. Ackerman:

This letter is on behalf of the Friends of Nevada Wilderness staff and Board of Directors as well as our 8,000 members/supporters. Many of our staff, volunteers and members recreate in the portion of the Desert National Wildlife Refuge that is still open to the public. The refuge is extremely important to them and their families as a place to get away from the city. The Desert National Wildlife Refuge is a well-known refuge not only for the bighorn sheep and other animals it was set aside to protect but for the individuals and families who seek solitude and want to experience a beautiful and primitive place close to Las Vegas. For decades our supporters have visited the refuge to see wildlife, camp in an undisturbed landscape, hunt, backpack, auto tour, visit cultural sites and enjoy countless other activities. Over the years hundreds of volunteers have spent thousands of hours of their personal own time improving habitat by removing fences, planting native vegetation, removing invasive species, naturalizing decommissioned roads, and improving water developments to name a few of the conservation projects completed in the Desert Refuge. Volunteers have also enhanced the visitor's experience by building hiking trails and designating campsites along the back-country roads. The Desert Refuge is a very special place to many people. We want to ensure that at a minimum, the portion of the refuge open to the public – remains open to the public and no further access is lost.

Students from UNR & UNLV volunteering their Spring Break to restore northern parts of the Desert National Wildlife Refuge, 2013 & 2015

Friends of Nevada Wilderness, PO Box 9754, Reno, Nevada 89507
Phone (775) 324-7667; Fax (775) 324-2677
Visit our Website at www.nevadawilderness.org

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Importance and Conservation Mission of the Desert National Wildlife Refuge

The Desert Refuge has been recognized as a special place since 1907, first by President Theodore Roosevelt when he established the Moapa National Forest and again in 1936 by President Franklin D. Roosevelt when he established the Desert Game Range for "the conservation and development of natural wildlife resources" (EO 7373). The 2.25 million–acre Game Range, under the joint administration of what is now the US Fish and Wildlife Service and Bureau of Land Management, included most of the lands within the current Refuge boundary, but stretched south to include portions of the Spring Mountains, including some of the area currently occupied by the Red Rock Canyon National Conservation Area. Seventy years later the US Fish and Wildlife Service identified and proposed over 1.4 million acres as wilderness. Today the Desert National Wildlife Refuge stands in contrast to the sprawling city of Las Vegas and provides a haven for plants, animals and people who seek to escape the hum of the city.

The Desert National Wildlife Refuge was designated as a unit of the National Wildlife Refuge System in 1936 primarily for the protection of bighorn sheep, whose numbers had been decimated. The original refuge boundaries included land in the Spring Mountains on the west side of highway US 95 in addition to the current protected area. The Sheep Mountain Range had been previously protected under Forest Service management as the Moapa National Forest. The mission of the US Fish and Wildlife Service is to conserve and protect the nation's wildlife. As part of implementing that mission the Fish and Wildlife Service published a Comprehensive Conservation Plan for the Desert National Wildlife Refuge in 2009, which provided a framework of principles and actions to guide management of the Refuge for the next 10 to 15 years.

The military's Preferred Alternative would cause significant and irreparable damage to the Wilderness values in the Desert National Wildlife Refuge. These values would be lost forever along with ability of the public to enjoy them. A pristine wildlife refuge would go from a sanctuary to an active military zone. If that happens, it would likely never be undone. The military would contaminate the wildlife refuge to where it would never be available to the public in the foreseeable future.

WI-1

HZ-1

Friends of Nevada Wilderness Recommendations

Friends of Nevada Wilderness is Nevada's primary advocate for Wilderness areas. Below is a summary by alternative on how the Wilderness resource in the Desert Refuge will be impacted.

Alternative 1 - Extend Existing Land Withdrawal and Management of the NTTR - Status Quo

Alternative 1 maintains protections of 590,000 acres of proposed wilderness including the Spotted Range, Desert-Pintwater, Hole-in-the-Rock and Rug Mountain Proposed Wilderness areas. While these areas would remain closed to public access, the proposed Wilderness would retain their Wilderness values. Although the Wilderness values are protected, permanent wilderness designation is impossible due to mixed jurisdiction between the Air Force and Fish and Wildlife Service. This alternative would also allow Congress to review the

needs of the Air Force every 20 years to determine of Desert Refuge lands are still needed for military training. Given the advance in technology and changes in techniques and tactics, in the future these lands could revert back to their original purpose – a national wildlife refuge.

Alternative 2 - Extend Existing Land Withdrawal and give the US Air Force Primary Jurisdiction of the Desert National Wildlife Refuge of the South Range

We strongly oppose this alternative which would cause hugely significant and cumulative negative impacts to proposed Wilderness in the Desert Refuge. The Spotted Range, Desert-Pintwater, Hole-in-the-Rock and Rug Mountain Proposed Wilderness areas, totaling 590,000 acres would be forever destroyed. This amounts to the elimination 42% of the proposed Wilderness in the Desert Refuge. The military's proposal to build roads, install fences, drive all-terrain vehicles cross country, site up to 15 threat emitters requiring half-acres pads with the ability to move them on a daily basis and other unannounced activities would permanently alter and destroy this pristine landscape. This alternative will strip the US Fish and Wildlife Service of their abilities to manage the refuge as was intended over 82 years ago. Without proposed Wilderness protection and oversight from the US Fish and Wildlife Service, the Wilderness values in the area will be erased from the Nevada landscape. PA-31

Alternative 3 and all sub-alternatives - Expand withdrawal land for the NTTR

We are vehemently opposed to any expansion of the NTTR. The NTTR is already 2.9 million acres and was created *after* the Desert Refuge was established. This alternative would decimate the remaining proposed Wilderness that is still accessible to the public. It would eliminate public access along the popular Alamo Road to the northern portions of the Sheep Range, Hole- in-the-Rock and East Desert Range proposed wilderness. In addition to the 590,000 acres of proposed Wilderness the military has already taken out of public hands, alternative 3C would take away an additional 260,000 acres. This part of the Refuge is biologically unique and important habitat for desert bighorn sheep as it is home to one of the largest population on the Refuge.

Hole-In-The-Rock Proposed Wilderness Area

Alternative 3C would irreversibly destroy the integrity of the largest roadless area in Nevada, the Sheep Range. Its world class Wilderness values would be lost forever. Fences would go up closing access to the historical 72-mile Alamo Road, once the only connection from Las Vegas to the Pahranagat Valley. The Alamo road is really the only access route to popular areas currently used by hunters, hikers, campers, jeepers and others to explore the wild and rugged landscape within the Desert Refuge. The proposed actions the military plans would fundamentally change the character of the area with the building of roads; installation of 60 PA-31

miles of fence that can kill wildlife and stop migration; construction of 15, half-acre pads and associated roads for threat emitters and cross-country motorized travel. PA-31

The military is also proposing to construct two runways in the heart of the Desert Refuge within the Hole-In-The-Rock Proposed Wilderness. These runways would not only permanently scar a pristine landscape but will destroy the solitude and remote feeling of the area.

Desert Lake in the Hole-In-The-Rock Proposed Wilderness and the Desert Range. Desert Lake is the proposed site for two military runways.

Alternative 4 - Establish the Period of Withdrawal

Friends of Nevada Wilderness prefers to see the withdrawal review period remain on a 20-year basis. This allows Congress to review the military needs and adapt to changes that may come about with more advanced technology where less land is needed. We do not support the military's proposal to make these withdrawals permanent.

Alternative 5 - No Action Alternative

The No Action Alternative is by far the strongest for protecting the incredible Wilderness resources within the Desert National Wildlife Refuge. This alternative maximizes Wilderness protection and public access. The No Action Alternative would return the entire refuge back into a Wildlife Refuge, not a military base. The Fish and Wildlife Service would manage the refuge to protect wildlife and provide public access. The entire Desert National Wildlife Refuge would be managed as was originally intended. This would also allow Congress the ability to designate the 1.4 million acres of proposed Wilderness that were identified in the 1970's. True protection for this area would greatly benefit the desert bighorn sheep, providing the largest, intact habitats in the southwest. The public would be able to enjoy vast acres to explore, hunt and hike.

Wilderness Impact on Military Preferred Alternative

Friends of Nevada Wilderness is deeply troubled with the analysis regarding the proposed Wilderness in the Desert National Wildlife Refuge. The LEIS to adequately analyze the devastating impact a change of jurisdiction and expansion would mean to proposed Wilderness. The Desert National Wildlife Refuge contains some of the most pristine Wilderness quality land in Nevada. Wilderness qualities in the Desert Refuge have been able to retain their values because of restrictions on the military's use. These proposed Wilderness areas deserve the long-term permanent protection of Wilderness designation. WI-8

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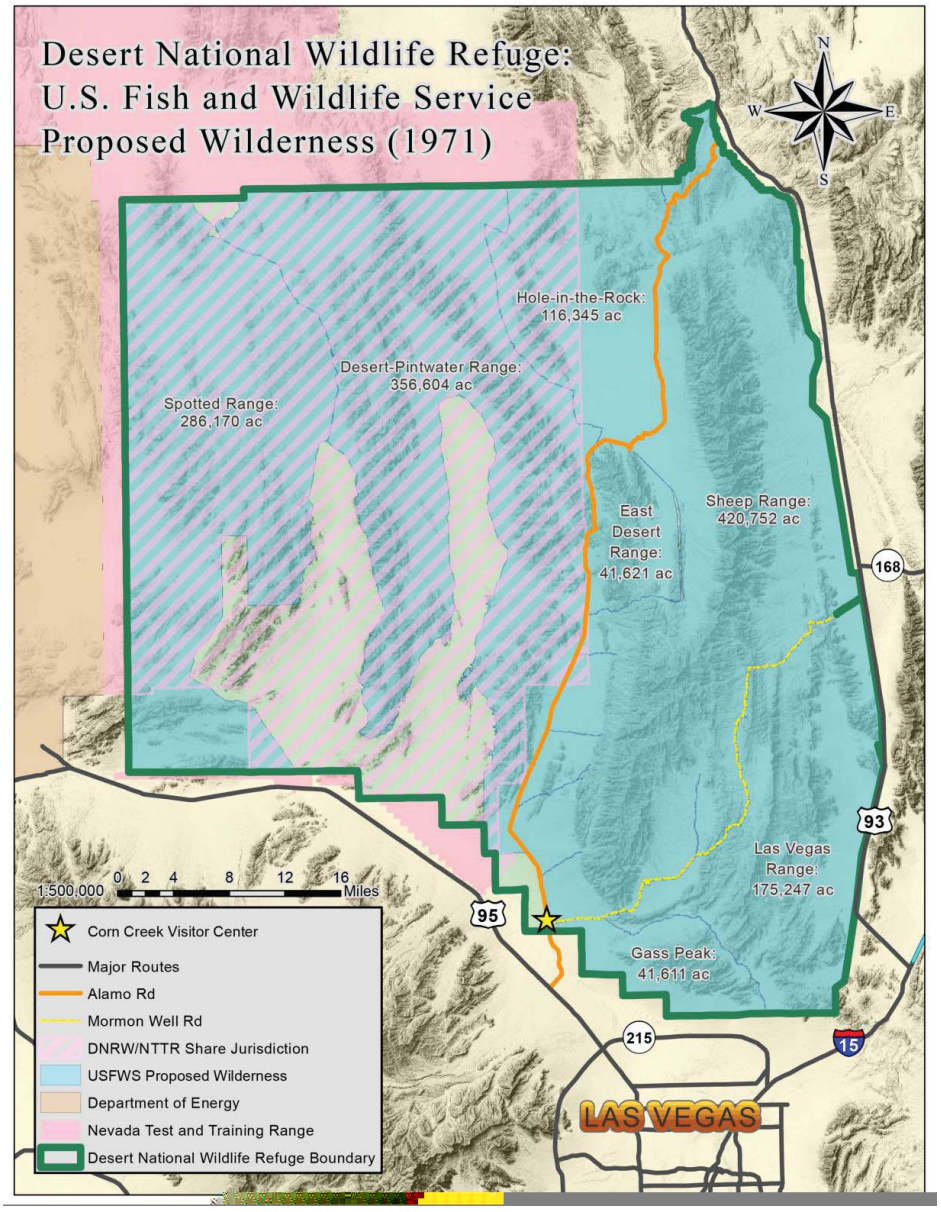
The LEIS is replete with false conclusions which are maliciously used to explain why these Wilderness proposals no longer belong in the Wilderness Preservation System. WI-9



US Fish & Wildlife Wilderness Proposal

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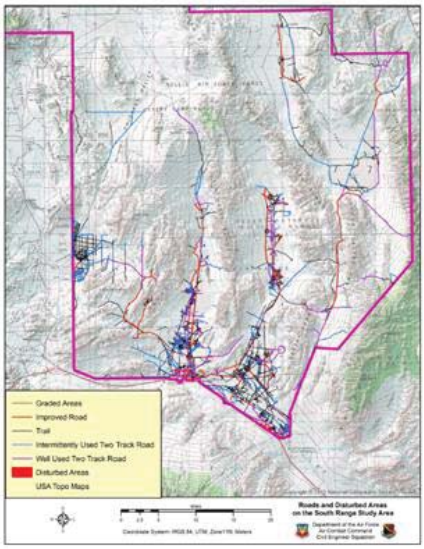
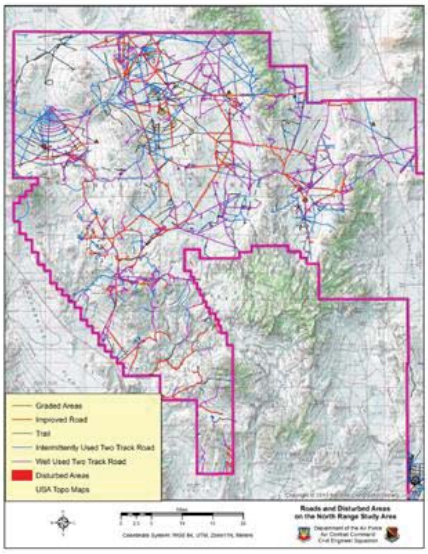


Road Network in South Range



Road Network in North Range

The draft LEIS erroneously concluded that proposed Wilderness within the NTTR cannot be designated Wilderness because of the lack of public access and the presence of military sights and sounds. WI-12

While there are five qualities that define Wilderness (untrammeled, natural, undeveloped, solitude or primitive and unconfined recreation and may have other features of value including ecological, geological, or other features of scientific, educational, scenic, or historical value), there is no requirement that dictates that Wilderness have all of these qualities. The opening lines of the Wilderness Act state, “To assure that an increasing population accompanied by expanding settlement and growing mechanization, does not occupy and modify all area within the United State and its possessions, leaving no land designated for preservation and protection of their natural condition.” Land within the Desert Refuge and NTTR overlay still live up to those standards and be safeguarded from expanding settlement and growing mechanization. WI-13

Congress has made it clear the sights and sounds outside a Wilderness should not be used to eliminate areas from potential designation. When passing the 1978 Endangered American Wilderness Act, Congress completely refuted and directed the agencies to abandon the policy of the 'sights and sounds' doctrine which limit areas from being recommended for designation as wilderness because they were too close to roads and areas of development. The Committee Report that accompanied that law stated,

> "…. many areas, including the Lone Peak and Sandia Mountain proposals in HR 3454 received lower wilderness quality ratings because the Forest Service implemented a "sights and sounds" doctrine which subtracted points in areas where the sights and sounds of nearby cities (often many miles away) could be perceived from anywhere within the areas. This eliminated many areas near population centers and has denied a potential nearby high-quality wilderness experience to many metropolitan residents and is inconsistent with Congress' goal of creating parks and locating

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> wilderness areas in close proximity to population centers. ** The Committee is therefore in emphatic support of the Administration's decision to immediately discontinue this "sights and sounds**" doctrine."

It is interesting to note that to emphasize their position against the ill-founded “sights and sounds” doctrine the Congress enacted new Wilderness areas directly adjacent to the city limits of Tucson, Albuquerque, and Salt Lake City. WI-14

The argument that wilderness is not viable due to Air Force activities is completely false as there are numerous Nevada examples where civilization can be heard and seen from within a Wilderness. There are several Wilderness areas within Air Force restricted airspace that are equally impacted by Air Force training. La Madre, Rainbow Mountain and the North McCullough Wilderness are so close to Las Vegas and Henderson that trailheads into the Wilderness begin next to homes. Upon reaching higher elevations the entirety of the Las Vegas Valley is both seen and heard. Commercial aviation flight paths take multiple routes over wilderness areas and helicopter tours constantly fly over the Black Canyon Wilderness. It is likely that military activities within the NTTR actually produce less noise than those adjacent to urban centers. WI-15

The Clark County Conservation of Public Land and Natural Resources Act of 2002 states in Section 205 titled MILITARY OVERFLIGHTS.

> “Nothing in this title restricts or precludes--
>
> (1) low-level overflights of military aircraft over the areas designated as wilderness by this title, including military overflights that can be seen or heard within the wilderness areas;
>
> (2) flight testing and evaluation; or
>
> (3) the designation or creation of new units of special use airspace, or the establishment of military flight training routes, over the wilderness areas.”

East Desert Range (Rug Mtn) Proposed Wilderness

Regarding the lack of solitude or primitive and unconfined recreation, a Wilderness area can lack public access and still be protected as Wilderness. It is a fallacy to consider otherwise. An area can maintain the solitude quality even though the military prohibits temporary access. Hunters who get access to the NTTR on the annual bighorn sheep hunt are able to experience solitude and experience primitive recreation due to the proposed Wilderness. Similar experiences can be held by tribal members visiting on the NTTR. Also, if the No Action alternative is selected, public access can again be open on the entirety of the Desert Refuge. WI-16

The most disconcerting conclusion the LEIS comes to is that Wilderness will not be impacted because there are other Wilderness and Wilderness Study Areas in close proximity to the NTTR. This is a ridiculous conclusion. The LEIS does not adequately address the specific impacts to proposed Wilderness in the Desert National Wildlife Refuge. The LEIS dismisses the impacts to the Spotted Range, Desert-Pintwater, Hole-in-the-Rock, Rug Mountain, and Sheep Range proposed wilderness and dismisses negative impacts because there are 2.2 million acres of Wilderness and Wilderness Study Areas in the general vicinity of the Desert Refuge. WI-17

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The fact that there are surrounding Wilderness and wilderness study areas does not preclude the military from fully analyzing impacts to wilderness within the NTTR. The proposed expansion amounts to the elimination of nearly 1.4 million acres of proposed Wilderness. This is a significant impact that needs to be addressed, not just brushed off saying there are other wilderness areas and wilderness study areas in other surrounding counties. Also, what the draft LEIS fails to note is that a great majority of the Wilderness areas in southern Nevada consist of islands of protected lands whereas the Refuge was originally protected as one large landscape for the benefit of bighorn sheep. This fact should not be overlooked. The potential loss of this incredibly large block of proposed Wilderness needs to be addressed as an entire landscape, not a collection of acres and individual areas. It must be pointed out again that the Desert National Wildlife Refuge is the largest wildlife refuge outside of Alaska. WI-17 WI-18

The Sheep Range proposed Wilderness alone is Nevada's largest roadless area and one of the largest and most pristine in the country. Removing its protected status would forever destroy unique and remarkable Wilderness values. There are great opportunities for primitive and unconfined recreation at the Desert Dunes, great primitive camping opportunities on Dead Horse Road and a historic cabin at White Rock Spring. The proposed actions the military plans would fundamentally change the character of the area with the building of roads; installation of 60 miles of fence that can kill wildlife and stop migration; construction of 15, half-acre pads and associated roads for threat emitters and cross-country motorized travel. The military is proposal would be a devastating loss to the National Wilderness Preservation System. WI-19

Land & Wildlife Impact on Military Preferred Alternative

The actions on the land described in the draft LEIS would result in hugely detrimental, permanent impacts on the Desert Refuge. Even worse, the LEIS underestimates the impacts to the land from the proposed actions. For example, the LEIS indicates that there will be a total of 115 miles of fence to deter public incursion. The LEIS does not take into account the total impact of erecting a fence which typically includes, at minimum, a two-track road that parallels the fence created in the process of installation and maintenance. In addition, BI-5

Desert bighorn sheep on the Desert Refuge

the LEIS, when referring to insertion and extraction activities, states that "some training integrate the use of all-terrain vehicles or dune buggies." There is no estimation at to what the ground disturbance will be with such training. The LEIS also discusses building a working runway on a dry lake bed in the Alamo expansion. It is unlikely that the dry lake bed is usable as is and would need some infrastructure to build a stable platform to land aircraft. It is very feasible with the construction of any runway would imply the need of "borrow pits" or other rock and gravel mining activities to build a runway.

The LEIS does not address how wildfires will be managed. HS-1 Although It does acknowledge that increased ground disturbance will lead to the spread of nonnative annual grasses that increase fire potential, a plan has not been introduced to mitigate fires. In addition, the use of flares from irregular warfare training and dropped from aircraft have not been addressed.

The LEIS does not discuss in detail the impacts of how increased activity and infrastructure is going to affect wildlife movement and habitat fragmentation. The installation of fencing, increased road use and

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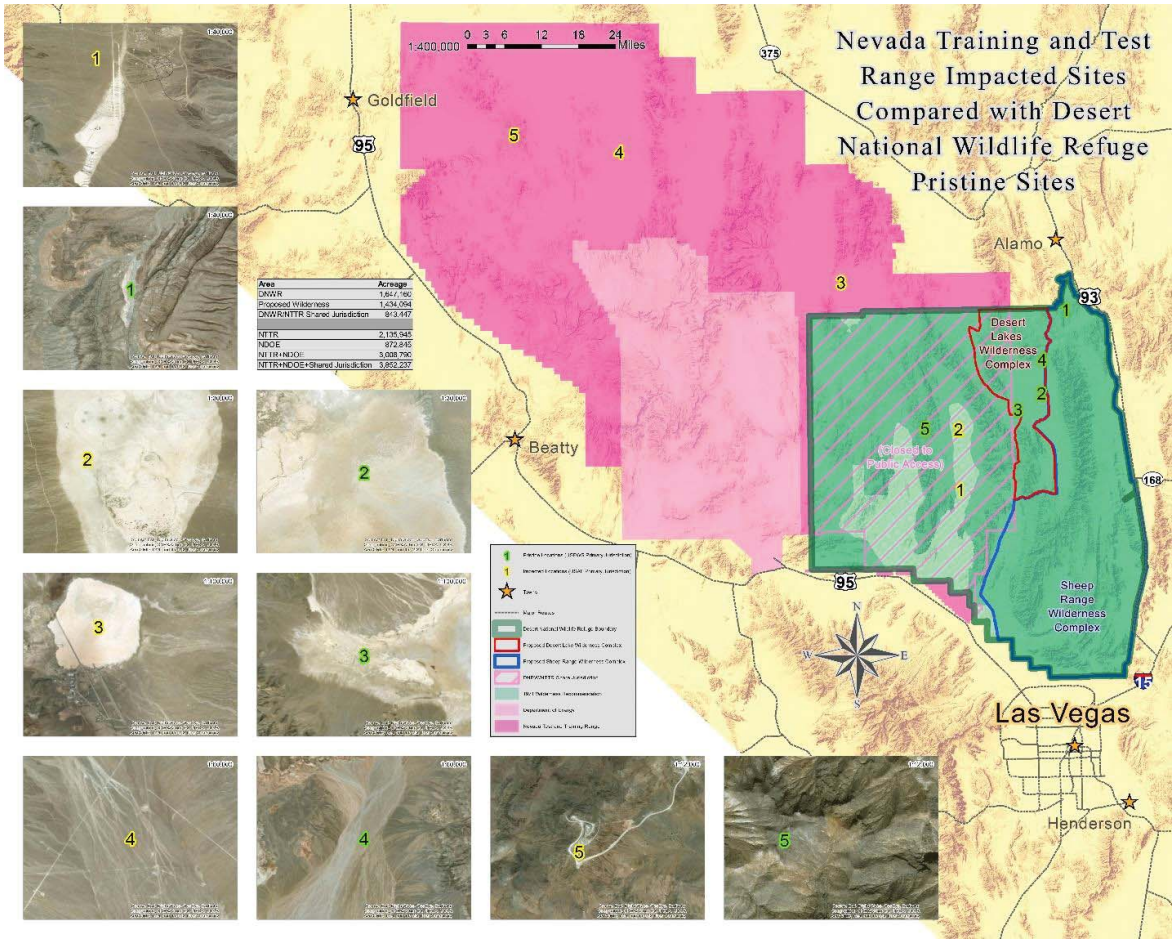
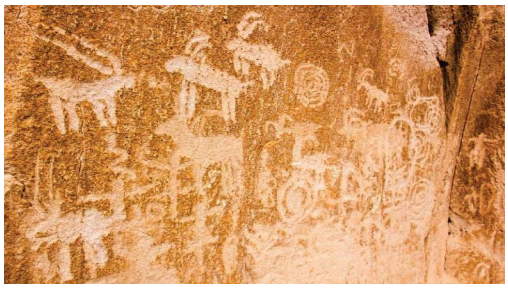
construction, movement of threat emitters and insertion and extraction practices are without a doubt going to have a significant impact on wildlife movement and will drastically fragment some of the most intact habitat in the state. The Desert Refuge was set aside as protected land because of its value in preserving bighorn sheep habitat. The LEIS needs to better account for how bighorn sheep populations are going to be impacted. All action alternatives should include efforts to improve wildlife and habitat management on lands for which the NTTR has either primary or secondary jurisdiction, including providing additional access and support for refuge staff. A budget for wildlife management practices should also be included under each alternative.



Comparison of military land use sites versus natural areas in the Desert Refuge

There are also great concerns regarding cultural sites. As noted in the LEIS Appendix K, the region encompassing the NTTR and the Desert National Wildlife Refuge remain central to the lives of Native American Tribes. These lands are known to contain traditional and ceremonial use areas, along with traditional gathering and collection locations for Native American people. The region contains abundant ecological resources and special power places that are crucial in the continuity of Native American culture, religion and society. 80% of the Sheep Range is designated as the Sheep Mountain Archaeological site on the National Register of Historic Places. The military expansion would withdraw 50% of the Sheep range limiting access to sites and potentially damaging them. In addition, much of the Desert Refuge has not been properly inventoried for cultural sites.



Petroglyphs in the Hole-In-The-Rock Proposed Wilderness

Recreational Access on Military Preferred Alternative

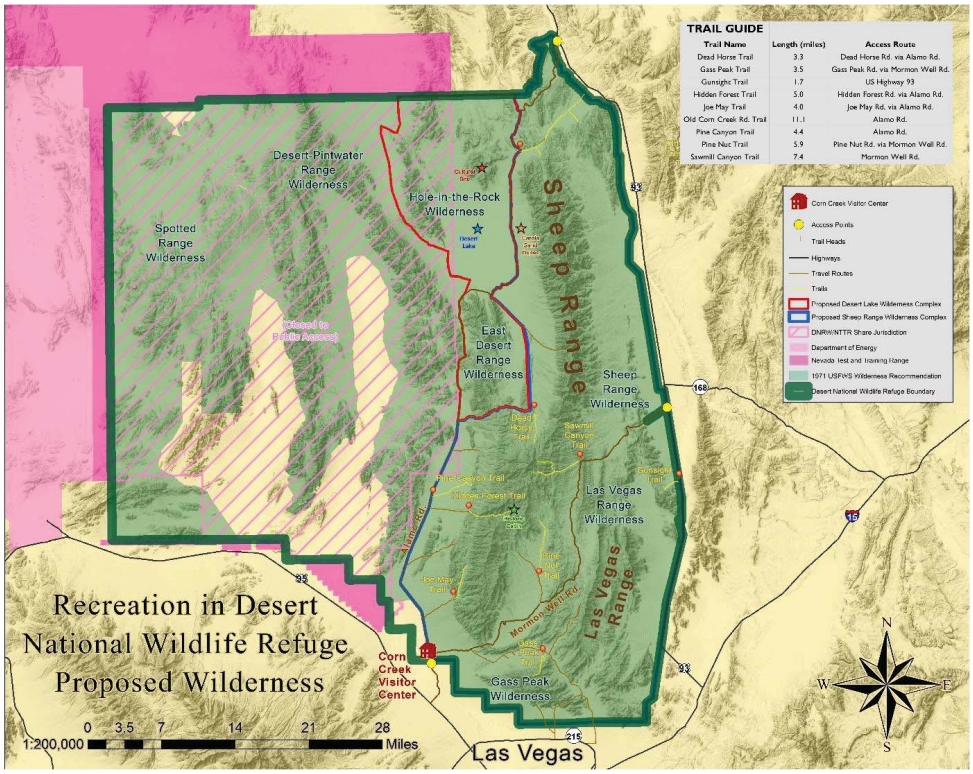
The Desert Refuge is a vast and amazing world class resource for citizens to experience primitive recreation. Its proximity to Las Vegas makes it a valuable destination that needs to remain open and accessible to the public. The LEIS acknowledges that population growth will continue in Las Vegas. It does fail to assess how other heavily recreated lands will be impacted by the closure of over 200,000 wild acres in the Desert Refuge.

Public lands surrounding the Las Vegas valley, namely the Spring Mountains National Recreation and Red Rock Canyon National Conservation Area are inundated with visitors. There are certain times of the year where the Red Rock Canyon NCA scenic loop has been closed due to being "at capacity". The Las Vegas Metropolitan Police Department have closed roads leading up to the Spring Mountains due to safety concerns of too many people recreating and disallowing quick passage of emergency vehicles.

Driving south on the Alamo Rd near Desert Lake

The Desert Refuge provides an abundant array of recreation resources. Specifically, national wildlife refuges are managed for wildlife conservation and wildlife-dependent recreation. As outlined in the National Wildlife Refuge System Improvement Act of 1997, six areas of wildlife-dependent recreation are considered appropriate on refuges: hunting, fishing, wildlife observation, photography and environmental education and interpretation. The Desert Refuge abundantly provides those recreation resource, excluding fishing but also provides opportunities for hiking, backpacking, snowshoeing, primitive car camping, backcountry road

touring on established roads and viewing of various cultural/historical resources. The Desert Refuge also attracts wide variety of user groups including jeepers, hunters, Boy Scouts, hikers of various skill levels, bike touring and many more. The 72-mile Alamo road provides people to auto-tour on one of the longest, wildest roads in the state.



People are turning to the Desert National Wildlife Refuge as a close-by place they can still recreate without large crowds. Shutting down public access on even more of the refuge will add additional pressure on already overcrowded areas. In the long term this will reduce the quality of life of Las Vegas residents and negatively impact recreational tourism for the area. A study of the long term recreational impacts of closing this part of the Refuge should be included in the final LEIS.

Administrative Access on Military Preferred Alternative

The Refuge was originally established for the benefit of desert bighorn sheep in 1936, entrusting the US Fish & Wildlife Service to carry out management practices that benefit wildlife. The overlap of the NTTR and the Desert Refuge should not have a negative impact on USFWS management practices. Currently, the USFWS

only has a small period of time, typically mid-December through early January to work on the NTTR. This is concerning as they do have "primary jurisdiction" over much of the NTTR buy yet very limited access. In a prior withdrawal the USAF was given primary jurisdiction over 112,000 acres with the NTTR with USFWS given "secondary jurisdiction". The final LEIS needs to clearly define what authorities the USFWS has when provided "secondary jurisdiction". US Fish and Wildlife staff are crucial to the health of the Refuge. From monitoring wildlife populations, maintaining water developments and restoring impacted habitat, staff needs to be able get out on the ground to do their jobs. It is our recommendation that additional USFWS staff are embedded within NTTR operations for increased consultation. Increased consultation can be used to assess impacts to proposed actions, restoration after ground disturbing impacts as well as consultation on how to act upon an accident.

Maintaining the "drinker" at White Rock Spring in the Sheep Range Proposed Wilderness

Military Land Use and Suggested Alternatives

The LEIS does not fully evaluate other Department of Defense installations that can be used in conjunction with the NTTR. For example, Fort Irwin National Training Center is known as a premier training ground for irregular warfare and other ground activities and sits in an environment very similar to the Desert Refuge. There are a multitude of Department of Defense withdrawal sprawled across the country and the LEIS does not explore options on how various branches of the DOD can work together more effectively to efficiently use all of the land that is currently withdrawn. The LEIS needs to fully assess and analyze the cumulative impacts of all the recent and proposed military withdrawals in the Desert Southwest. Most of the military bases in the desert regions of California, Utah, Arizona and Nevada either have been expanded in recent years or are requesting expansion. The long-term cumulative impacts of all these withdrawals needs to be addressed in the Final LEIS. CM-3

The LEIS dismisses any additional use of the NNSS to the west. The LEIS does not explain why threat emitters cannot be located on NNSS lands and should more thoroughly explore those options. In cooperation with the DOE, the NNSS should be more holistically included in the NTTR to increase the use of its airspace. The NTTR should leverage the NNSS to the highest degree since it is and already withdrawn from public use as well as heavily impacted from prior land uses. PA-11

The Air Force has stated that due to the expanded range and capabilities of modern aircraft and missile systems, greater buffer zones around target areas are needed for public safety. Assuming that the trend toward weapons with increased range continues, what are future needs going to be? Given the impacts to the public domain from military training exercises involving live fire weapons systems, what does the future look like? Flight simulators are more often being used as they don't put the life of a pilot in danger or the PA-6

6018

expense of an aircraft. The Joint Strike fighter, arguably what this expansion is primarily for, can have threats programmed in aircraft software making on the ground threat emitters obsolete. This issue needs to be thoroughly discussed and analyzed in the Final LEIS. PA-6

Conclusion

Friends of Nevada Wilderness is committed to supporting our national security. We also believe strongly that Nevada, more than any other state, has already provided a significant amount of public lands to the military to keep our country safe. A promise was made in 1936 that the Desert National Wildlife Refuge would be protected. It's important we keep that promise. Sacrificing one of our nation's largest and most pristine national wildlife refuges is really too much to ask. We look forward to finding a balance for the American people between land for national security and land for future generations to enjoy wild country and wildlife.

Desert Dunes in the Sheep Range Proposed Wilderness

6019

March 7, 2018

Mr. Michael Ackerman
Project Director
Nellis Air Force Base, NEPA Division
99th Air Base Wing Public Affairs
4430 Grissom Avenue, Suite 107
Nellis AFB, Nevada 89191

Dear Mr. Ackerman:

I am writing on behalf of Patagonia to oppose the current military expansion and withdrawal proposals in the Desert National Wildlife Refuge from the Nevada Test and Training Range. The currently proposed military expansion would forever destroy hundreds of thousands of acres of these Wilderness-quality landscapes, threaten the wildlife populations that thrive in them, hinder biological diversity, negatively impact recreational and economic values and shut out the public from areas that have historically been used for outdoor recreation. WI-1 BI-1 LU-1 SO-3

The Desert Refuge is a vast and amazing world class resource for citizens to experience primitive recreation. Its proximity to Las Vegas makes it a valuable destination that needs to remain open and accessible to the public. We find that the expansion proposal negatively impacts southern Nevada's recreational economy due to closures of access.

Outdoor recreation activities are an important economic driver; they draw tourists to the region and bring new residents for our workforce. As businesses, we rely on the benefits public lands and recreation bring to our region. During the economic downturn from 2008-9, Patagonia experienced strong growth, and the outdoor industry as a whole grew five percent annually during this period.

We want to ensure that the Draft LEIS addresses a wide variety of issues including habitat, wildlife, wilderness, plants and recreational use. BI-1 WI-1 LU-1

Sincerely,

Meghan Wolf

Meghan Wolf, Patagonia District Environmental Coordinator

CC:
The Honorable Dean Heller, U.S. Senator
The Honorable Catherine Cortez-Masto, U.S. Senator

Patagonia Works | 8550 White Fir St., Reno, NV 89523 | (775) 747-1887
Patagonia, Inc. is a member of 1% For The Planet

6020

STORM-OV
A NON PROFIT ORGANIZATION

STORM-OV
P.O. Box 278
Beatty, NV 89003-0278
(775)553-2388
www.storm-ov.org

March 06, 2017

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave. Ste. 107
Nellis AFB, NV 89191

99ABW.PAutreach@us.af.mil
(702)652-2750

Re: EIS No. 20170236, Draft, USAF, NV Nevada Test and Training Range (NTTR) Land Withdrawal
Federal Register/Vol. 82, No. 235/Friday December 8, 2017/ Notices 57975

Dear Sirs,

The United States Air Force has asked for public comment on the Draft LEIS, to be submitted by March 8, 2018.

Our last comments supporting Alternative (Status Quo) were submitted on December 16, 2017. The most recent Draft of the EIS includes modifications made to Alternative 3A resulting in Alternative 3A-1. We acknowledge and appreciate the modifications made in an effort to address our concerns about the negative economic impact that removing critical trails and land from public use would have on Beatty. However, when you review the land withdrawal map it is evident the impact to our trails system is still catastrophic. It is still our opinion that our master plan and efforts upon the public land conflicted by your proposal will serve the needs of my underserved community and Nye County far better. The detrimental impacts of Alternative 3A and 3A-1 can and will have far reaching consequences not only on Beatty's well being, but also the potential economic diversity of the State of Nevada itself.

We cannot support the NTTR expanded land withdrawal proposed in alternatives 3A and 3A-1 for the reasons detailed in this letter, therefore, we continue our support of Alternative 1 (Status Quo).

The State of Nevada has hosted the needs of the Nations National Security and provided the testing and proving grounds for it. We have been for the last 70 odd years, bombed, strafed and displaced by conventional, top secret and nuclear weaponry. Yes, we have seen, felt and been affected by 928 separate nuclear detonations. We have monitoring wells in our valley as most small towns around the test site do, to check for "Tritium" signatures which would let us know when toxic radiation is leaking into our drinking water. The very real potential of all of this is that our ranches, waterways and communities may lose their habitability entirely.

Now you are asking for more? You're going to add more munitions, bombs, aircraft and more environmental disturbances to what little we have left around us? Take from us the very well thought and planned out "Master Plan" we have for the environment and community here in Oasis Valley? Add more uncertainties to the already threatened future of our town and the children within it? You are already using the airspace above us here and have been since the beginning, might I say with NO CONFLICT. The Nevada Test Site

SO-4

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and the Bombing and Gunnery Range has been a part of the landscape of my life, all of my life along with that of my community. We do not object to the current use of it and have a great relationship with it. What you are proposing now pushes over the line what our County and State should reasonably have to endure. We are thinking about our futures as well as the health of our environments. Your proposed action does not. In fact the two parcels on the maps are not even connected which would still require you to fly over a significant piece of public and private property to us them during a mission. This proposal coupled with another one just North of us for the Fallon Naval withdrawal when and if passed, take another significant slice of my State and removes from us our freedoms to enjoy the land we all call home.

Potential military withdrawals from Central and Southern Nevada between the Air Force and Navy seek cumulatively 1,414 square miles (904,960 acres) of our state which already bears the weight of 84.9% of Federal ownership. Four hundred seventy one square miles (301,440 acres) of this total is the proposed NTTR Expansion.

Existing Withdrawn : Military Use Southern & Central Nevada	
Las Vegas Nellis (NTTR)	**4,251**
Nevada Test Site (Surrounded by NTTR)	**1,360**
	5,711 Square Miles
Fallon Naval	**317**
	6,028 Total Square Miles
Proposed Additional Withdrawals	
Las Vegas Nellis (NTTR)	**471**
Nevada Test Site (Surrounded by NTTR)	**943**
	1,414 Total Additional Square Miles
Total Combined: Existing & Proposed Additional	**7,442 Square Miles**

Let me put this into perspective for you: The combined Nevada Test Site surrounded by the existing NTTR together occupy 5,711 square miles at this moment. This is an area 3.7 times larger than Rhode Island, 2.3 times larger than Delaware and over ½ the size of Vermont. If the NTTR land withdrawal is granted it will then be 6,182 square miles. An area that is virtually as big as Hawaii, and 10% as large as Florida.

If you add in the Fallon Naval base the total square miles lost out of Nevada will be 7,442 square miles. With an area that is 85% the size of New Jersey, almost 5 times the size of Rhode Island, and land mass closing in on 20% the size of New York. What do you think these others States would say, if they were asked to give up these portions of themselves?

There is no doubt that technology is changing. The argument that more space is needed because planes go faster/farther with ordinance even more accurate is evident to me. However, as the decades will go by what does the future bring as technology inevitably advances? The need for more space, more land withdrawals, more negative impacts upon our communities, endless more square mile taken, causing more issues and conflicts with existing property uses? How do we answer that? Why not question when enough is enough instead of setting the stage where 50 years from now, the rest of my town and State are withdrawn, fenced off, and bombs drop on the land that I grew up upon. Sounds like a story out of Bosnia, or a chapter of Iraq. Manage the land and time you have now. Use your technology to address the 24 hour clock you live by.

I have lived here for over 50 years, raised my children and am working on bringing economic prosperity and diversity to my community, something that will attain a future far beyond the time your next withdrawal will be proposed, when you run out of room again. What do I tell business investors today, who are interested in our Master Planned Community Development about that? What do I say to the citizens and their children who hope

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to have a future here? Put yourselves in our shoes and think about priorities. You shouldn't be asking us to forgo our futures because of a failure to live within your own means. With all this having been said, I am going to point out some facts, ask questions, and make statements.

1) Proposed Withdrawal is already a "No Fly" zone.
   a) You already fly over it with **NO** conflict, why withdraw at all?
   b) Military aircraft routinely flies through Oasis Valley anyway, and has been for 50 odd years.

PA-5

2) Will this withdrawal make any jobs for our community?
   a) Any economical benefits?
   b) Create any taxable revenue?
   c) How will it benefit our community?

3) Executive Order 3356, signed by the Secretary of the Interior, September 17, 2017, effective immediately, continues the Department's efforts to enhance Conservation Stewardship by "Increasing outdoor recreation opportunities for all Americans". STORM-OV's direct mission statement in Oasis Valley, which has been congressionally recognized and has won many awards, is "Conservation through Recreation".
a) This land withdrawal with its outright elimination of one of our "core" routes will severely hamper and outright jeopardize our efforts in giving our town a future.

LU-17

4) Accumulative Economic Impacts upon us when all the land withdrawals including:
Interstate 11 Freeway, Future R.O.W.'s, NTTR, Energy Corridor 368, Yucca Mountain Railroad (An existing Congressional Withdrawal currently on hold) are implemented – the potential of our underserved communities growth and sustainability crashes.

5) Our Master Plan and current trails proposals have identified core areas which will be built upon for Community benefit. Your proposal eliminates approximately 25% of that potential and outright jeopardizes the future of the rest.

6) Have you identified your new target sites which would justify the amount of land withdrawals?
   a) How do you know until "Archaeological/Cultural" and "Threatened and Endangered Species" studies have been made?
   b) Have you done "Visual and Noise Impact Studies"?
   c) Have you studied "Quality of Life Issues" and how your proposal will affect our town? Our environment?

PA-62

The potential impact of military occupation and operation of this section of Public Land on our community, our lifestyles, the wildlife, and economic future would be devastating.

7) Access to the potential land withdrawal is not addressed in the proposal. There is no access to it without crossing Private Land. Do you intend to drive through my ranch or through Hank and Joi Brackenberry's? Build a new road through one of the other neighbor's places? Only fly in? This access concern should have been addressed so we could appropriately comment.

LU-20

8) There are literally hundreds of wild burros, antelope and an occasion big horn sheep that travel and graze throughout our valley and out into that area after they water at springs on our ranches. They roam freely here and the burros are protected under the Congressional Wild Horse and Burro Act. These animals would be displaced from their range and "pushed" out toward Hwy 95, causing further overgrazing, public safety and further potential degradation of the environment.

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9) Regarding Environmental issues of the proposed withdrawal:

STORM-OV, has worked diligently in protecting and preserving habitat for the Amargosa Toad, Speckled Dace and other endemic species, as well as migratory animals here in Oasis Valley. We have been instrumental in forming Public/Private partnerships in joint efforts creating and maintaining healthy environmental habitats. Your proposal does not address this or the potential effects of your withdrawal, which is directly abutting the "Coffer Upper Ranch" parcel (Brackenberry property). Just recently, these neighbors of mine have moved into our conservation movement allowing the United States Fish & Wildlife Service and The Nevada Department of Wildlife, access to their property. Many healthy animals were found and we are discussing environmental improvement projects with them. Access to this property and the cooperation of the Brackenberry's has assured our animals continual security and provided important species increases documentation. We still face the potential listing of the Amargosa Toad as well as other animals here in Oasis Valley. Your withdrawal and suggested uses will have unquestionable impact on the status of them. Increased traffic and activities in the upland area of the ranch out to about ½ mile will endanger them and seriously hamper our conservation efforts. Also you can expect a probable lawsuit from a number of environmental groups for failure to protect those species there. We have dealt with two previous litigants and this threat before. A listing of these animals would affect every land owner as well as the entire town of Beatty extremely negatively. We could be severely limited with our water uses, agricultural growth, grazing and many more documented historical effects to land owners when an animal's status is elevated to the Endangered Species List. Proximity to the Coffer Ranch, its environment, its water and now documented "Protected" species by bombs, fuels, chemicals, hazardous materials and increased traffic is indeed a bad idea. In this matter your ownership there will precipitate a tremendous amount of controversy and potentially endanger the relationship we enjoy today with Agencies and environmentalists.

BI-1
BI-6

I strongly urge you to reconsider your proposal and weigh out its consequences to our communities, environment, and State. The potential long term detrimental effects listed in my submittals of December 16, 2016 and today's I believe have demonstrated the need for you to do so. The relationships between military bases and the towns around them should always sway to the needs of the people first. A tremendous amount of thought, considerations and ultimately justifications have to be made in order for that to change.

Ask yourself, "What actions will ultimately better serve the needs of the Community"

Respectfully Submitted,

David A. Spicer
STORM-OV/President
PO Box 278
Beatty, NV 89003-0278
(775)553-2388
Storm-ov@hughes.net

Cc: Mark Amodei – Robert.gastonguay@mail.house.gov, Catherine Cortez Masto fax 702-388-5030
BLM Doug Furtado - dfurtado@blm.gov ,Senator Heller – Andrew_lingenfelter@heller.senate.gov
Rep. Kihuen – Kevin.schmidt@mail.house.gov, Christiana Manville – Christiana_manville@fws.gov
Wendy Seley – wseley@blm.gov , James Oscarson – J.Oscarson@asm.state.nv.us ,
Pete Goecoechea - Pgoicoechea@asm.state.nv.us , Coward, Timothy - tcoward@blm.gov

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References

Nevada Test and Training Range Public Hearing 2018 Handout
Pages 8 and 9 Summaries of Alternatives 3A and 3A-1
Page 9 map showing Alternatives 3A and 3A-1

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https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjSz_ujut3ZAhVSzGMKHTiQAckQFggpMAA&url=https%3A%2F%2Fwww.wildhorseandburro.blm.gov%2F92-195.htm&usg=AOvVaw1659Vi6ILTZuTeTmyjJS4o

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https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjd2bPYu93ZAhVL_mMKHXEFDlcQFggpMAA&url=https%3A%2F%2Ffrtcmodernization.com%2F&usg=AOvVaw3MVfog1T4yxtRYTvFLJrZf

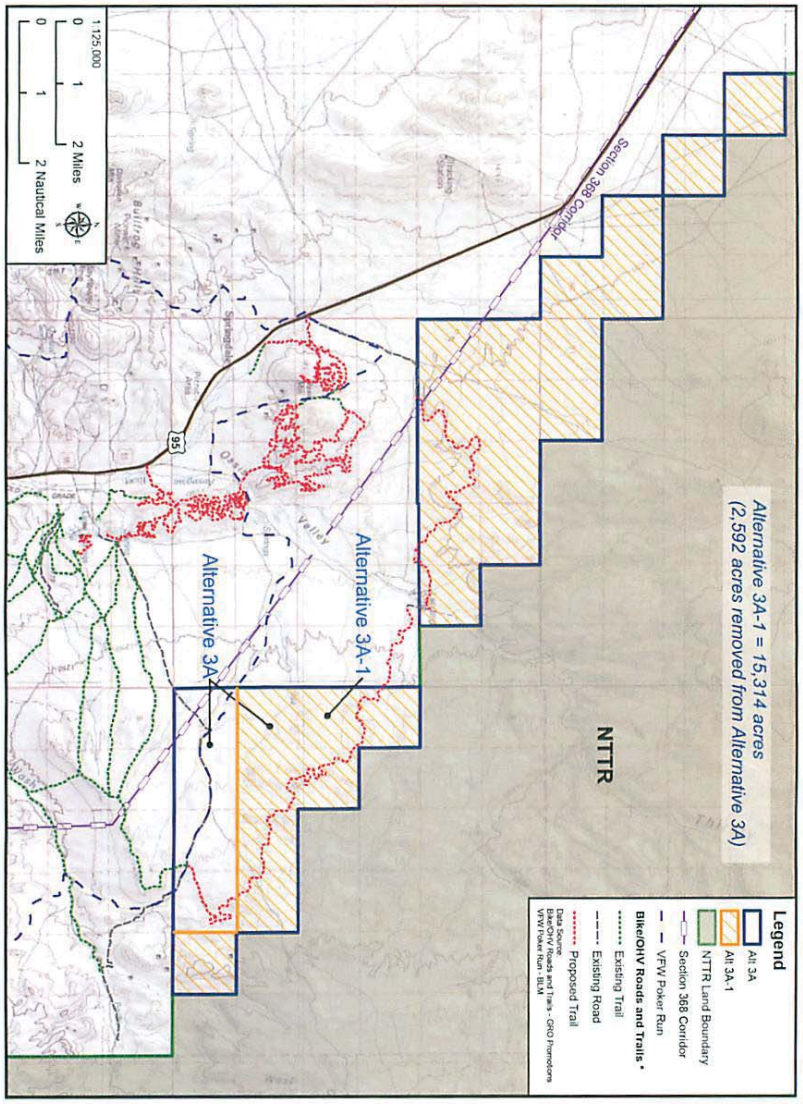


Figure ES-5. Alternative 3A and 3A-1 Locations and Acreages

6021

Corvus Gold Nevada Inc.
9088 Ridgeline Blvd., Ste. 103 Highlands Ranch, Colorado, USA 80129
Tel: 303 470 8700 Fax: 303 470 8706
WWW.CORVUSGOLD.COM

March 2, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste 107
Nellis AFB, NV 89191

RE: Nevada Test and Training Range (NTTR) – Proposed Military Land Withdrawal

Dear Sirs:

This letter outlines our response to the Military Land Withdrawal proposal and Draft EIS published on WWW.nttrleis.com for the expansion of land withdrawn from public use to be reserved for military use in the vicinity of the community of Beatty located in Nye County, NV. Corvus Gold Nevada Inc. is conducting gold exploration at its North Bullfrog Project and Mother Lode Project which are located to the North and to the East, respectively, of Beatty. Corvus controls the Project property through private land leases and Federal mining claims. The location of the two projects with respect to the Community of Beatty is shown in the attached map.

Corvus has discovered substantial gold resources on the two project locations and expects that there will be future mining operations at both sites. Although neither of our project sites is directly affected by the proposed NTTR expansion Alternatives, we are concerned that further reduction of the narrow, N-S corridor along Highway 95 in the vicinity of Beatty could have negative impacts on commercial interests in the area. We believe that current infrastructure resources (water, power, highways and population) available in the area are sufficient for development of our future project. Further reduction in available public lands could act to restrict future development.

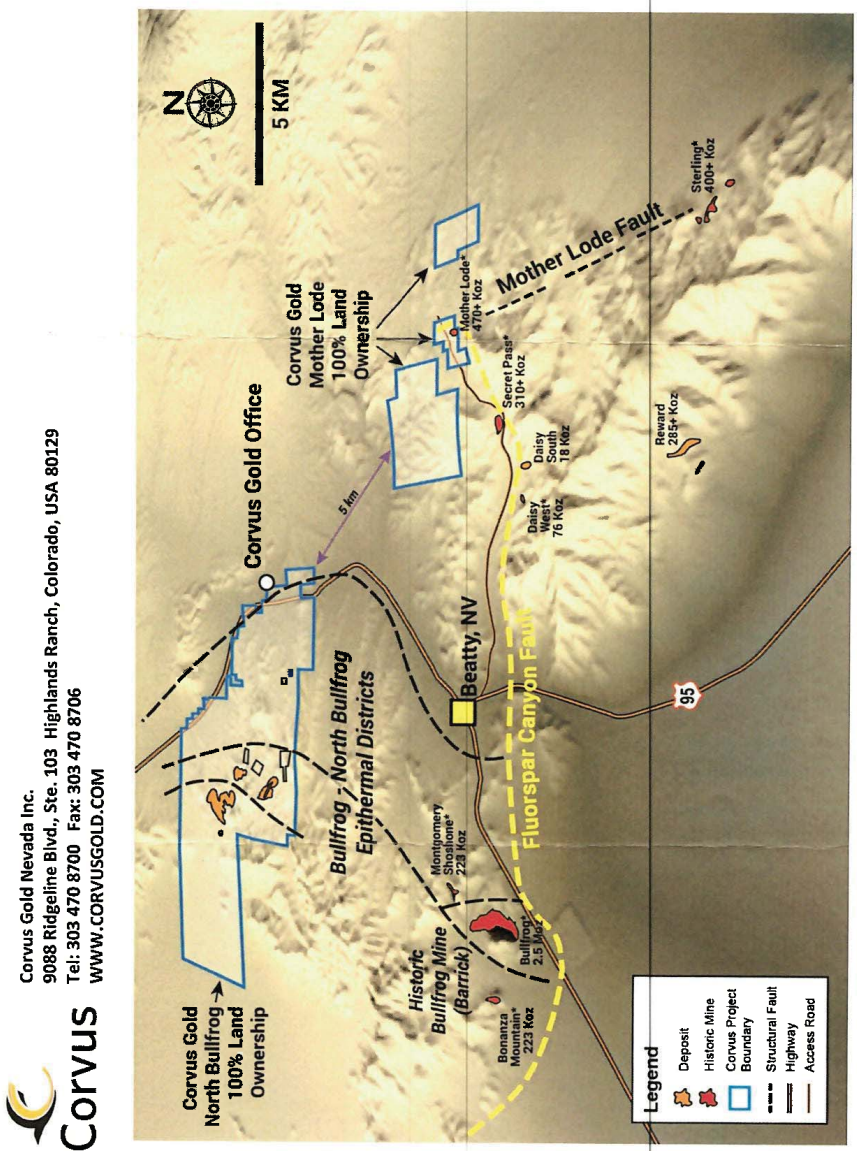
Coruvs wishes to align our interests with those of expressed by the local community, and therefore supports Alternative 1 (Status Quo).

Thanks you for your consideration.

Sincerely yours,

Carl Brechtel
Chief Operating Officer

6021



Map showing location of Corvus Gold Nevada Inc. North bullfrog and Mother Lode Properties with respect to the town of Beatty, NV

6022

COYOTE SPRINGS NEVADA, LLC

February 21, 2018

Via US Mail, Certified Return Receipt
Certified Mail Receipt # 7012 2920 0001 3211 3701

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

RE: Nevada Test and Training Range ("NTTR") Renewal of the NTTR Military Land Withdrawal, Legislative Environmental Impact Statement ("EIS")

Dear Madame or Sir:

This letter is a supplement to the letter we submitted dated December 9, 2016 (see attached copy).

Coyote Springs Nevada LLC submits this comment letter in regard to the proposal being advanced by the US Air Force Warfare Center for the NTTR Military Land Withdrawal Legislative Environmental Impact Statement for the proposal to withdraw additional land into the NTTR, and to extend the expiration of the NTTR Military Land Withdrawal.

The Coyote Springs Master Planned Community is located in close proximity to Nellis Air Force Base and the Nevada Test & Training Range. Coyote Springs lies at the northeast corner of US Highway 93 and Nevada State Route 168, and contains 42,000 acres. US Highway 93 is our western border and Nevada State Route 168 is our southern border.

At the time this letter is written, we are completing major community infrastructure (including, without limitation, offsite storm water and flood control detention basins; water treatment facility for our groundwater; wastewater treatment plant) and have spent millions of dollars in the past twelve months on infrastructure. We are in the midst of planning our initial community center, clubhouse, general store, gas station, temporary first responder facilities, and final subdivision maps.

In 2017, we had 25,783 rounds of golf played at our existing COYOTE SPRINGS GOLF CLUB featuring a Jack Nicklaus Signature Golf Course. We estimate we had over 27,000 guests visit Coyote Springs in 2017. That number does not include our 80+ employees and third party contractors who are at Coyote Springs on a daily basis.

3100 State Route 168 • P.O. Box 37010 • Coyote Springs, Nevada 89037
Telephone: (702) 422-1433 • Facsimile: (702) 422-1419

As we have pointed out in the past, the withdrawal alternatives include land which is in the flight corridor adjacent to the western edge of the SALLY corridor. An alternative that includes this land adjacent to the SALLY Corridor would have an impact on the 42,000 acre Coyote Springs Master Planned Community. We have serious concerns about the potential environmental consequences affecting the Coyote Springs future community and we expect the NEPA EIS will address the impacts related to the Coyote Springs community which is entitled to build 159,600 residential homes, *plus* commercial, resort, entertainment and industrial uses. SO-5

As the US Air Force moves forward with this process, Coyote Springs Nevada LLC requests that you keep in mind the proximity of the Coyote Springs Master Planned Community and our anticipated future 416,556 residents.

Sincerely,

Emilia Cargill

Emilia K. Cargill
Chief Operating Officer
Senior Vice President & General Counsel

3100 State Route 168 • P.O. Box 37010 • Coyote Springs, Nevada 89037
Telephone: (702) 422-1433 • Facsimile: (702) 422-1419

6022

COYOTE SPRINGS NEVADA, LLC

December 9, 2016

Via US Mail, Certified Return Receipt
Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

RE: Nevada Test and Training Range ("NTTR") Renewal of the NTTR Military Land Withdrawal, Legislative Environmental Impact Statement ("EIS")

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The Coyote Springs Master Planned Community is located in close proximity to Nellis Air Force Base and the Nevada Test & Training Range. Coyote Springs lies at the northeast corner of US Highway 93 and Nevada State Route 168, and contains 42,000 acres. US Highway 93 is our western border and Nevada State Route 168 is our southern border.

Enclosed are 3 maps. Map 1 depicts Coyote Springs' location in conjunction with the Las Vegas Valley. Map 2 is a street and neighborhood view plat for Clark County – Coyote Springs. Map 3 is a street and neighborhood view plat for Lincoln County Coyote Springs. As I noted above, Coyote Springs is a 42,000 acre master planned community, entitled for 159,600 residential units – 49,600 in Clark County and 110,000 in Lincoln County. Coyote Springs is also entitled for over 10,000 acres of non-residential commercial / industrial development, plus a 200 acre gaming enterprise district. We are fully entitled for development and hold 40 year renewable development agreements in both Clark and Lincoln counties. We have fully permitted Coyote Springs-specific multiple-species habitat conservation plans in both Clark and Lincoln counties. We are in the process of completing construction on our wastewater treatment plant and water treatment plant, and will roll into completion of the off-site flood control detention basins in 2017. Our timeline anticipates homes for sale in the 1st quarter of 2018.

3100 State Route 168 • P.O. Box 37010 • Coyote Springs, Nevada 89037
Telephone: (702) 422-1433 • Facsimile: (702) 422-1419

6022

The withdrawal alternatives include land which is in the flight corridor adjacent to the western edge of the SALLY corridor. An alternative that includes this land adjacent to the SALLY Corridor would have an impact on the 42,000 acre Coyote Springs Master Planned Community. We have serious concerns about the potential environmental consequences affecting the Coyote Springs future community and we expect the NEPA EIS will address the impacts.

As the US Air Force moves forward with this process, Coyote Springs Nevada LLC requests that you keep in mind the proximity of the Coyote Springs Master Planned Community and our anticipated future 416,556 residents.

We request that you add our entity to the list of stakeholders for any future communications. Please add:

COYOTE SPRINGS NEVADA, LLC

[redacted]

6022

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Avenue, Suite 107
Nellis AFB, Nevada 89191

9590 9402 2063 6132 2746 17

2. Article Number (Transfer from service label)
7013 2250 0001 6742 0048

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☒ Certified Mail®
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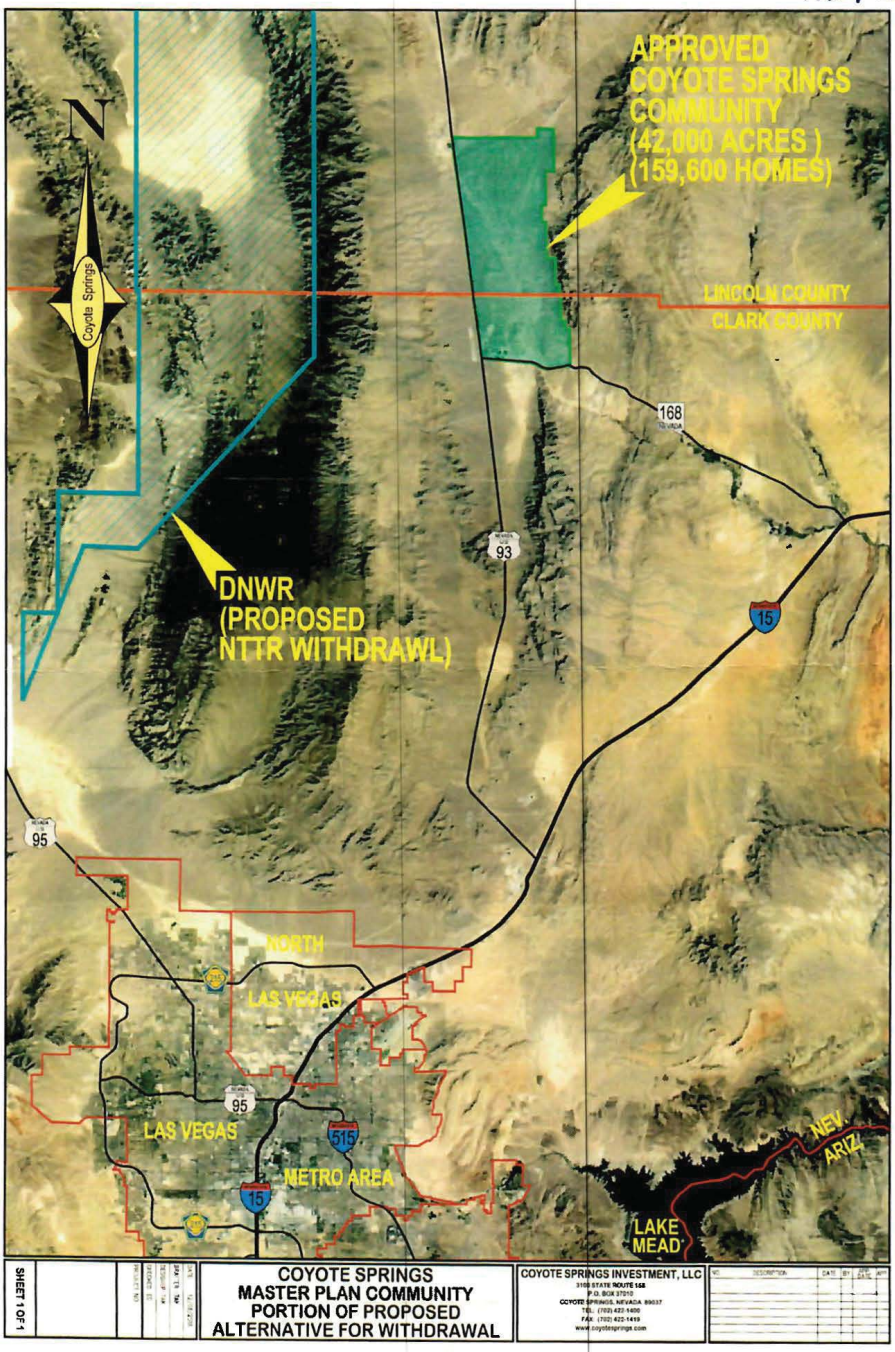
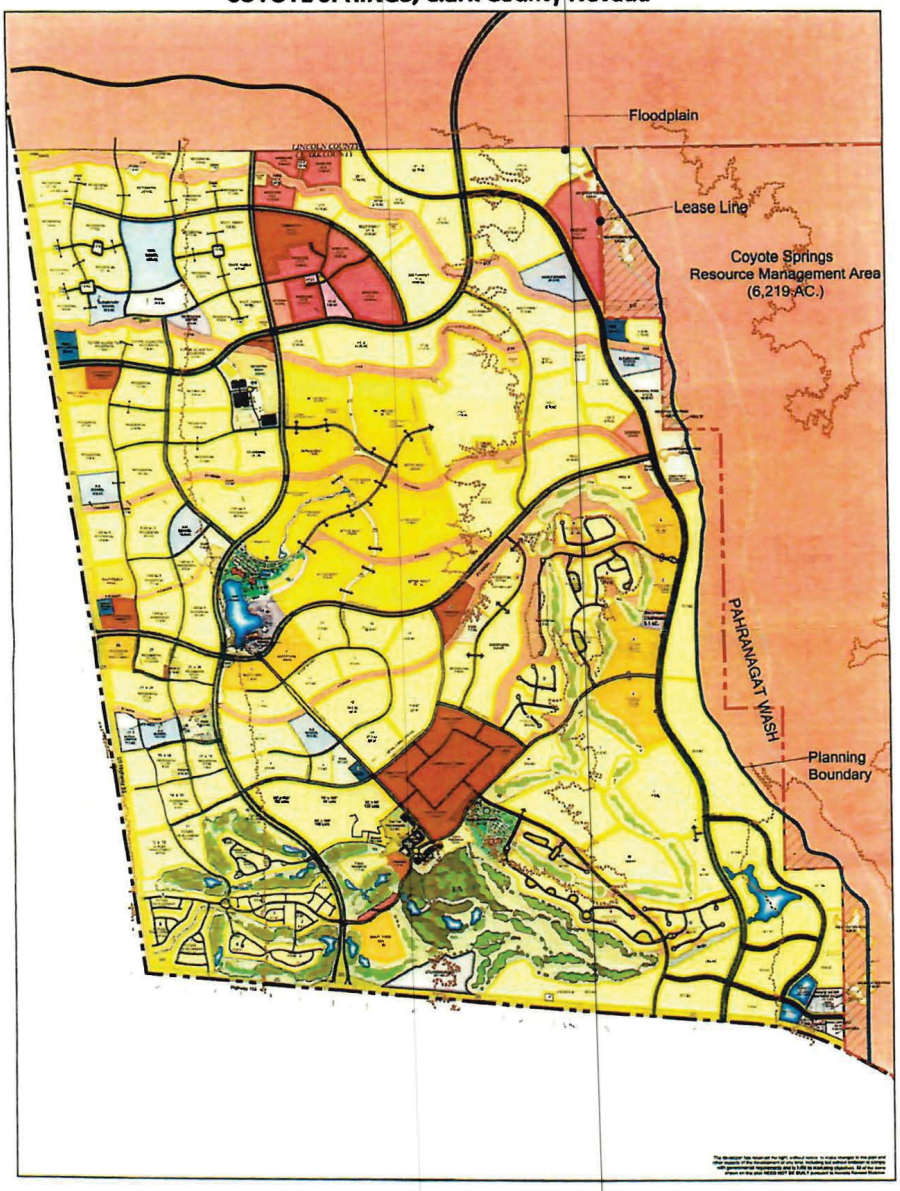
Map 1


APPROVED
COYOTE SPRINGS
COMMUNITY
(42,000 ACRES)
(159,600 HOMES)
N
Coyote Springs
LINCOLN COUNTY
CLARK COUNTY
168
93
DNWR
(PROPOSED
NTTR WITHDRAWL)
15
95
NORTH
LAS VEGAS
95
LAS VEGAS
515
METRO AREA
15
NEV.
ARIZ.
LAKE
MEAD
SHEET 1 OF 1
COYOTE SPRINGS
MASTER PLAN COMMUNITY
PORTION OF PROPOSED
ALTERNATIVE FOR WITHDRAWAL
COYOTE SPRINGS INVESTMENT, LLC

6022

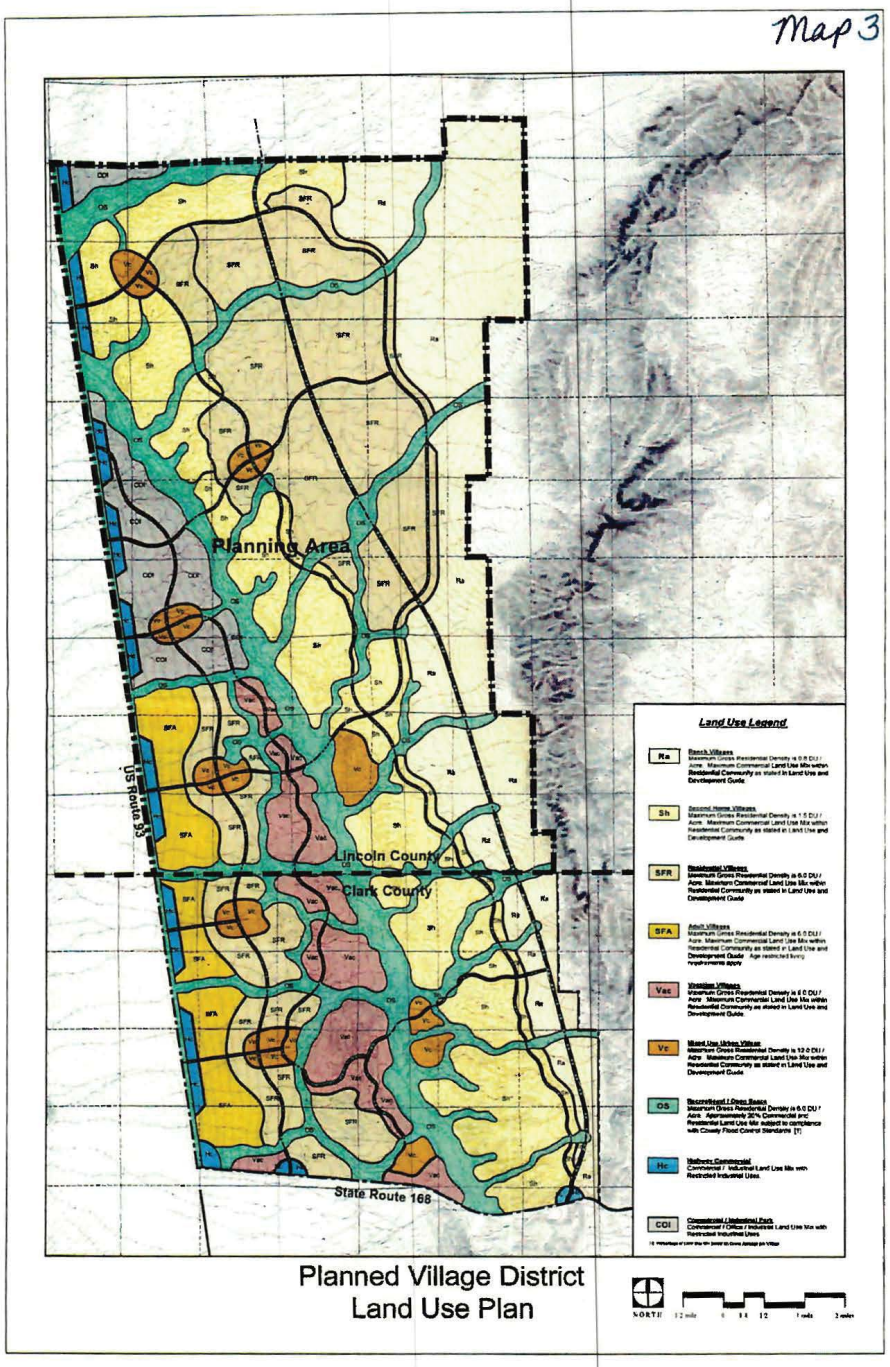
Map 2

COYOTE SPRINGS, Clark County Nevada



Clark County Conceptual Master Plan

6022


Map 3
Planning Area
US Route 93
Lincoln County
Clark County
State Route 168
Land Use Legend
Planned Village District
Land Use Plan
NORTH

6023

DESERT TORTOISE COUNCIL
4654 East Avenue S #257B
Palmdale, California 93552
www.deserttortoise.org
eac@deserttortoise.org

Via email only

8 March 2018

To: Michael Ackerman
Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, Nevada 89191
99ABW.PAOutreach@us.af.mil

RE: Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative Environmental Impact Statement (LEIS)

Dear Mr. Ackerman,

The Desert Tortoise Council (Council) is a non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of this species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the Council routinely provides information to individuals, organizations, and regulatory agencies on matters potentially affecting the desert tortoise within its geographic range.

We appreciate this opportunity to provide comments on the above-referenced project. Given the location of the proposed project in habitats occupied by the Agassiz's desert tortoise (*Gopherus agassizii*), our comments pertain to enhancing protection of this species during Air Force-authorized activities. The Council provided scoping comments on the proposed land withdrawal on 10 December 2016, which are incorporated by reference. We appreciate that many of our concerns with regards to the presence and distribution of tortoises were addressed in the report, entitled "A Review of Desert Tortoise Projects Conducted on the Nevada Test and Training Range and Proposed Expansion Alternatives Final Report" (U.S. Army Corps of Engineers 2017) that was provided on the NTTR's LEIS website.

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Beginning on page 15, extending through page 19, the Corps (2017) provides a comprehensive list of Section 7 consultations resulting in specific Biological Opinions and amendments. However, as requested on page 2 of our scoping comments letter, the Corps (2017) document never divulges how many tortoises have actually been harmed or killed by previously authorized Air Force activities. In this respect, the LEIS is deficient. Until the mortality associated with current management is divulged, we are unable to determine how new, changed management may adversely affect desert tortoises. The Final LEIS must document these missing data and explain how they will be used by the Air Force to avoid similar impacts in the future. BI-2

As summarized by the Corps (2017), we note that there have been extensive surveys of the existing NTTR during the most active tortoise periods, April-May and September-October, and that densities are estimated in various areas, all within the existing NTTR. However, we do not see evidence that the formula for estimating tortoise densities in the U.S. Fish and Wildlife Service (USFWS 2017) survey protocol was used. This formula provides an improved estimate of tortoise densities over large areas. We recommend that the Service's formula be applied to the number of tortoises with mid carapace lengths greater than 160 mm to see how the non-statistical density estimates given on page 28 compare to statistical density estimates using the USFWS' formula. BI-2

Although the title of the Corps (2017) document suggests that it provides a review of surveys in proposed expansion alternatives, in fact, there have been no surveys in the expansion areas, so the title is misleading. As such, the LEIS fails to provide any data that would allow us to determine the relative impacts of the expansion, particularly into Alternative 3C, east of the South Range (Alamo Withdrawal), which is what we requested in our scoping comments. We understand that the purpose of the LEIS is, in part, to document baseline data that would allow the pubic to determine the relative impacts and relative levels of take of tortoises. We find that the LEIS is deficient in this respect. We believe that our point 9, on the next page, will help to remedy this deficiency. BI-2

The following comments and recommendations pertain to Appendix H, Biological Resources, with specific pages referenced.

1. Page H-11, point 2. Please note that the recommendations given in Desert Tortoise Council (1999) are considered to be outdated and have been replaced by the USFWS (2009) Desert Tortoise (Mojave Population) Field Manual (herein "Field Manual"). As such, please be sure that the most recent standards are implemented for collecting data for living and dead tortoises.

2. Page H-11, point 3. Please be sure that the latest fencing standards are used for all desert tortoise exclusion fences, which are given in Chapter 8 of USFWS (2009).

3. Page H-11, point 5. This section indicates that tortoises would be relocated as per Desert Tortoise Council (1999) recommendations. Like point 1 above, these outdated relocation procedures have been replaced by the USFWS (2009) Field Manual, so be sure that the latest relocation standards are implemented. In other places where these older methods are referenced (points 8, 9, 10, and 14 on page H-13; 15 on page H-14), please programmatically change them to the updated USFWS (2009) standards. BI-2

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4. Page H-14, point 15. The prescription states that tortoise burrows would be avoided between May 15 and September 30 of a given year to avoid nests with eggs and emerging hatchlings. We suggest that this period of avoidance be extended to October 30 of a given year, as there may still be emerging hatchling beyond the identified September 30 time period.

5. Page H-15, point 19, final bullet. This prescription indicates that reporting requirements for tortoises observed, moved, injured, or killed will be defined. We strongly recommend that the Air Force also maintain an active data base of desert tortoise locations. These locations and typical tortoise data (e.g., size, sex, time of day, photos, etc.) should be recorded on standardized data sheets, mapped, and routinely provided to construction personnel and others to inform them of areas with heightened likelihood of tortoise encounters.

6. Page H-15, point 20 and page H-17, point 28. In annual reporting, the Air Force should describe each tortoise injury and death, describe how the impact occurred, and proactively use this information to modify activities, insofar as possible, to avoid similar impacts in the future. If, for example, a tortoise is accidentally killed by a vehicle travelling 35 miles per hour on paved roads (page H-14, point 16), the Air Force should consider reducing this speed limit on asphalt roads.

7. Page H-16, point 22. This prescription pertaining to restoration of disturbed areas should be amended to discourage the introduction of non-native plants, and where they appear, remove or otherwise control such plants. The Council has recently completed best management practices (BMPs) for arid lands restoration (Abella and Berry 2016), an offer this as a resource to the Air Force to facilitate habitat restoration. These BMPs are available on our website, at deserttortoise.org. BI-2

8. Page H-17, point 24. We are in support of the prescription given here that would minimize the creation of standing water that may attract desert tortoises, but recommend that the prescription be modified to indicate that this prescription is also intended to avoid providing a new water source to common ravens. In this respect, we find that the measures do not adequately provide for monitoring raven populations or controlling them if necessary. Additional measures should be identified relative to raven management throughout the NTTR and proposed expansion areas.

9. Page H-17, Section H.3.1. Here and elsewhere, the LEIS states that the expansion areas have not been surveyed, that in lieu of surveys models have been completed, but does not commit to programmatically surveying these areas. Although we expect that programmatic surveys will not likely be completed before the project is approved by Congress, we maintain that the Air Force should commit to conducting programmatic surveys, and provide a schedule in the Final EIS for completing these surveys. Results of the surveys would be used by the Air Force to avoid or minimize impacts, particularly to higher density tortoise habitats.

Page 3-161 in Chapter 3 of the LEIS. The first paragraph estimates tortoise densities on the existing NTTR, and the second paragraph again states that no surveys have been performed in proposed expansion areas, referencing habitat models. But it does not take the next logical step of reporting what the model shows. In the Final LEIS, this section should be amended to report the findings of the model. Although it is designed to show suitable versus unsuitable tortoise habitats, it does not take the next step of estimating densities, which is necessary if tortoise densities on the existing NTTR are to be compared with densities in the Alamo Withdrawal, in particular.

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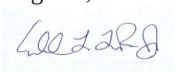
We appreciate this opportunity to provide input and trust that our comments will further protect tortoises during authorized project activities. Herein, we ask that the Desert Tortoise Council continue to be identified as an Affected Interest for this and all other Air Force projects that may affect desert tortoises, and that any subsequent environmental documentation for this particular project is provided to us at the contact information listed above.

Regards,



Edward L. LaRue, Jr., M.S.
Desert Tortoise Council, Ecosystems Advisory Committee, Chairperson

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Abella S. and K. Berry. 2016. Enhancing and restoring habitat for the desert tortoise (*Gopherus agassizii*). Journal of Fish and Wildlife Management 7(1):xx–xx; e1944-687X. doi: 10.3996/052015-JFWM-046. Available at website: deserttortoise.org.

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U.S. Fish and Wildlife Service (USFWS). 2017. Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*). USFWS Desert Tortoise Recovery Office. Dated 21 August 2017. Reno, NV.

6024

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99th Air Base Wing Public Affairs
4430 Grissom Avenue, Suite 107
Nellis Air Force Base, Nevada 89191

18 January 2018

In recognition of the vital contributions of the Nellis Test and Training Range (NTTR) to military readiness and national security the Southwest Defense Alliance (SWDA), a non-profit community based organization dedicated to a strong national defense and industrial base, urges the support of the expansion of the NTTR for the following reasons:

- the NTTR is an irreplaceable national security infrastructure asset, the management of which is charged to the Air Force also includes activities of all Department of Defense, Department of Energy and Department of Homeland Security.
- the NTTR provides access to areas essential for testing and training, but limitations on availability and full spectrum capability present challenges to meeting all current and future national security requirements...hence the need for the expansion.

- Although additional airspace is not an immediate requirement at this time, the current airspace is not used to its full potential because of restrictions in the South Range. The inability to move integrated air defense systems and threat emitters away from impact areas limits the ability to conduct various operations in the South Range, which results in underutilization of the surrounding airspace…thus the need for removal of current limitations on conducting training at the South Range, and expanding the area.

The proposed expansion of NTTR, and removal of restrictions on operations at the South Range will allow increased safety and security for military testing and training operations, and provide the capability for training in prosecuting a two front aerial conflict against a near peer competitor for Major Combat Operations (MCO). Mission requirements include, without limitation:

- Increase MCO test/training capability to meet the demands of strategic guidance and alleviate competition for critical MCO electronic assets
- Enhance irregular warfare test/training capability
- Increase NTTR operational security and safety

For the above reasons that clearly enhance military readiness and national security, the SWDA fully supports the NTTR Military Land Withdrawal Legislative EIS and the NTTR expansions. We urge your full acceptance and agreement.

John F. Regni
Chairman,
Lieutenant General, USAF (ret)

Peter Hekman
Secretary
Vice Admiral, USN (ret)

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Nevada Chapter of Backcountry Hunters & Anglers
"The sportsmen's voice for our wild public lands, waters and wildlife"
www.backcountryhunters.org

The Nevada Chapter of Backcountry Hunters & Anglers (BHA) appreciates the opportunity to provide comments on the draft LEIS for reauthorization and expansion of the Nellis Test and Training Range (NTTR). BHA seeks to ensure North America's outdoor heritage of hunting and fishing in a natural setting, through education and work on behalf of wild public lands and waters. Our membership values wild lands and wildlife. We are driven to protect what little is left of our public lands heritage before the values that once were common throughout the landscapes of this country and Nevada are lost forever.

As noted during the scoping process, we respect and value the role that our military personnel and training facilities play in providing security and defense capabilities for our country, but we also believe that mission needs for the military can be met without compromising important public land resources for the wildlife that our organization also highly values. Therefore, our organization supports Alternatives 1 and 4A, which allows for these issues to be revisited again in 20 years.

A key issue for BHA is access to public lands because, especially in Nevada, we depend on public lands and the accessibility of those lands to hunt and fish. We are therefore opposed to Alternatives 2 and 3 – especially 3C. The removal of wilderness protections undermines the primary objective of the Desert National Wildlife Refuge, which is to protect habitat for bighorn sheep. While the Air Force has been a good partner with the US Fish and Wildlife Service, the missions and priorities of the organizations are fundamentally different. The transfer of jurisdiction to the USAF removes public access for recreation of all kinds – including scouting and hunting which are sure to be limited regardless of any restricted accommodations.

LU-1

LU-1

Hunting for bighorn is one of the area's primary recreational values. Sportsmen and NDOW have invested a lot of time and money on guzzlers that could now become off-limits. The expansion of ready access areas, firing zones, temporary or permanent roads, threat emitters, fencing, runways or other military infrastructure could permanently displace bighorn sheep from seasonally crucial habitat, disrupt migration and lambing, and impact population numbers and survival rates. With these animals already fighting off outbreaks of disease, it's critical we protect our prime habitat areas.

LU-8
LU-9

BI-3

Given the fact that the USAF is already operating within a portion of the Refuge, we believe Alternatives 1 and 4A offer the most balanced approach for land use in the area.

Sincerely,

Howard Watts III

Howard Watts III
Board Member
hdubtre@gmail.com

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Blue Goose Alliance
1050 Matador Dr. SE
Albuquerque, NM 87123

99th Air Base Wing Public Affairs
4430 Grissom Ave. Suite 107
Nellis AFB, Nevada 89191

email sent at 7:15 PM Mountain Time, March 6, 2018 to: www.nttrleis.com

Comments Related to the Air Force Legislative Environmental Impact Statement – *Draft* – NTTR Land Withdrawal.

The following comments are submitted on behalf of the Blue Goose Alliance, a private, non-profit corporation dedicated to maintaining the integrity of the National Wildlife Refuge System, to assure the necessary growth of that System, its autonomy and stature within America's Federal Land and Natural Resources Conservation Systems. The National Wildlife Refuge System is the largest and most comprehensive reserved lands system in the world often used as a model for other Nation's wildlife conservation programs.

The Blue Goose Alliance (BGA or Alliance) is a nationwide organization consisting primarily of retired Refuge Managers and Administrators along with dedicated past refuge volunteers. The Alliance often works in coalition with other NGO's on issues of National significance affecting individual Refuges or the System as a whole. The Alliance places a high level of significance on maintaining close adherence to the National Wildlife System Administration Act (16 U.S.C. 688dd-ee; NWRSAA) and other major statutes intended to guide the operation and management of all National Wildlife Refuges. These include, among others, the Endangered Species Act, the National Wilderness Preservation Act, and several laws designed to protect archeological and cultural resources. In addition, all National Wildlife Refuges in the United States are mandated to support accomplishment of the goals of International Treaties such as the Migratory Bird Treaties with England, Canada, Japan, Mexico and Russia; the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, etc. The National Wildlife Refuge System is a vital component of our Nation's efforts to protect and make available to the public – the owners of all U.S. public land areas – for recreation, education, and enjoyment.

Desert National Wildlife Range -- Resources Management and Objectives

As recognized in the Air Force's LEIS, the "Desert Game Range" was established in 1936 and was jointly managed by the Fish and Wildlife Service (FWS) and the Bureau of Land Management (BLM). The first military use began in 1940 with the Las Vegas Bombing and Gunnery Range. The terms of agreement between Refuge Administration and the military was that within 6 months following the end of WWII, the military would cease its training usages and relinquish the lands to the Department of the Interior. Ultimately, no termination nor relinquishment occurred.

By an agreement in 1966, the refuge's name was changed to the Desert National Wildlife Range (DNWR). Game Range lands west of U.S. highway 95 were placed under sole BLM jurisdiction while sole administration of the 1.6 million acres north and east of U.S.

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Blue Goose Alliance
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Albuquerque, NM 87123

95 became FWS's responsibility (a public land order in 1962 had granted secondary withdrawal status to the Air Force on approximately 842,254 acres of the Refuge). Thus, the statements in the LEIS, and in some of the accessory reports to the LEIS that "the Refuge overlaps the NTTR" are factually incorrect. *The NTTR withdrawal overlaps the senior primary Refuge withdrawal in all refuge areas except the Target Impact Areas (see Figure 1-9, p. 1-23 in the LEIS).* The Refuge withdrawal transmits primary authority – it is the Memorandum of Understanding between the Air Force and the Refuge that grants limitations on the refuge lands to support the needs of the NTTR. It is that MOU that restricts public entry, and even places limits on Refuge personnel's access to the NTTR lands.

This matter is raised to make the point that the Air Force has, for 78 years, performed its functions of training and testing within conditions it has abetted. The Air Force accepted known restrictions as each renewal of its operations was discussed over the years with refuge administration, the Department of the Interior (DOI) and Congress. Over the course of those years the Air Force training and testing has obviously expanded considerably, the airspace withdrawals above the NTTR have grown and are among the largest such zones in the United States.

In the LEIS the Air Force discusses its desire to expand both training and weapons testing by a very large amount. This would be accomplished by removing the proposed Wilderness designation and overriding and replacing the FWS primary withdrawal. Based on the review of comments received by the NTTR during the Scoping period, the Alliance believes that the most important arguments have been presented to the Air Force.

The Desert National Wildlife Range and its untrammeled habitats are essential to a large and varied complex of plants and animals. Recent declines in the Desert Bighorn Sheep population, effects of climate change, and its uniqueness all validate the continuing need for FWS management. That is necessary to assure this area continues to serve primarily as primarily a naturally functioning representative of the natural world in the Mohave Desert.

Maintaining unaltered Wilderness areas must persist as only in that way can FWS and the DOI guarantee that Congress will have a full range of options from which to make a final Wilderness decision. That is the basis for and intention of the established policy. Congress has repeatedly approved and supported that practice by all agencies having proposed Wilderness under their administration.

The Desert NWR staff are working to increase the Desert Bighorn population by 1,000 (for a total Desert Range population of 2,000 bighorns) from current baseline estimates for each mountain range. Historical records support the ability of refuge habitats in each mountain range of the Desert NWR to sustain the higher number. However, given the unknown full effects of climate change it will be critical to monitor closely all refuge populations and habitats to permit management intervention where and as required. Particularly critical is the need to maintain all existing water sources throughout the refuge area and construct new rainwater catchments when need has been demonstrated.

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Thus, refuge personnel require access for both monitoring and maintaining water catchments, springs and other water supplies. LU-2 LU-9

Increased levels of activity and presence by the Air Force as proposed in all alternatives except the "Status Quo Ante" Alternative (no. 1) are problematic. As documented in *The Desert Bighorn – Its Life History, Ecology, and Management* by Gale Monson and Lowell Sumner (Eds) 1980, Chapter 19, the constant presence of man and generation of high noise levels, increased levels of vehicle operation, helicopters, sonic booms (at times) etc., have been observed to negatively affect bighorn sheep behavior. Disruption of traditional seasonal or escape movements such as fencing across escape corridors or post-natal movements of ewes with small lambs would be especially troubling. BI-5 The vehicle operations matter is particularly troubling in the expansion/increased operations Alternatives as the obvious degradation of lands by indiscriminate vehicle tracks in the North Range seems to be a harbinger of what to expect in the South Range under the Air Force proposals. BI-3 The impacts of such abuse of desert habitats has been widespread in unprotected desert areas. However, the military seems to have been unable to prevent such treatment of the lands in the North Range. That has resulted in common fears among refuge supporters including hunters, wildlife watchers, Wilderness proponents and others.

The Sheep Range, Gass Peak and adjacent portions of the Las Vegas Range, and the East Desert Range are especially important to Public use of the Desert NWR. Current limited access with only two main routes and a few primitive roads is a vital component of having an educated public to support the DGNWR and other wildlife conservation reserves. Closure of a vast area of currently accessible refuge lands and one of the primary access routes would seriously impair refuge efforts and deprive an interested public of unique experiences within the Range. Restrictions on that road corridor would work a major hardship on the refuge staff by depriving ready access for the wide range of management activities essential to maintaining the populations and habitats for which this refuge is especially vital.

Among the Endangered or Threatened Species found within the Desert NWR, the one most likely to be affected by Air Force proposals for expanded area and increased operations is the Desert Tortoise. Tortoise habitat occurs throughout the valleys in and adjacent to the Air Force impact areas. Basic inventory and monitoring of those areas and the tortoise populations requires access by refuge staff at times and places of their choosing. This is a matter that should be addressed in the Desert Range – NTTR Memorandum of Understanding (along with access protocols for needed increased access for management/maintenance activities by Refuge staff as discussed above). The discussion above related to the impacts from indiscriminate vehicle travel in desert valleys and the damages to landscapes in the North Range of NTTR applies particularly to areas of the South Range having delicate plants, Desert Tortoises, and other delicate wildlife species. Destruction or degradation of habitat is believed to be the main cause for declines in Desert Tortoise populations. Degradation may also contribute to susceptibility to disease through loss of food supplies, exposure caused by loss of vital burrows during critical times in the life cycle, and by exposing important areas to invasive species which may harbor or foster disease organisms. BI-2

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Protection of Archeological, Paleontological, and Cultural/Historical resources is yet another vital priority of National Wildlife Refuges. There is a basic nexus between National Wildlife Refuges and past historic and prehistoric uses of the lands, plants, animal, and other natural resources by descendants of the first peoples to occupy America. CU-1 CU-2

All the resources listed in the above paragraph are non-renewable – once lost, they cannot be replaced or replicated. All are very sensitive to all forms of construction when pre-construction surveys by competent personnel have not been completed. Indiscriminate vehicle travel beyond designated travel lanes and roads is among the worst sources of damage and loss of surface and near-surface cultural sites and resources. Many valuable resources are lost by intentional "arrow head and pottery hunting" by humans (*i.e.* vandalism) resulting in removal, breaking or other damage, inadvertent relocation and thus the loss of value to the native peoples and to science.

Little is known about the full extent and locations of cultural sites, and sites for most archeological and paleontological resources. There currently are 451 recorded prehistoric sites on the Refuge; many of these are on lands used by the Air Force; including lands within the areas of Air Force primary withdrawal. These include sites from all categories and time periods. They include campsites, lithic scatters, rock shelters, rock art, quarries, special activity sites, and multicomponent sites. They are documented in the literature. The Refuge also contains two National Register Archeological Districts: the 620,000-acre Sheep Mountain District and the Corn Creek Campsite District. It is believed by knowledgeable and interested parties that there are likely many hundreds – even thousands – of undocumented sites on Refuge lands. CU-2

The Refuge has worked hard to establish and maintain a close, collaborative relationship with affiliated tribes. It is imperative that relationship not be interrupted or altered by changes resulting from sudden Air Force modification of operations. Current lack of needed resources hampers timely surveys and documentation of sites throughout the Refuge. The section in the LEIS (Appendix K) is devoted to responses from the affiliated tribes and contains valuable commentary, facts, and beliefs from tribal peoples. The Air Force and Congress would do well to pay heed to the recommendations and cautions contained in that Appendix. CU-4

NTTR Claims and Conclusions

The Air Force introductory materials extol the preeminence of the NTTR, severely evaluate the restrictions and shortcomings of the current arrangements with the Refuge applicable to the South Range, including particularly the effect of the Proposed Wilderness areas on needed freedom of action by the Air Force. As discussed earlier, it seems uneven for the Air Force to postulate such harsh conclusions given that they have been an active participant in the 78-year evolution of the "partnership" that exists on the South Range between the Desert National Wildlife Range and the Air Force. The NTTR during that period enlarged, refined and expanded its operations, enlarged its footprint on land to 2.9 million acres while in the Airspace went far beyond that earthly limit.

6026

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Thus, NTTR achieved the status extoled in the Cover Sheet Abstract and elsewhere (*i.e. "The NTTR is the preeminent range for testing and evaluation of weapon systems, tactics development, and advanced combat training…."* (italics added)

Throughout the **Purpose and Need for Action** section a focus is to pinpoint the restrictions placed upon the operations within the South Range as the principle culprit for the described dilemma. Yet, apparently even with those restrictions and resulting outdated status, NTTR remains the "*only one [that] has the military ranges…{etc.} …to conduct both testing and training activities with the space and capacity to host large opposing forces.*" (italics added)

PA-73

Given such superlatives, the Alliance began researching other Air Force and Defense Department Test and Training Ranges in the United States. First, we became intrigued with the Utah Test and Training Range mission statement:

"The UTTR is a Department of Defense (DoD) Major Range and Test Facility Base and provides an ideal location for operational test and evaluation for weapons requiring a large safety footprint. The UTTR is also the only location capable of supporting overland testing of cruise missiles. The UTTR is used in a training capacity for air-to-air-combat, air-to-ground inert and live practice bombing and gunnery training by DoD aircrews. The UTTR provides a vast area of realistic terrain for world-class test and training scenarios to ensure the war fighter is prepared to deploy at a moments' notice to win any conflict with decisive air and space power." (copied by the BGA from the Utah Test and Training Range Website)

Wikipedia provided the Alliance an interesting statement regarding Eglin Air Force Base, Florida: https://en.wikipedia.org/wiki/Eglin_Air_Force_BaseThe 96 TW is the test and evaluation wing for **Air Force air**-delivered weapons, navigation and guidance systems, Command and Control (C2) systems, and **Air Force** Special Operations Command systems. The **Eglin** Gulf **Test Range** provides approximately 130,000 square miles (340,000 km^2) of over water airspace.

PA-57

That seemed to be a propitious fit for the current DOD interest in the Pacific theater of operations as the U.S. down-sizes the past involvements in the Middle Eastern deserts that have occupied military operations so heavily during the past 15 years.

And, finally, the Edwards Air Force Base posted claims on its testing and training functions include: The R-2508 complex is the most effectively integrated and probably the most important multiple service Special Use Airspace [SUA] in the National Airspace System [NAS]. Managed by a group representing the complex's three primary user organizations (NAWC-WD China Lake, the Air Force Flight Test Center (AFFTC)/Edwards AFB, and National Training Center (NTC)/Ft. Irwin), it provides the largest single area of overland SUA within the United States. The complex consists of the overlying Restricted Area R-2508, five underlying restricted areas, and ten MOAs. The mission of the JPPB is to enhance and preserve the R-2508 Complex bases, ranges, and special use airspace; and to increase DOD capability for research, development, testing, and evaluation of aircraft and weapons systems. Additionally, the JPPB preserves an area for operational training and readiness of DOD-sponsored activities."

Many members of the Alliance have served in various branches of the Military over the years prior to their work as Refuge Managers and Administrators. We all appreciate the benefits of competition. However, when the competitional claims come at the expense of an unrelated but clearly vital function of the U.S. Government, we draw lines.

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Blue Goose Alliance
1050 Matador Dr. SE
Albuquerque, NM 87123

The NTTR Land Withdrawal proposals and ensuing extended and heightened activities analyzed by the Air Force in the subject Legislative Environmental Impact Statement would override current Refuge Management and impose severe constraints while adding substantial costs to refuge administration. In numerous places within the LEIS and particularly in the impact analyses sections, the Air Force indicates that there are available techniques and process that would or might partly mitigate the negative impacts described. However, the Air Force declines to aver that it would apply such mitigative measures. GE-3

The Public Lands, particularly the specially designated conservation lands systems, are among the most treasured of benefits accruing to all Americans, today and into the future—indefinitely! When we see efforts to override protections that have taken a Century or more to accomplish in the name of military training and testing, we must draw a line. America's National Wildlife Refuge System and National Wilderness Preservation System are too valuable to be sacrificed in the name of competition among the military tribes.

The Alliance finds the Air Force NTTR proposals unwarranted and unacceptable.

Sincerely,

William C. Reffalt, Vice President
The Blue Goose Alliance

6027

March 5, 2018

99th Air Base Wing Public Affair
4430 Grissom Ave. Suite 107
Nellis AFB, NV 89191

RE: Comments regarding the NTTR Draft Legislative EIS

To Whom It May Concern:

The Lincoln County Regional Development Authority (LCRDA) appreciates the opportunity to provide comments regarding the NTTR land Withdrawal Preliminary Draft Legislative Environmental Impact Statement. LCRDA is responsible for retaining and attracting businesses and identifying economic opportunities for the County.

LCRDA supports the mission of NTTR and fully appreciates the increasing threats to our national security and the need to improve the range's capacity to support military testing and training. However, LCRDA does not support Alternative 3C which proposes to withdrawal 154,378 acres within Lincoln County. This is in addition to a significant existing NTTR footprint in Lincoln County.

Appendix G, SOCIOECONOMICS, provides only baseline data for certain economic indicators including employment and recreational use of BLM lands but provides no analysis of the direct, indirect and induced impacts of Alternatives C. Alternative 3C would result in the loss of public access and the many recreational uses associated with that access, such as hunting and hiking, that are important to the economy of Lincoln County. Public access to the Desert National Wildlife Refuge on the Alamo, Old Alamo, Old Corn Creek and Cabin Springs Roads and trailheads at the northern terminus of Old Alamo Road and on Dead Horse Road would be impacted.

SO-11
LU-1
SO-3

Thank you again for the opportunity to comment. Please feel free to contact LCRDA Executive Director, Jeff Fontaine, at 775-443-7667 or ccjfontaine@gmail.com if you have any questions or need additional information.

Sincerely,

David Hurd
Chairman

6028

Comments on Draft Legal Environmental Impact Statement (DLEIS) for Proposed NTTR Withdrawal

1.) Lack of Transparency

The DLEIS does not mention the Proposed Action alternatives until a full 103 pages (p. 2-43) into the document, where they are buried in a table and labeled with a tiny asterisk. The capable reader of EIS documents cannot help but wonder how this lack of transparency, which should have been obvious to anyone drafting this document, was allowed to happen. Also, in this table it becomes clear that only the sum of 5 (literally, five) alternatives "best meet the Air Force requirements". When the document presents "Alternatives", that implies an either-or choice as is the case in other EIS's. It represents a lack of transparency in that the word "alternative" is wrongly applied, when really the Proposed Action is a combination of such "alternatives" rather than only one of them. In fact, Alternatives in an EIS are usually clearly labeled with "Proposed Action" so the reviewer can understand the intention of the EIS, which remains unclear in this DLEIS because there are two, not one Proposed Action. Even with these Proposed Actions buried in a table, they are not labeled as that (despite being referred to throughout the rest of the document). Instead, they are labeled as the "best meets … requirements" options that both consist of multiple alternatives that together represent the largest amount of land withdrawal for virtually unlimited Ready-Access, and almost all these lands are currently refuge or proposed wilderness areas. This is not about semantics, but about the lack of transparency, or actual lack of disclosure, about the full nature of the plans, which significantly inhibits public and agency participation in the decision process, whether this is intended or not.

PA-58

2.) Alternatives not Carried Forward

On page 2-16 (ln 11-13), an alternative that would require coordination with the BLM and USFWS was not carried forward with the explanation of "This possible alternative would have been implemented to facilitate co-use between the Air Force and both BLM and USFWS. This alternative was deemed infeasible since the NTTR expected the newly placed emitters to be used daily and moved to new locations on a regular basis." This text was, to my knowledge, not in the preliminary draft LEIS and indicates a much higher-intensity military use for the proposed withdrawal areas than discussed in the impact analysis and proposed mitigation.

3.) Ongoing Studies

On page 2-24 (ln 17-23), the DLEIS states "Additionally, the Air Force recognizes that various cooperating agencies conduct ongoing studies and survey activities that are not related to this LEIS. Valuable data has been assimilated as a result of these long-term efforts, which specifically assist in managing biological and cultural issues in the areas associated with Alternative 3. Thus, the Air Force would seek to provide avenues to continue these long-term study and survey efforts as practicable within the Air Force procedures currently in place and outlined in Section 2.2.1." This expresses an intent, but it does not lay out a process on how these surveys will actually be accommodated. Given the perceived unfeasibility of coordinating management and access to land with other agencies (see comment #2 above), it really needs to be addressed how access for these surveys will be granted even when it conflicts with military uses.

LU-2

4.) Ground Disturbance Acreages

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Throughout the DLEIS, acres of ground disturbance are applied to estimates for road, runway, and infrastructure footprints (e.g., descriptions of Alternatives in 2.3.3.). The impacts of motorized off-road activities, camp sites or other gathering places, and munition impacts toward lost acreage is nowhere referenced, nor are areas that are off-limits for these activities mentioned in the description of Alternatives. PA-54

5.) General Environmental Constraints

In the section with this heading (Ch. 2.6), several commitments are made toward biological and cultural resource protection and mitigation. However, given that no specific impact areas, habitats, or localized activities are identified, the DLEIS does not provide sufficient information on how these commitments will be met, and how non-compliance will be determined. Again, if ready-access is granted under all proposed alternatives, but cooperating agencies are excluded (see comment #2), then it is completely unclear who has oversight on compliance. If the DLEIS proposes that compliance will be entirely up to self-reporting by the Air Force rather than oversight by regulatory agencies (as is their role), then that needs to be stated clearly and checks and balances for actual compliance need to be explained. It is also mentioned here that, for example, springs and seeps "should" be avoided by construction activities etc. The word "should" implies the option of "we tried but couldn't" avoid them. A much firmer commitment for impact avoidance is needed for these and other biological resources *specifically because* of the unspecified nature of the DLEIS document of where and how they will occur. And as described in comment #4, other impacts, such as motorized off-road transportation, munition deployment, and nest disturbance issues from frequent vehicle and foot traffic, need to be addressed in these firm commitments, not just acreage lost to construction. GE-3 LU-2 BI-4 GE-3 PA-54

6.) Chapter 2.7. Introduction (terms used for impacts, and their rankings)

In the introduction to this chapter, the terms for impacts assessed are defined. However, there is no reference made on how the rankings were developed and by whom. For instance, for Alternatives 2, 3B 3C, the impacts to Biological Resources are all ranked yellow, or "Significant Avoidable/Mitigatable – Impacts are similar as described above. However, these impacts can either be avoided or minimized through implementation of mitigations and/or management actions." No reasons are provided why these should not be ranked red ("Significant Unavoidable – Physical aspects are easily perceptible, and typically endure over the medium-to-long term, with a regional context and a high intensity; however, significant impacts can occur potentially over the short term under any context given a high intensity" - as an aside, the first part of this definition does not make sense), which they arguably should be ranked as, given that land jurisdiction would change from the full wildlife and habitat protection by the National Wildlife Refuge system or by a Proposed Wilderness status to the top priority of conducting intense military exercises without firm commitments toward wildlife and habitat protection. GE-11

Also, further down, the statement (p. 2-44, ln 13-15) "If adverse impacts to cultural resources and endangered species are identified, these impacts would also be minimized/mitigated through implementation of operational constraints and mitigations as identified through consultation under the NHPA and the ESA, respectively" clearly indicates that wildlife and their habitats, other than endangered species, will not be considered in impacts analyses or impact avoidance. This directly contradicts earlier DLEIS statements that *all* migratory birds, state sensitive species including plants and their habitats would be included in the impacts analyses, avoidance strategies and mitigation measures. While the impact rankings listed in this table (and in Table 3-49) are probably the result of some process, no GE-12

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indication is given as to the nature of this process nor who did the ranking, thus the validity of this process is completely unknown (see also comment #1, lack of transparency). GE-12

7.) Chapter 2.8. Mitigation

In the sections on Mitigation (p. 2-47-52), the language used to describe mitigation action is entirely non-committal, which leads to the conclusion that the Air Force is not really committed to any of them. Qualifiers such as "…whenever possible", "…wherever possible", or an action "may be done", "ought to be done", or "should be done" leave all options open including no mitigation action at all. Similarly, all actions listed as the Air Force "will consider", "could evaluate the need to", or "should consider" are altogether non-statements, especially in an EIS document. Either the Air Force commits to these actions or they don't, but simply considering a mitigation action mitigates no impacts at all. Therefore, the mitigation section is severely lacking actual descriptions of commitments toward mitigation, especially for scenarios where mitigation is truly necessary to protect wildlife and vegetation but may conflict with the Air Force's desires to keep a military exercise schedule. This entire section encompasses good suggestions from a biologist, but which the Air Force is free to ignore in their entirety. If that is the case, the DLEIS document needs to state clearly that no actual commitments toward impact avoidance or mitigation will be made under the Proposed Action(s). All references in this document to wildlife and habitat management under the Proposed Action made rely on an RMP document that is not part of the DLEIS and not even summarized in it. Who would have oversight on any mitigation actions and their success is also unclear in the descriptions of the DLEIS (see also comment #5 above). Finally, section 2.8.3. "Unavoidable Impacts" lists multiple significant impacts that are proposed to remain completely unmitigated, it appears. Mitigation is entirely possible for these unavoidable impacts, and commitments toward conservation funding elsewhere is only one of the ways to mitigate for them. For examples, see all other land exchange programs that provide mitigation funds toward wildlife conservation, such as the Clark County Multiple Species Habitat Conservation Plan under the Southern Nevada Public Lands Management Act. No commitments are made by the DLEIS that would parallel such mitigation efforts for a major land exchange, which are really the standard for public land withdrawals. GE-3

8.) Habitat Maps and their Uses

In Chapter 3.8. (Biological Resources), the habitat models are described as follows: "The habitat models were developed using the unique habitat guidelines based on the Nevada Wildlife Action Plan […]. This comprehensive database can be used by the military mission for strategic planning of training operations on the NTTR." Again, the language used here "…can be used…" does not indicate in any form that these models *will* actually be used for planning of military training operations. The proposed withdrawal lands under the two Proposed Actions are covered by Joshua tree habitats, which are home to some of the most sensitive migratory birds (e.g., Bendire's Thrasher and Pinyon Jay, see https://www.gbbo.org/bird-conservation-plan for details), are extremely sensitive to wildfires and climate change, and take decades to restore once lost. Joshua trees are globally unique to the Mojave Desert, and several of the most jeopardized birds of the American southwest depend solely or largely on them (Bendire's Thrasher being the prime example). There is no clear indication that the authors of the DLEIS or the Air Force recognize the need for protection of this jeopardized resource, which has already suffered enormous losses to recent wildfires in Clark County. As the DLEIS mentions later in the chapter, the species *Yucca brevifolia* (Joshua tree) itself is currently under review by the USFWS for listing under the Endangered Species Act. The issue of Joshua tree conservation is not mentioned in any of the BI-29

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descriptions of wildlife and their habitats, and these descriptions mostly do not acknowledge the most sensitive bird species that specialize on the habitats mentioned in the text, but instead globally refer to them as “birds” or “migratory birds”, which does not begin to address the diverse conservation issues involved in managing each of the most sensitive species that depend on these habitats. BI-29 BI-30

9.) Adequacy of Wildlife Surveys Conducted for Impact Assessment

The wildlife surveys on which this DLEIS relies were largely historical survey routes that were NOT established for the purpose of a comprehensive inventory of the lands involved in all 4 alternatives described in this document. Rather, they were part of a regional effort to randomly sample wildlife populations, and they are therefore insufficient for a presence/absence type analysis of where on the NTTR lands and proposed withdrawal lands they do and don’t occur. The survey effort that was solely dedicated for the preparation of the LEIS was limited to a few months in 2017 and was thus severely limited in geographic and temporal scope compared to the scientific standards of comprehensive species inventories. Therefore, in the absence of adequate data, the overall claims of the DLEIS that significant impacts to sensitive wildlife resources can be avoided or mitigated are premature. If a commitment to comprehensive wildlife inventories and subsequent mitigation were made under the Proposed Actions, this issue could be resolved, but the document makes no reference to such commitments other than plans for revising the current RMP, the terms of which are unclear based on the DLEIS, as is the extent to which the Air Force is committed to compliance with this new RMP. The lack of sufficient wildlife data is, and has been, further aggravated by the fact that access to NTTR for non-DoD biologists is extremely difficult. See also comment #3 regarding the question on the commitment by the Air Force to ensure the future of long-term studies on NTTR lands. BI-28 GE-3 LU-2

10.) Current Management Practices (section 3.8.1.7., p. 3-163)

In this section, the DLEIS refers to planning military exercises based on current knowledge of biological resources, which are inadequate (see comment #9). No reference is made to clearance surveys or adequate biological inventories that would occur ahead of planning military uses to identify locations of sensitive biological resources that need to be avoided. This is critical because as the DLEIS admits, localities of sensitive resources are not currently mapped sufficiently. While statements such as (p. 3-164, ln 12-17) “The natural resources management practices described above are ongoing as part of the NTTR natural resources management program and will continue to be periodically reviewed and revised, as well as implemented, to ensure management of the NTTR meets the goals and objectives of the military mission, which includes maintaining ecosystem integrity through good stewardship and protecting existing biodiversity during any military planning or activities” sound like the right intent is there, the entire document lacks specifics as to how committed the Air Force is to protecting biological resources, particularly when it conflicts with, or inconveniences, the planning of military uses. BI-4

11.) Impacts Analysis (section 3.8.2.)

Most of the actual description of impacts from military uses of NTTR lands are under the section for Alternative 1 (p. 3-165 ff), so much of this comment refers to text in this section, but applies to all alternatives described throughout section 3.8.2. Under vegetation impacts, “type conversion” is described solely as an issue of invasive weeds and weeds control. It needs to be acknowledged that type conversion also happens in the absence of weeds, for instance in munition deployment that destroys vegetation cover, rock outcroppings, or soil structure. The effects of type conversion on wildlife are BI-31

complex and not only limited to loss in habitat acreage, but also in effects like habitat fragmentation, edge effects, and loss of prey populations. These impacts are not mentioned. Similarly, in the wildlife section, the impacts discussed are limited to direct impacts that cause mortality or distressed behavior as an immediate response, but longer-term impacts such as permanently displaced breeding territories and loss of remote, undisturbed retreat areas and loss of foraging opportunities, to which long-term declines in population are largely attributable are not discussed, nor are potential mitigation measure for them. BI-31 BI-32

Similarly, the discussion of impacts in alternatives 3 is almost entirely restricted to fencing in the new withdrawal lands and other construction projects. There are no mentions of population estimates, acres of suitable nest areas, number of additional birds/mammals expected to be permanently displaced (including from dispersed uses such as off-road vehicles, munitions, field camps, etc.) for sensitive wildlife in the proposed withdrawal areas. Given that these losses *will* happen under a 30% increase in military operations on these new lands that have not been subject military uses previously, these or similar metrics need to be provided to evaluate the ecological costs of the Proposed Action(s). BI-33

Similarly, later on in the "Summary of Impacts" chapter (3.15.1., p. 3-314), all proposed alternatives have generic text like "[…] impacts would likely be site-specific, represent a small portion of the overall action area, and be reduced through proper planning, monitoring and maintenance" (p. 3-320, ln 15-17), which provides no indication that an effort will be made to actually identify sites that are sensitive and have to be avoided, nor whether or not proper planning, monitoring, and maintenance are actually a firm commitment that will be carried out properly even when new findings require that military access to specific locations has to be prevented. BI-4 GE-3

12.) Cumulative Impacts to Biological Resources (section 4.1.4.8.)

In this section, impacts to biological resources are repeatedly described as "minimal" or "has little impact", which given the absence of adequate data on these resources, particularly on wildlife, is pure speculation. Particularly the final statement (p. 4-23-24, ln 38 ff, below) implies that the Air Force views the proposed military uses of lands that are currently under the full protection of either a National Wildlife Refuge or a Proposed Wilderness Area, to be actually beneficial to wildlife. There is absolutely no evidence in this document or to be found elsewhere that this view is realistic. Currently the proposed withdrawal lands are managed with the top priority of protecting these lands for wildlife and wilderness values, and a change toward military land uses that are intensive and frequent enough so as to prevent coordination with resource management agencies (see comment #2) cannot seriously be described as beneficial for wildlife without providing a shred of evidence, nor biological data that characterize existing wildlife resources adequately for these lands. The text this comment specifically refers to is "Extension of the existing NTTR withdrawal, as well as the addition of any of the proposed expansion areas, may have beneficial cumulative impacts insofar as it would maintain or increase protection of regional vegetation, wildlife, aquatic habitats and wetlands, and special status species and their habitats from the impacts associated with urbanization and nonmilitary land uses, such as development, recreation, grazing, and mining. The proposed withdrawal effort would also serve to continue, and under expansion increase, natural resource management on Air Force lands, which also results in increased opportunities for resource protection." (p. 4-23-24, ln 38 ff)

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March 8, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

RE: Draft Legislative Environmental Impact Statement (LEIS) for the USAF Nevada Test and Training Range (NTTR) Land Withdrawal

Dear Planning Team:

Please accept this letter from the BlueRibbon Coalition/Sharetrails.org (BRC), a national trail-based recreation group, Southern Nevada Off-Road Enthusiasts (SNORE), and the Motorcycle Racing Association of Nevada (MRAN) as our official comments for the Draft Legislative Environmental Impact Statement (LEIS) for the USAF Nevada Test and Training Range (NTTR) Land Withdrawal.

This document shall not supplant the rights of BRC and SNORE members or agents from submitting their own comments and the agency should consider and appropriately respond to all comments received.

We have reviewed the Air Force's proposed action alternatives and appreciate that you developed Alternative 3A-1 that mostly captures the spirit and intent of our request to not unnecessarily restrict continued access to historic and important OHV recreation including, but not limited to, casual use, permitted competition events, and club activities.

As you know, both casual OHV use and permitted events occur on public lands in the project area. Counties generally support and encourage these uses as they provide economic benefits to the surrounding communities. Demand for OHV access is high and continues to increase along with the popularity of related recreational use of BLM-administered lands.

Alternative 3A-1 would partially mitigate the Air Force's original proposed expansion that could have resulted in loss of motorized access to 301,507 acres near Indian Springs. This area already suffers more than 2.9 million acres closed in Clark, Lincoln and Nye counties. Lincoln County is 98.0% federally managed now and this would close more areas allowing virtually no access at all. Hotels and residences of Hike and Alamo could be impacted.

We believe issues that should continue to be analyzed in the Draft LEIS must include lost local and state revenues from the expansion due to loss of taxes and tourist dollars. The potential economic SO-1 SO-3

ramifications for this part of Nevada are significant. Future use of these public lands for economic purposes by counties, state and small communities would be lost.

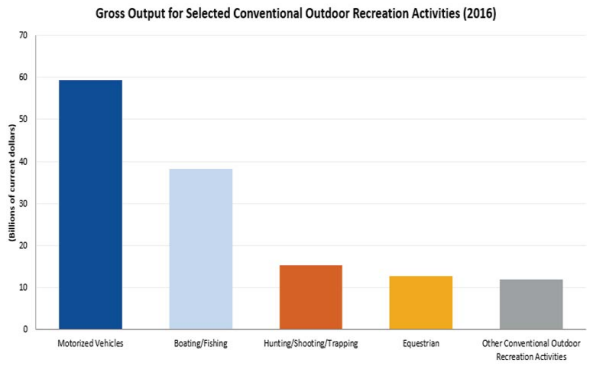
A report from the Motorcycle Industry Council (MIC) shows that OHV recreation has a $404 million dollar economic impact to the State of Nevada. The OHV industry supports 91 powersports dealers and employs 700 people with a $24.9 million dollar payroll. MIC estimates roughly 221,400 vehicles in use.

The MIC report is further supported by new prototype statistics from the Outdoor Recreation Satellite Account (ORSA) released on February 18, 2018 by the U.S. Department of Commerce's Bureau of Economic Analysis (BEA) show that the outdoor recreation economy accounted for 2.0 percent ($373.7 billion) of current-dollar GDP in 2016 (table 1). In addition, the outdoor recreation economy grew 3.8 percent in 2016, compared to growth of 2.8 percent in the overall economy.

The BEA stated that the historical lack of detailed federal data regarding outdoor recreational activities has handicapped both the private and public sectors. They also said the release is a milestone for business executives, small-business owners, entrepreneurs, and government officials, who will rely on these detailed data to plan, grow, and gain new insights into this dynamic part of the U.S. economy.

LINK TO BEA REPORT
https://www.bea.gov/newsreleases/industry/orsa/orsanewsrelease.htm

The BEA data (see chart below) showed that Motorized Vehicles was the largest activity within conventional outdoor recreation in 2016, accounting for $59.4 billion of gross output. Recreational vehicles accounted for more than half of this value at $30.0 billion.



We appreciate that Alternative 3A-1 allows for both casual motorized use and the Vegas to Reno Off-Highway Race to continue.

We also believe that as the economy recovers, disposable incomes go up and populations increase in rural areas, the demand for recreational opportunities is expected to sharply rise again. The influx of off-road recreational users from California will continue to escalate due to strict enforcement of vehicle registration and environmental regulations. This will continue to push OHV use into developed and

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dispersed areas within the planning area, resulting in an increased need for additional management as well as resulting in negative impacts on other resources in areas with intensive or unregulated use.

We believe the Air Force, BLM, and eventually Congress should continue to seek solutions that incorporate access tenets submitted by BRC and other recreation stakeholders. Here is a checklist of key concepts for consideration. Obviously the agencies would need to exercise discretion to refine these core concepts, while adding additional decision elements.

KEY CONCEPTS

- Mitigate recreation losses with commensurate new federal land designations outside of the project areas for OHV use. Lands may include: hard release of WSA's and/or ACEC's, special status designations such as NCA's and/or NRA's, recreation-focused prescriptions on general public lands, acquisition of nonfederal lands, or similar mechanisms.

- Existing OHV recreation in the project area should be replaced with a similar type and amount of OHV recreation on lands outside of the expansion areas.

- New and existing OHV recreation areas should be protected in statute by Congress as a "prescribed use."

- Existing OHV recreation in the project area should remain until replacement lands are designated and available for OHV use.

PA-72

CONCLUSION

We strongly support 3A-1 which should include keeping the Alamo Road open and we request that the Department select it as the preferred alternative.

Sincerely,

Don

Don Amador
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March 8, 2018

99th Air Base Wing Public Affairs
4430 Grissom Ave., Suite 107
Nellis AFB, NV 89191

To Whom It May Concern:

SUBJECT: DRAFT LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT FOR THE NEVADA TEST AND TRAINING RANGE LAND WITHDRAWAL

Southern Nevada Water Authority appreciates the opportunity to provide input for the Draft Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Land Withdrawal. At this time, we do not have any specific comments to contribute. However, we would like to be added to the mailing list for this project. All notification correspondence can be directed to Kimberly Reinhart, Senior Environmental Planner, Southern Nevada Water Authority, P.O. Box 99956, Las Vegas, Nevada 89193-9956.

If you have any questions, please don't hesitate to contact me directly at (702) 862-3457 or kimberly.reinhart@snwa.com.

Sincerely,

Kimberly Reinhart

Kimberly Reinhart
Senior Environmental Planner

KR:AR:dg

SNWA MEMBER AGENCIES
Big Bend Water District • Boulder City • Clark County Water Reclamation District • City of Henderson • City of Las Vegas • City of North Las Vegas • Las Vegas Valley Water District

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Basin and Range Watch

Basin and Range Watch

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March 8, 2018

Michael Ackerman
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99th Air Base Wing Public Affairs
4430 Grissom Ave. Ste. 107
Nellis AFB NV 89191

RE: Comments on NTTR Land Withdrawal Draft LEIS

Dear Mr. Ackerman,

We would like to submit the following comments for the Nellis Test and Training Range (NTTR) Land Withdrawal Draft Legislative Environmental Impact Statement (LEIS)

Basin and Range Watch is a 501(c)(3) non-profit working to conserve the deserts of Nevada and California and to educate the public about the diversity of life, culture, and history of the ecosystems and wild lands of the desert. Federal and many state agencies are seeking to open up millions of acres of unspoiled habitat and public land in our region to development. Our goal is to identify the problems of energy sprawl, urbanization, and military range impacts and find solutions that will preserve our natural ecosystems, open

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spaces, and quality of life for local communities. We support planning for wise land use following the principles of conservation biology.

Western Watersheds Project works to protect and conserve the public lands, wilderness, wildlife, and natural and cultural resources of the American West through education, scientific study, public policy initiatives, and litigation. Western Watersheds Project and its staff and members use and enjoy public lands and their wildlife, cultural, and natural resources for health, recreational, scientific, spiritual, educational, aesthetic, and other purposes. Western Watersheds Project has over 1,500 members nationwide including many in Nevada.

Due to the complexity of this project, we request an extension on the comment period. NP-9

Purpose and Need

The Air Force says more space is needed to replicate threat configurations, but the North Range has ample space and no limitations from wilderness management. If scheduling is made efficient, then we believe the North Range can be used for increased maneuvers, training, and threat configurations. It was mountain ranges to place Threat Emitters, as well as playas for landing strips, and areas for construction of targets. PA-5

We understand that the nearness of Unmanned Aerial Systems (UASs), or drones, based at Creech Air Force Base to the South Range is an advantage to combine with enhanced irregular warfare training. But we question the need to take more land for this kind of military training. The LEIS concedes that access to available airspace will not be restricted should the no action alternative be selected. Can UAS training in combination with irregular warfare, overland navigation, and development of insertion and extraction points be increased in the North Range? Or in the existing South Range with increased Ready Access and lessened land management restrictions? Will armed UASs be flying over the Sheep Range in Alternative 3? PA-5 PA-60

As for operational security and safety, we believe that this can be achieved without withdrawing any public land and fencing it, but rather more efficiently using existing Range lands, and increasing signage and public education. People will climb over fences. Cooperative educational signs, maps, and interpretive displays in the Corn Creek Visitor Center managed by the US Fish and Wildlife Service, and more signs explaining the boundary on BLM lands, could increase visitor and hunter awareness of land management boundaries. PA-39

The Purpose and Need of this LEIS is to review the status of the base. The Military Land Withdrawal Act of 1999 withdrew about 2.9 million acres of public land for military use at the Air Force Range in southern Nevada--a huge area of desert basins and mountains--and now that the current withdrawal is set to expire on November 6, 2021. While the Air Force wants to expand and enhance operations, the Purpose of this document is to review the actual need for this and what impacts it may have. The Purpose and Need Statement should be modified to be less biased towards expansion and to simply review the different alternatives.

Alternatives

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Our comments on each Alternative are below.

Alternative 1

Basin and Range Watch strongly supports the status quo, with no changes to the current NTTR boundary. More efficient use of time and resources could alleviate some congestion. Perhaps the Memorandum of Understanding that was renewed in 1997, under the Military Land Withdrawal Act, between the US Air Force and US Fish and Wildlife Service could be revised to allow increased use of air space. AS-1

A new alternative could be analyzed that would consider new small land withdrawals in tactically valuable sites within the current South Range NTTR boundaries, to increase targets, insertion and extraction points, but without removing *de facto* wilderness management over most of the p[resent South Range, and without land withdrawals outside the present NTTR boundary. PA-69

Alternative 2

We do not prefer this Alternative, which would remove wilderness-type land management and increase Ready Access over the existing South Range, but it a better compromise than Alternative 3. Yet the South Range desert natural communities are in very good condition due to this *de facto* wilderness management, with an abundant and apparently healthy desert tortoise (*Gopherus agassizii*) population. The lack of ground disturbance, off-road vehicle traffic, and development, have created a pristine Mojave Desert scrub with Joshua trees (*Yucca brevifolia*), natural desert pavement, and sand washes filled with big galleta grass (*Hilaria rigida*) that are high quality habitat for tortoises over much of the basins in the South Range. Lifting the land management restrictions would begin to degrade these habitats with ground maneuvers and further development of targets and other features. A 30% increase in test and training activities could potentially lead to a decrease in desert tortoise populations and health, as burrows are collapsed, tortoises crushed by vehicles, and perhaps an increase in toxic and chemical residues. Will Biological Monitors be tracking all ground maneuvers to remove tortoises from harm's way? Will new features be surrounded with tortoise exclusion fences to protect tortoises? Will tortoises be relocated from new targets? How will the public know about any tortoise mortality? BI-2

We are also concerned about the loss of USFWS primary jurisdiction over most of the South Range outside of the targets. Perhaps another Alternative could be analyzed where Ready Access is allowed and increased but USFWS also has equal jurisdiction of land management so they could continue to monitor and manage desert bighorn sheep populations. BI-4

Alternative 3.3

We oppose Alternative 3 because of the very large impacts to the economies of local towns and recreational industries, to biological and cultural resources, and to public access that huge land withdrawals would have. It should be emphasized that Alternative 3 includes Alternative 2 Reay Access and increased SO-1 SO-3 BI-1 CU-2 LU-1 PA-3

training operations, as well as elimination of wilderness management of the current South Range. We believe this has large impacts that need better analysis. PA-3

Alternative 3.A – Range 77 – EC South Withdrawal

This sub-Alternative would remove 18,000 acres of BLM land near Beatty and enclose it into the NTTR. We do not support this withdrawal because these public lands are actively used by residents and visitors, including for hiking, mountain-biking, Jeep tours, horseback-riding, bird-watching, and wildlife viewing. A professionally-designed and built mountain bike trail system takes off from a private ranch and into these BLM lands, and more are planned. They are popular with visitors who come from all over the country to recreate on them. Some Mountain bike events have also been scheduled, bringing in many visitors to Beatty and helping to boost the economy.

Four-wheel drive guided tours explore the dirt roads in this area, bringing in additional visitor use to the region. Taking public land away would only hurt the Beatty economy, there would be no benefit. SO-4

Fencing this land would hinder wildlife movement and connectivity. We have seen pronghorn antelope (*Antilocapra americana*) in the Windmill Road area within the proposed land withdrawal. Bighorn sheep use the area transiently to move between mountain ranges. Any sort of boundary fence could hinder animals and possibly result in mortality. BI-5

If debris from a drone test were to strike a transmission line, this would create a wildfire risk. Even without a transmission project, a misfire could still create a wildfire risk. We have been told by former base pilots that targets can be missed up to five miles away. HS-1

Explosions could contaminate the headwaters of the Amargosa River. Contaminants from explosives could impact the people and wildlife that depend on this watershed. This is the headwaters of the Amargosa River and the region has already been impacted by past nuclear tests.

Hellfire Drone tests would occur on the Pahute Mesa which is a former nuclear test site. It is possible that drone explosions would stir up contaminated dust which could be a health hazard for the Beatty region. WA-2

A large population of Amargosa toads was recently found at the Coffer Ranch by the Nevada Division of Wildlife. The expansion would be right next to Coffer Ranch and a fence would impact the toad's habitat. Toads also need a dry-land buffer around the wetlands as they do move on dry land. BI-6

Desert tortoises are becoming more common in the Beatty/Oasis Valley region. A fence would also disturb desert tortoise habitat. BI-2

A fence will create perches for subsidized predators like ravens. Ravens could potentially prey on Amargosa toads and desert tortoises.

Alternative 3A-1 – Amended Range 77 – EC Withdrawal

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This variation would reduce the acres removed near Beatty to 15,000 acres of BLM land, to avoid certain public routes, and the 368 Energy Corridor. Impacts would be similar to the above, creating an obstacle to wildlife connectivity, and removing public access to lands used by residents and visitors, with future mountain bike/hiking trails planned. Therefore, we oppose this Alternative, although it is better than 3A.

Alternative 3B – 64C/D and 65D Withdrawal and Administrative Incorporation

Similar problems would result from fencing off this proposed land withdrawal, creating a new obstacle to wildlife. BI-5

Alternative 3C – Alamo Withdrawal

We strongly oppose this withdrawal because of the popularity of the area to visitors. Alamo Road is used by four-wheel drive groups and individuals exploring the remote desert, as well as providing access to hikers, campers, and backpackers. This is currently part of the Desert National Wildlife Refuge (DNWR) that is open to the public for recreational activities, but also a very important habitat for desert bighorn sheep. Full management of the sheep herds here by US Fish and Wildlife Service is important to keep the herd thriving. LU-2 BI-4

A fence built over the Sheep Range would be a potential barrier to bighorn sheep movements. How will this fence be built over steep slopes and rugged limestone ridges? What type of fence will be used to allow maximum wildlife movement through it? Will smooth wire truly allow bighorn sheep to pass under the lowest wire if it is raised? How will the fence be built to stop animals from becoming entangled in it? We have seen feral donkeys killed when trying to pass through a wire fence and a hindleg gets entangled in two strands, trapping them. BI-5

Alternative 4 – Establish the Withdrawal Period

We only support the 20-year withdrawal period, Alternative 4A. Conditions change so much over the decades, species' status changes, and resources vary through time in quality that the shortest period between periodic review period is the best course of action. We do not support Alternative 4C, an indefinite withdrawal period, because the public should always have the opportunity to comment and review land management actions and decisions.

No Action Alternative

Basin and Range Watch does not support the No Action Alternative in this case because we recognize the need and value of the NTTR to national security. The decommissioning and clean-up of targets and other features used for military training would be expensive and drawn-out, and would probably have impacts to public use of any opened lands.

Western Watersheds Project supports the no action alternative or reversion to the original wildlife refuge boundaries adopted in 1936. The Air Force concedes that, with any action alternative, public access to valuable biological resources would be irreversibly and irretrievably lost, and that habitat for sensitive

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species would be fragmented and degraded. The protection of natural systems, sensitive species, and recreational opportunities cannot be ensured under any action alternative, therefore, Western Watersheds Project asserts that none of the action alternatives are appropriate or acceptable. The current NTTR land withdrawal should be allowed to expire in 2021. Refuge lands released should be classified as Wilderness or Potential Wilderness. WI-2

Issue a Supplements LEIS to Consider Additional Alternatives. Other Alternatives to Consider:

A supplemental Draft Legislative Environmental Impact Statement should be prepared so that a full range of reasonable alternatives can be considered:

- An alternative that would reopen some of the existing base to the public could be considered. While a No Action Alternative would be too difficult to accomplish, some of the proposed wilderness in the existing base should be considered for reopening to the public. PA-32
- An alternative that uses the existing base for increased activities should be considered. The base is the size of the state of Delaware (2.9 million acres). We believe that the North Range would be a good alternative to consider for future testing instead of closing off more access to the public. PA-5
- An alternative that evaluates Embedded Training and Live Virtual Construction Capabilities, and Embedded Virtual Simulation should be considered. Virtual simulations would eliminate the need to close off so much of the Desert Refuge. PA-6
- An alternative that would utilize other Air Force or military bases in general should be considered. Other bases such as White Sands, Edwards, and Hollowman in New Mexico utilize a lot of space and often will cross-train on the bases. This would eliminate a need to take more public land for the NTTR Range and take away much of the controversy. PA-5

Noise

Increased sonic booms will impact the town of Beatty, tourism, and visitor use.

Recreational and Economic Values

The Alamo Road is a popular backcountry Jeep/4x4 tour route and gives visitors to this desert a feel of the past, historic overland routes, remote areas, and gives groups from the Las Vegas area an excellent opportunity for a long tour of the desert. Please analyze the economic loss from eliminating some four-wheel drive tour routes from the DNWR area. SO-3

Hiking in the Sheep Range is done by various groups and individuals to climb peaks. Birdwatching, wildlife-viewing, primitive camping and exploring are popular activities across the open parts of DNWR.

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Please analyze the economic loss from eliminating some hiking and birdwatching recreational use from the DNWR. SO-3

In the Beatty region, Alternative 3A land withdrawal from public land managed by Bureau of Land Management (BLM) would harm the economy of the local region. Beatty has suffered an economic downturn after the closure of large-scale gold mining in the 1990s, and is just beginning to turn to tourism to revive its economy. Residents, cooperating agencies, and various volunteer groups and non-profit organizations have poured time and money into improving trails, services, signs, and recreational opportunities to increase visitor stays in Beatty. TRAILS-OV has successfully built mountain bike-hiking-trail running trails in private and BLM land adjacent to the present NTTR boundary, through scenic desert hills and canyons. Mountain bike travelers stop at all times of year to use the trails, camp, stay in hotels, and use services in the area. This is a huge boost to the local economy. More trails are in the planning process, many of which would be blocked by the land withdrawal. Please analyze the economic loss from eliminating some mountain bike trails from the Beatty area. SO-3

A local Poker Run Jeep tour is organized in October, in its 5th year. This guided tour stops at geologic and historic places of interest surrounding Beatty on BLM land, including the land that is proposed for withdrawal. This activity brought in 225 people in 85 vehicles in 2017, doing “soft tourism” on back dirt roads in the region. Most people stayed in local hotels, and over 50 volunteers came in from surrounding areas and cities to help with radio control, organization, trail marking, map-making and the dinner. High school students and the local Boy Scout Troop were involved in helping out. For this recreational activity to continue, the maximum acreage of public land is needed to vary the route each year and keep people returning to Beatty. Please analyze the economic loss from eliminating some four-wheel drive tour routes from the Beatty area. SO-3

In addition, individual recreational users (both residents and visitors) explore the back roads and trails hiking, riding horses, and touring with 4x4 vehicles at all times of year.

Bird-watching, wildlife viewing, photography, history exploration, and wildflower identification also occurs in the BLM lands areas surrounding Beatty, including Windmill Road, the Transvaal historic townsite, and the Amargosa River floodplain.

At times, as many as three internationally-known Off-highway Races occur through the Beatty area and could be hindered. These races are put on by Best In The Desert and Southern Nevada Off-Road Enthusiasts (SNORE).

The proposal by the Air Force to submit access requests to the NTTR Range Operations Branch 90 days prior to an event, while also undergoing Range training for safety, is too cumbersome and too controlled to allow for local events to be planned easily.

Wilderness and Wilderness Study Areas

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Managing much of the DNWR as a Wilderness Area would be managed helps conserve wildlife, sensitive species, and intact roadless landscapes. This is probably one reason that desert tortoises are doing so well in the South Range—an increase in ground-disturbing activities and vehicle use of desert surfaces will likely cause an increase in mortality. Lifting this type of management and increasing training will have significant impacts on biological and cultural resources. BI-35 BI-2

Biological Resources

How will irregular warfare training impact desert tortoises, bighorn sheep, and other sensitive species in the Alamo Withdrawal? Smoke grenades, hand flares, All-terrain vehicles driving and dune buggies, as well as new C-130 landing strips could pose new disturbances to wildlife. Will there be biological monitors in areas of desert tortoise habitat to remove desert tortoises from harm's way? Driving across deserts could crush desert tortoise nests and burrows, as well as crush tortoises above ground. How will this be reported to the public? BI-1 BI-2 BI-3

Bighorn sheep stand at approximately 5% of estimated historic populations, are dispersed across less than ⅛ of the species' historic habitat, and exist primarily in small, isolated, and disease limited populations. Fatal pneumonia outbreaks have limited bighorn sheep recovery, despite thousands of hours and millions of dollars expended to monitor herd health, relocate wild sheep to establish new herds, retire public lands grazing allotments, and manage disease risks through habitat manipulation and culling. Bighorn sheep are classified as a special status species throughout Nevada, including as a Nevada BLM Sensitive Species, a Nevada SWAP Species of Greatest Conservation Need, and a Forest Service Region 4 Sensitive Species.

The Desert National Wildlife Refuge was created in 1936 to protect bighorn sheep, following catastrophic declines of the species Westwide. Since this time, numerous Air Force expansions have reduced the area of available secure habitat for bighorn sheep, and activities which disturb and displace bighorn sheep have become more frequent, more intrusive, and more disruptive to native wildlife. Air Force activities have eliminated vast tracts of land from use as wildlife habitat, and have diminished the actual and potential recreational experience of the public who value wildlife and natural landscapes. Here the Air Force seeks to prolong and extend military occupation of refuge lands designated for the protection of bighorn sheep.

Desert bighorn sheep (*Ovis canadensis nelsoni*) populations in mountain ranges need connectivity habitat to maintain genetic diversity and dispersal potential. Rams will often cross large areas and basins to find new populations. Constructing a giant fence across the Sheep Range at a new proposed boundary of the Alamo Withdrawal could impact movement corridors of bighorn sheep. Will fences be wildlife friendly? Smooth wire fences with high-placed bottom wires to allow bighorn sheep to crawl under can sometimes be effective. But we have seen on a few occasions bighorn sheep rams pacing or running along a barbwire fence in southern Nevada trying to cross between mountain ranges, and being hindered from movement by a wire fence. These fencelines can potentially limit genetic connectivity, and would be a drastic impact to bighorn sheep ecology over time. BI-5

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Bighorn sheep and pronghorn antelope also use the Beatty area BLM lands, and a boundary fence constructed to enclose Alternative 3A would potentially block movement corridors and connectivity of those populations as well.

Construction of fences and the transport of fencing materials disrupts vast tracts of the landscape, disturbing sensitive soils and damaging or destroying slow growing plants. Fence construction damages biotic soil crusts essential to the retention of soil moisture and to preventing the establishment of invasive species, and may contribute to the spread and establishment of invasive species. Fences built on slopes, as are found throughout the proposed construction area, inhibit wildlife movement even when built to BLM specifications, increasing energy expenditures during migration and foraging, limiting access to scare water sources, and increasing the risk of injury or death to wildlife.

Barbed wire fencing is not necessary, and not appropriate for use in sensitive wildlife habitat. Barbs may wound and maim wildlife, and can lead to serious injury or mortality in a number of species when animals are evading predators or attempting to escape perceived threats, including those associated with military operations. True wildlife friendly wire fencing includes unbarbed top wires made visible with plastic markers, paint, a pvc cover, or other bright material. Such markers are made more necessary in landscapes with high disturbance, including here, as animals spooked by aircraft or Air Force activities are likely to collide with and be injured by unmarked fences.

Fencing as is proposed for use in all action alternatives serves no purpose. People attempting to enter the range will not be deterred by such fencing, as it provides for ready passage of people and objects both over and under the fence. Those wanting to enter fenced areas with vehicles can cut the wire with little effort or risk of detection. Wood buck and rail fencing with a single horizontal cross post, or even a series of well-placed signs, would be as effective as this fence at preventing human passage and marking range boundaries. Proposed fencing is therefore ineffective, unnecessary, and unjustifiably harmful to wildlife. No new fencing should be constructed in the vicinity of the Desert National Wildlife Refuge. Existing fencing should be removed and land on which it is built rehabilitated.

It is absolutely crucial that USFWS personnel and friends groups (such as wild sheep foundations) have easy access to the South Range and proposed Alamo Withdrawal area within the DNWR to manage desert bighorn sheep and maintain water developments. Bighorn sheep are arid-adapted ungulates but they need to drink water regularly and springs and water developments across their range need to be checked and maintained or mortality will happen. Access should be abundantly allowed and easily scheduled for bighorn sheep wildlife management activities. This is one of the most important areas for desert bighorn sheep in the world, and careful and cooperative management should be increased.

BI-5
PA-39

All but the No Action alternative would limit wildlife managers and researchers access to bighorn sheep herds on the Desert National Wildlife Refuge for disease sampling and population studies. Bighorn sheep are an imperiled species highly vulnerable to a number of diseases, and limiting access for herd health monitoring efforts is likely to significantly reduce response time in the event of a die-off or disease event.

LU-2
LU-9

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Limiting access to and conducting military exercises within the withdrawn area eliminates the scientific value of the Desert National Wildlife Refuge and the bighorn sheep herds thereon. Research potential of the range is invaluable, given that no other landscape area exists that provides equally expansive, intact, and protected public lands habitat, critical for studying the species.

All but the No Action alternative would limit access by wildlife managers and those interested in bighorn sheep conservation to guzzlers essential to sustaining bighorn sheep and other wildlife in withdrawn areas of the refuge. Bighorn sheep rely on vegetation and limited surface water in arid environments, including those that would be affected by extended military encroachment on refuge lands. Contamination of natural and artificial water sources, damage to guzzlers, and displacement of bighorn sheep from areas with access to limited water are likely to result if an action alternative is selected. Damage to artificial water sources may occur which is not addressed in a timely manner, as is damage to slow-growing vegetation which serves as a vital source of water in the desert.

LU-2
LU-9

Bighorn sheep are sensitive to environmental disturbance, and are subject to epizootic outbreaks of fatal pneumonia linked to pathogens originating in livestock. Many bighorn sheep herds, including those on the Desert National Wildlife Refuge, carry such pathogens as a result of historic contact with domestic sheep or goats. While the precise epidemiology of bighorn sheep pneumonia is poorly understood, there is evidence that environmental stress contributes to the occurrence and severity of pneumonia outbreaks in bighorn sheep. Disturbances from military operations, construction, simulated threat devices, and transportation, coupled with degraded water sources and vegetative communities, may contribute to morbidity and mortality events during bighorn pneumonia epizootics.

Fatal pneumonia outbreaks have occurred on the Desert National Wildlife Refuge in recent years, and are expected to continue to limit herds here and across Nevada for decades to come. Contributing to this population limiting condition is unjustifiable.

The LEIS and associated reports do not effectively analyze the impacts of any action alternative on bighorn sheep behavioral patterns, habitat use, or susceptibility to stress and disturbance. It does not analyze the impacts of fences, threat emitters, toxic substances, noise, or activity which would occur within withdrawal lands or proposed additions to Air Force controlled areas on bighorn sheep, nor does it account for the irretrievable loss of of scientific value of the bighorn sheep on the intact refuge landscape. The NTTR collected no baseline data on bighorn habitat use or behavior patterns prior to withdrawal of vast tracts of land from the refuge, and only just began monitoring bighorn sheep habitat and location information. The NTTR therefore fails to adequately analyze the effects of the proposed action on bighorn sheep.

BI-3

Alternative 3A would significantly impact rare and endemic species of the Amargosa River, but blocking access by biologists and land managers to certain Amargosa toad (*Anaxyrus nelsoni*) habitats in the river floodplain, as well as pond habitat for Oasis Valley speckled dace (*Rhinichthys osculus* ssp. 6) and Oasis

LU-2
BI-6
BI-11
BI-12

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Valley springsnails (*Pyrgulopsis micrococcus*). Coulson Ponds are home to all three sensitive species and would be within the 3A boundary, not miles away. LU-2 BI-6 BI-11 BI-12

Cultural Resources

The Beatty area contains numerous historic mines, town sites, wagon routes from 1900, and ranches. The area also holds numerous archaeological sites, lithic scatters, village sites, hunting blinds, sleeping circles, geoglyphs, and petroglyphs. Current Tribal members also use the area in a traditional manner.

The DNWR is rich in history and archaeology, including wagon trails from the 1800s, mining history, Native American rock shelters, hunting blinds, ancient artifacts, and agave roasting pits.

How will these archaeological and cultural resources be protected during ground maneuvers in the proposed Alamo Withdrawal? Tribal members need access to these places and resources and should not be excluded from lands of traditional use. CU-2 CU-1

The Las Vegas Paiute Tribe needs government to government consultation is much more detail to analyze significant impacts to their ancestral homelands. This is another reason the comment period should be extended. Moapa Paiute people also have deep ancestral rights to this area and their needs should be respected. CU-5

Water Resources

For the Beatty area Alternative 3A Withdrawal, how will new live-fire bombing of land surface targets in the Pahute Mesa affect groundwater in the headwaters of the Amargosa River? WA-2

For Alternative 2 and 3, would increases depleted Uranium munitions be used in the South Range? We understand that NTTR contractors do a good job of cleaning up debris, including bits of metal on the ground from live fire training, but how would any increase in use of these munitions impact groundwater if washed into watersheds during extreme storm events? WA-7

Hazardous Materials and Solid Wastes

For Alternative 3C, the Alamo Withdrawal, how will chemicals from flares, paint guns, and smoke grenades impact desert tortoises and other species that are herbivorous on desert plant communities? HZ-4

For the Beatty area Alternative 3A Withdrawal, drone live–fire testing of newly re-opened targets on Pahute Mesa could add waste materials to the headwaters of the Amargosa River—an area that influences several downstream communities, such as Beatty, Amargosa valley, Death Valley Junction, the town of Shoshone, Tecopa, and Death Valley National Park. WA-2

Public Opinion Overwhelmingly Opposes the Expansion

About 250 people showed up to the public meeting in Las Vegas, Nevada on January 23rd, 2018. Of the 50 people who made comments, not one came out on support of the expansion. Equally, nobody supported

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the expansion at the public meeting in Beatty on the 24th. The National Environmental Policy Act requires Federal Agencies to consider and evaluate public comments. In this case, the response from the public is not in support of NTTR expansion over public lands.

Conclusion

Basin and Range Watch recommends that Alternative 1 be chosen: maintaining the status quo, with a 20-year withdrawal period, that keeps access to public land and transparency of review, while maximizing conservation of wildlife and sensitive species.

Western Watersheds Project recommends that the no action alternative be selected, and that all refuge lands be managed as potential wilderness.

Sincerely,

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Non-Profit Tax Exempt
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March 8, 2018

Nellis Air Force Base
99th Air Base Public Affairs
4430 Grissom Avenue, Suite 107
Nellis AFB, NV 89191

RE: NTTR Military Land Withdrawal and LEIS Comments

Dear U.S. Air Force:

Nevada Bighorns Unlimited - Reno (NBU) is a sportsmen's group concerned with the conservation of bighorn sheep as well as other issues impacting various wildlife species throughout Nevada. Our membership represents the largest single chapter of sportsmen and women in the state of Nevada with over 3,400 members. We ask that you strongly consider these comments concerning the Nevada Test and Training Range (NTTR) Military Land Withdrawal Legislative Environmental Impact Statement (LEIS).

Upon review of the proposed withdrawal of public land, major concerns with potential adverse impacts to wildlife were raised. The Desert National Wildlife Refuge (DNWR) represents a significant portion of Nevada's total bighorn sheep population and is an important area to numerous other wildlife species. Specifically, we have concerns regarding the impacted ability to manage wildlife and their habitat, impacted access to and maintenance of water developments, and loss of access to important recreational areas.

BI-4
LU-1
LU-9

For the aforementioned and the following reasons, NBU opposes Alternatives 1-4 and supports the No Action Alternative.

Alternative 1:
NBU is opposed to Alternative 1. NBU opposes the expansion of the NTTR, as well as, a change in jurisdiction within the NTTR South Range to areas below the 4,000 foot elevation which includes the five target impact areas. Upon review of the LEIS, NBU has found that it does not adequately address the management or impacts of Alternative 1 on wildlife or wildlife habitat, including bighorn sheep and other wildlife. Specifically, the LEIS fails to adequately address access to manage wildlife or the management. and maintenance of seventeen water developments essential to the success of the wildlife therein.

BI-1
BI-3
BI-4
LU-9

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NBU recommends that the boundaries of the existing NTTR remain unchanged or be returned to the public domain to be managed by the U.S. Fish and Wildlife Service pursuant to the original DNWR designated boundary.

Alternative 2:
NBU is opposed to Alternative 2. NBU is opposed to "ready access" for conducting military operations in the NTTR South Range because military training and testing in the South Range would cause adverse impacts to the essential pristine qualities of the South Range and would negatively impact wildlife in the South Range. Upon review of the LEIS, NBU has found that it does not adequately address the management or impacts of Alternative 2 on wildlife or wildlife habitat, including bighorn sheep and other wildlife. Specifically, the LEIS fails to adequately address access to manage wildlife or the management and maintenance of seventeen water developments essential to the success of the wildlife therein. BI-1 BI-3 BI-4 LU-9

NBU recommends that the boundaries of the existing NTTR remain unchanged or be returned to the public domain to be managed by the U.S. Fish and Wildlife Service pursuant to the original DNWR designated boundary.

Alternative 3A:
NBU is opposed to Alternative 3A. NBU is opposed to expansion of the NTTR by approximately 18,00 acres to add a safety buffer to Range 77 because such an expansion would result in a significant reduction of public access to public lands for recreational use, including sportsmen's access; and would result in limiting access essential to the management of wildlife. Additionally NDOW data indicates that bighorn sheep have utilized habitat within less than a mile of the area affected by Alternative 3A and the area includes essential wildlife habitat for bighorn sheep and other wildlife. There are currently a number of water sources located within the area affected by Alternative 3A which are critical to the survival of bighorn sheep and other wildlife. The LEIS does not adequately address access, maintenance, and management of these critical water sources. Further, the LEIS does not address issues associated with grazing allotments and wildlife contact. LU-1 LU-2 BI-3 LU-9 LU-7 BI-10 SO-3

Alternative 3A-1:
NBU is opposed to Alternative 3A-1. NBU is opposed to the expansion of the NTTR by approximately 15,408 acres to add a safety buffer to Range 77 because such an expansion would result in a significant reduction of public access to public lands for recreational use, including sportsmen's access; and would result in limiting access essential to the management of wildlife. Additionally NDOW data indicates that bighorn sheep have utilized habitat within less than a mile of the area affected by Alternative 3A-1 and the area includes essential wildlife habitat for bighorn sheep and other wildlife. There are currently a number of water sources located within the area affected by Alternative 3A-1 which are critical to the survival of bighorn sheep and other wildlife. The LEIS does not adequately address access, maintenance, and management of these critical water sources. Further, the LEIS does not address issues associated with grazing allotments and wildlife contact. LU-1 LU-2 BI-3 LU-9 LU-7 BI-10 SO-3

Alternative 3B:
NBU is opposed to Alternative 3B. NBU is opposed to the expansion of the NTTR by approximately 57,000 acres along the existing southeastern NTTR/DNWR because such an expansion would result adverse impacts to bighorn sheep and other wildlife. Moreover, the LEIS

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does not identify the purpose or need for this portion of the withdrawal other than to "square" off the South Range. There are currently five water developments located within the area affected by Alternative 3B which are critical to the survival of bighorn sheep and other wildlife. The LEIS does not adequately address access, maintenance, and management of these critical water developments. PA-23 LU-9

Accordingly, NBU recommends that the boundaries of the existing South Range and the NTTR remain unchanged or be returned to the public use with wildlife management to NDOW; and that the 33,000 acres of proposed wilderness outside of the existing boundary remain proposed wilderness and be managed accordingly. WI-2

Alternative 3C:
NBU is opposed to Alternative 3C. NBU is opposed to the expansion of the NTTR by approximately 227,000 acres of the remaining DNWR under the Alamos airspace, including the proposed safety buffers associated with the withdrawal, regardless of the suggested use of blank munitions, emitters, and limited construction activities. NBU is opposed to a change in primary jurisdiction of the DNWR. Further Alternative 3C would result in a significant reduction of public access for recreational purposes, have adverse impacts upon the public use of surrounding Wilderness areas and affect the essential qualities of those Wilderness areas. LU-1 WI-1

Upon review of the LEIS, NBU has found that it does not adequately address the management or impacts of Alternative 3C on wildlife or wildlife habitat, including bighorn sheep and other wildlife. Specifically, the LEIS fails to adequately address access to manage wildlife or the management and maintenance of the 10 water sources and developments essential to the success of the wildlife therein. BI-1 BI-3 BI-4 LU-9

NBU recommends that the boundaries of the existing NTTR remain unchanged or be returned to the public domain to be managed by the U.S. Fish and Wildlife Service pursuant to the original DNWR designated boundary.

Alternative 4:
NBU is open to Alternative 4A allowing for a 20 year Withdrawal Period. NBU believes that if a Withdrawal is to be considered that 20 years is a sufficient amount of time for reporting to the public the use and need of any such Proposed Withdrawal.

NBU is opposed to Alternative 4B allowing for a 50 year Withdrawal Period. NBU believes that 50 years is an excessive and unnecessary amount of time for reporting to the public the use and need of any such Proposed Withdrawal.

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NBU is opposed to Alternative 4C allowing for an indefinite Withdrawal Period. NBU strongly believes that the existing 2.9 million acres comprising the North Range, South Range, and NTTR, and Nevada Test site require congressional oversight, as well as, transparent and regular public reporting to justify the continued use and need of the Withdrawn Lands. NBU further supports the consideration of the eventual release and return of portion of the Withdrawn Lands to the public.

No Action Alternative:
For the aforementioned reasons and concerns addressing the LEIS, NBU supports the No Action Alternative. Specifically, NBU supports the No Action Alternative because the LEIS does not take into consideration or adequately address the management or impacts on bighorn sheep, other wildlife, wildlife habitat, public access, and water developments critical to wildlife. Moreover, the many scoping comments provided by conservation organizations, the public, and other stakeholders have not been taken into consideration.

BI-3
BI-1
LU-1
WA-6
NP-8

While, NBU strongly supports multiple use management on our public lands and the U.S. Air Force, managing bighorn sheep and other wildlife species is a huge responsibility and the systems that biologists and managers with the Nevada Department of Wildlife (NDOW) are responsible for are very dynamic. This is particularly true in the arid deserts of southern Nevada where the NTTR and DNWR exist. The proposed expansion would further limit the already difficult to manage areas. Effective wildlife management requires allowing managers full access to inventory, monitor and sometimes even manipulate the landscape for the betterment of wildlife. Closing off additional areas within DNWR will negatively impact wildlife and their habitat.

LU-2
BI-4

Numerous water developments exist within the DNWR consisting of enhanced spring sites as well as guzzlers. The water developments represent enormous financial and labor investments by NDOW and volunteers. They have enhanced habitat and created areas that are both invaluable and irreplaceable. Access must be retained to these areas so people can benefit from the wildlife that utilizes them. Additionally, maintenance is of premier importance and these areas will likely become non-functional if not cared for properly. Closing off access to these water developments is not acceptable.

LU-9

The lands that occur within the proposed withdrawal area represent vast areas of continuous landscape that recreationists consisting of hunters and non-hunters use throughout the year. These areas must not be closed off to the public.

LU-1
LU-8

Sincerely,

Christopher J Cefalu

Chris Cefalu - President
Nevada Bighorns Unlimited

Nevada Bighorns Unlimited-Reno
~ Sportsmen working for the future of Nevada's wildlife ~

A.4.3 Air Force Response to Comments on the Draft LEIS

How to Find Comments and Responses

- Find a commenter's name and CIN in Table A-4 (page A-26).
- Find the comment submittal, using the CIN:
  0001–1000 in Section A.4.2.1
  2000 series in Section A.4.2.2
  3000 series in Section A.4.2.3
  4000 series in Section A.4.2.4
  5000 series in Section A.4.2.5
  6000 series in Section A.4.2.6
- Note the Response Code(s) on the comment submittal.
- Find the Response Code(s) in Table A-5 below.

Acronym Key for Table A-5:

AFB	Air Force Base	**IADS**	integrated air defense systems	**NHPA**	*National Historic Preservation Act*
AFI	Air Force Instruction	**ICRMP**	Integrated Cultural Resources Management Plan	**NNSA**	National Nuclear Security Administration
BLM	Bureau of Land Management	**INRMP**	Integrated Natural Resources Management Plan	**NNSS**	Nevada National Security Site
BMPs	best management practices	**ISR**	Intelligence Surveillance Reconnaissance	**NRC**	Nuclear Regulatory Commission
CFR	Code of Federal Regulations	**IW**	Irregular Warfare	**NTTR**	Nevada Test and Training Range
CGTO	Consolidated Group of Tribes and Organizations	**L_{dnmr}**	onset-rate adjusted monthly day-night average sound level	**OHV**	off-highway vehicle
dB	decibels	**LEIS**	Legislative Environmental Impact Statement	**P.L.**	Public Law
dBC	C-weighted decibels	**MBTA**	*Migratory Bird Treaty Act*	**PILT**	Payment in Lieu of Taxes
DNL	day-night average sound level	**MCO**	Major Combat Operations	**ROI**	region of influence
DNWR	Desert National Wildlife Range	**MOU**	Memorandum of Understanding	**SHPO**	State Historic Preservation Officer
DoD	U.S. Department of Defense	**NAFR**	Nellis Air Force Range	**UAS**	unmanned aerial system (remotely piloted vehicle or aircraft system)
DOE	U.S. Department of Energy	**NDOW**	Nevada Department of Wildlife	**USAFWC**	U.S. Air Force Warfare Center
DOI	U.S. Department of the Interior	**NEPA**	*National Environmental Policy Act*	**USC**	United States Code
DU	depleted uranium			**USFWS**	U.S. Fish and Wildlife Service
EC	Electronic Combat (Range)			**USGS**	U.S. Geological Survey
EOD	explosive ordnance disposal			**UXO**	unexploded ordnance
EPA	U.S. Environmental Protection Agency			**WSA**	Wilderness Study Area
ESA	*Endangered Species Act*				

Table A-5. Air Force Response to Comments on the Draft LEIS

Code	Response
AQ-1	Impacts to Air Quality are discussed in Section 3.3. Impacts to other resources are discussed in their corresponding sections. Please refer to the table of contents for resource-specific section numbers.
AQ-2	The potential effects of greenhouse gas emissions from the Proposed Action are, by nature, global. Given the global nature of climate change and the current state of the science, it is not useful at this time to attempt to link the emissions quantified for local actions to any specific climatological change or resulting environmental impact. Nonetheless, the greenhouse gas emissions from the No Action Alternative, Proposed Action, and alternatives have been quantified to the extent feasible in this LEIS for information and comparative purposes.
AQ-3	The following text has been added to Section 3.3.3.1.1: "A conformity applicability analysis is the first step of a conformity evaluation and assesses if a federal action must be supported by a conformity determination. This process and requirements are further detailed in Appendix D, Air Quality. General Conformity is not applicable to this land withdrawal extension or expansion currently. On June 4, 2018 (83 Federal Register 25776–25848), EPA issued a revision to 40 CFR Part 81, Subpart C,

Table A-5. Air Force Response to Comments on the Draft LEIS

Code	Response
	which designated nonattainment areas under the 2015 ozone standard. Nellis AFB and a small portion of the NTTR are located in the portion of Clark County, Nevada that was designated as nonattainment with the revision to 40 CFR 81.329 (83 Federal Register 25819). The effective date of the designation is August 3, 2018 (83 Federal Register 25776). By operation of law, a General Conformity applicability analysis will be required to be completed for covered actions that are approved and scheduled for implementation to begin on, or after, August 2, 2019. If the General Conformity applicability analysis demonstrates that emissions of ozone precursor pollutants from the Proposed Action equal or exceed the applicable *de minimis* levels promulgated in 40 CFR 93.153(b)(1), then draft and final General Conformity determinations will be required before any emissions-related activities associated with the Proposed Action may proceed (42 USC 7506(c) and 40 CFR Part 93, Subpart B (40 CFR 93.150–165)).”
AS-1	As stated in Section 1.3.1, “Although additional airspace is not being requested as part of this withdrawal proposal, the current airspace is not used to its full potential because of the constriction in the South Range - the inability to move integrated air defense systems (IADS) and threat emitters away from impact areas limits the ability to conduct various operations in the South Range, which results in underutilization of the surrounding airspace.”
AS-2	Please refer to Figures 3-2 and 3-3, which illustrate all areas that currently have flying restrictions, including Moapa and Moapa Valley.
BI-1	Potential impacts from proposed military activities to wildlife species, including the bighorn sheep and desert tortoise, and their habitat under all of the potential alternatives were evaluated in Section 3.8 of the LEIS. As shown in species-specific figures throughout the document, many species currently thrive within current NTTR boundaries and that would be expected to continue, including on expansion lands as discussed throughout the LEIS. Additionally, multiple wildlife studies were conducted and are available at www.NTTRLEIS.com. For Alternative 2, “It is presumed that munitions usage and other operational equipment would increase at a level consistent with aircraft operations. In addition, it is assumed that there will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. The road improvements and maintenance would generally consist of leveling and grading activities; no road widening, paving, or hardening is anticipated at this time. Consequently, there would be a total of 11.5 acres of total ground disturbance.” For Alternative 3C, “Also, it is assumed that there will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. The road improvements would generally consist of leveling and grading activities; no road widening, paving, or hardening is anticipated at this time. Consequently, it is anticipated that there would be 24.5 acres of total ground disturbance for Alternative 3C, which was the upper limit used in analyses of the affected resources outlined in Chapter 3 (Affected Environment and Environmental Consequences).” The Air Force acknowledges that there will be impacts as outlined in Section 3.8.2.4, “Direct, permanent (i.e., removal of habitat, direct mortality), and temporary (i.e., generation of dust, increased noise) impacts from any ground disturbance, construction, and annual aviation activities could occur. Noise from aircraft activities could cause stress, potentially induce a startle response, and cause possible injury. Wildlife, such as large mammals (e.g., desert bighorn sheep), in the vicinity of a noise source would likely exhibit increased awareness or response, which would vary depending on animal group and other factors (as described above).” Please see Sections 3.8.2.3 and 3.8.2.4 for the potential impacts associated with the 30 percent increase and biological communities. Please see Section 3.8.2.4, which discusses fragmentation impacts.
BI-2	Please note that the document referenced as “Corps (2017)” in letter #6023 was not written by the U.S. Army Corps of Engineers (USACE) but by a contractor through a contract with USACE. Direct and indirect impacts associated with Biological Resources are addressed in Section 3.8.2 for each of the alternatives. The best available information was utilized to assess the potential impact to the desert tortoise in the proposed expansion areas. The habitat modeling was developed in coordination with, and includes input from the USFWS. The Air Force has completed ESA Section 7 consultation for the desert tortoise, and the USFWS has issued a Biological Opinion containing an Incidental Take Statement. Air Force activities will not jeopardize the survival of the species. Refer to LEIS, Section 4.1.4.8. The results of this consultation, to include all

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	applicable terms and conditions, conservation measures, and standards/protocols have been included in the Final LEIS, including updates to Appendix H, as applicable. Programmatic surveys for management of the desert tortoise are part of the Nellis AFB Natural Resources Management Program, which will continue, including any expansion lands approved by Congress. Additionally, future site-specific NEPA analyses and consultation would occur following Congressional decision. As stated in Section 4.1.4.10: "Potential construction-related soil disturbances at multiple adjacent locations can have cumulative impacts. If the actions are concurrent, windborne eroded soil and transport of eroded soil through stormwater runoff can have cumulative impacts on air and water quality. Cumulative impacts from erosion would be negligible on the NTTR and in the general study area due to several factors. In general, these activities would be spread over a large geographic area and would occur over a long period of time, dissipating the overall impacts. Also, although erosion does commonly result from storm events, precipitation in the region is relatively low, reducing risks for water-caused erosion. In addition, the Air Force and state regulations require BMPs to minimize erosion and stormwater runoff." Additionally, it should be noted that in Section 2.9 the Air Force has committed to: "Under all action alternatives, employ standard management measures for construction activities such as watering of graded areas, covering of soil stockpiles, and contour grading (if necessary) to minimize temporary generation of dust and particulate matter. This would serve to minimize air emissions associated with elements of the Proposed Action and across all action alternatives."
BI-3	Please see Sections 3.8.1.6 and 3.8.2 for details on impacts to desert bighorn sheep. To the extent that data are available, impacts to bighorn sheep, including noise, are addressed in Section 3.8.2.2.2 and Appendix H of the LEIS. As indicated, the sheep and its habitat are already affected by noise associated with aircraft overflights and bombing activities under the baseline condition. Bighorn sheep mostly stick to elevations above 4,000 feet and to their respective ranges (see Figure 3-29) and there are no proposed activities that would disturb habitat above 4,000 feet. Any increase in aircraft overflights or weapons use in currently approved airspace or target impact areas (a potential 30 percent increase) would not have any substantive incremental impact over the baseline condition. Please see Section 3.8.2.4, which discusses fragmentation impacts. Bighorn sheep have lived in the NTTR South Range for many years without the appearance of deleterious effects. It is the intent of the Air Force to continue active bighorn sheep management and hunting access for any withdrawn lands as it currently does on the South Range, in coordination with NDOW, the USFWS, and the USGS. More information regarding the status of the bighorn sheep on the NTTR has been provided in Section 3.8.2.2.2 of the Final LEIS. Available NDOW data was utilized; Figure 3-29 reflects known bighorn sheep locations.
BI-4	Agency land management responsibilities will be determined by Congress as part of its decision on the withdrawal. As discussed in Section 2, the Air Force operates under the constraints of the Sikes Act, which was enacted in 1960 and requires cooperation with and by DOI (BLM, USFWS) and DoD with state agencies in planning, development, and maintenance of fish and wildlife resources on military reservations throughout the United States. The Sikes Act promotes effectual planning, development, maintenance, and coordination of wildlife, fish, and game conservation and rehabilitation in military reservations and attempts to ensure that fish, wildlife, and other natural resources that exist on and are associated with military lands in the United States are protected and enhanced. The legislation is such that conservation activities are promoted while allowing military lands to continue to meet the needs of military operations. The primary tool for attaining these goals is through a planning document called an INRMP. The Sikes Act requires the Air Force to manage the natural resources and the Air Force does this through an INRMP, which is reviewed by other cooperating agencies including NDOW and the USFWS. This plan will be updated after a Congressional decision is made. In addition, the 20 hours referred to in some comments are helicopters hours that are paid for by the Air Force so that cooperating agencies can conduct aerial surveys. Also, as stated in the LEIS, "Currently, AFI 13-212, Range Planning and Operations,

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	encourages shared use of range land with non-DoD users when it will not compromise public safety, detract from mission accomplishment, or impair range operations. For safety and security purposes, access by others (non-DoD users) must be strictly controlled. For example, public access is prohibited in areas known or suspected to contain UXO or other munitions. Hazard areas present operational hazards from ongoing testing and training activities, as well as residual hazards following the use of munitions. The Air Force must not allow public access to unsafe areas, to ensure the protection of members of the public during mission operations and their continued safety at other times. Potentially unsafe areas would need to be clear of UXO or other munitions before access could be allowed. The sensitivity of certain areas requires additional controls or restrictions related to access by non-DoD users. The NTTR does have a process for enabling access by others to select areas of the NTTR, which do not include impact areas. Requests for access may be submitted to the NTTR Range Operations Branch, which can assess if such access could be granted. Requests for access by the general public must be made at least 90 days prior to an expected event to receive consideration while requests from government agencies or Native American tribal groups would follow the specific procedures established in the INRMP, ICRMP, or an appropriate agreement, such as a Memorandum of Agreement/Understanding between the Air Force and the government agency or tribal groups. The Air Force will review the requests and assist non-DoD users through the process of gaining access to a given area. If a request is approved, the Air Force assigns a Project Officer, who manages the request throughout the entire process. All visitors granted access must participate in a range safety briefing prior to entering the range. The Air Force is committed to assisting the cooperating agencies and other non-DoD users in meeting their access needs and will refine this procedure as necessary to ensure non-DoD activities can be conducted compatibly with DoD test and training missions to the extent practicable. Using this procedure, the Air Force will coordinate with the appropriate agencies to allow physical access for management and hunting in specified areas under mutually agreed upon conditions. Additionally, the Air Force will support management of resources on lands withdrawn for military use by ensuring that monitoring and other data are exchanged between the applicable cooperating agencies. The coordination procedure for data exchange and access would be outlined in the INRMP and ICRMP. Access to natural and cultural resources in a safe manner on a non-interference basis can be compatibly addressed through these plans, subject to scheduling requirements for test and training activities. As an example of access by others currently allowed, the INRMP addresses the hunting program, which provides for limited access to select areas subject to specific conditions compatible with operational activities and hunter safety." In addition, the Air Force has included the following in Section 2.9.1: "The Secretary of the Air Force and the Secretary of Interior would establish, by MOU, an Intergovernmental Executive Committee for the land withdrawn by Congress for the purpose of exchanging views, information, and advice relating to the management of the natural and cultural resources of the withdrawn and reserved lands and to proactively collaborate on studies and analyses developed in accordance with, but not limited to, NEPA, the Fish and Wildlife Coordination Act (16 USC 661 et seq.), NHPA (16 USC 470 et seq.), ESA (16 USC 1531 et seq.), and the Sikes Act (16 USC 670). The MOU would include the following primary goals and objectives: • Establish an Air Force-led Intergovernmental Executive Committee • Develop/document communication, data sharing, and reporting procedures • Coordinate biological and cultural resources management • Establish procedures for coordinating changes of activity within the DNWR • Establish reporting requirements for mitigation implementation • Establish a Comprehensive Public Report (published every five years) A suggested framework for the Intergovernmental Executive Committee would include selected representatives from the Air Force, USFWS, BLM, DOE, NDOW, and other appropriate government agencies. The Committee would be established for the purpose of reviewing and addressing biodiversity, environmental policy, and regulatory issues, as well as the exchange of views, information, and recommendations relating to adaptive management of natural and cultural resources of the lands withdrawn. The Committee could operate in accordance with specific terms set forth in an MOU. The Committee is a potential solution to address concerns that were raised during public review by both federal agencies and the public. The internal structure of the Committee and frequency of meetings would be addressed in its charter."

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BI-5	Based on input from cooperating agencies the following language was inserted in the Draft LEIS (Section 2.3.3) as part of the cooperating agency review: "Each of the sub alternatives associated with Alternative 3 would require fencing but only on the proposed boundaries that do not abut the current NTTR boundary. The fencing would be constructed to meet BLM fencing requirements, dependent on the topography and wildlife present, as outlined in BLM's H-1741-1 Fencing Manual, and the objective of the fencing would be to provide a physical barrier to prevent public access while allowing wildlife passage. For example, if the topography in an area supports bighorn sheep predominantly, fencing would be constructed using BLM's H-1741-1 Fencing Manual, conducive to bighorn sheep passage." The purpose of the language was to ensure that appropriate fencing would be used in the future for the species that was most prevalent in the area of construction. Also as stated, "It should be noted that the environmental consequences analysis for each applicable affected resource has been conducted using the total area to be fenced that abuts the current NTTR boundary. This will provide a conservative analysis. However, there may be instances where natural barriers will not allow for fence construction." In situations where topography can be used as a barrier or demarcation, the Air Force would use the topography to reduce ground disturbance impacts. Also stated, antelope fencing was used for purposes of the programmatic analysis in the LEIS only and potential impacts as a result of the programmatic analysis are included throughout the document in applicable resource sections. Following Congressional decision and prior to any fence installation, site-specific NEPA analyses would be conducted on future activities once the details for the action are mature, including any applicable consultations. As stated in Section 1.1, "The programmatic analysis in this LEIS focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature." This would apply to fencing that is planned for construction. The Air Force will consider utilizing various forms of boundary demarcation. As discussed in Section 2.3.3, any fencing would be constructed to meet BLM fencing requirements. Depending on topography and location, other methods, such as boundary markers may be used. The acreage of fencing analyzed in the LEIS is based on a conservative estimate because it is unknown whether expansion of the NTTR would occur.
BI-6	Section 3.8.1.6 has been revised to specifically raise concerns about the Amargosa toad. Additionally, Section 3.8.2.4 states: "Approximately 25 miles of fencing would be installed along the Alternative 3A or 3A-1 boundary, which would result in impacts to biological resources. Alternative 3A/3A-1 areas would mainly be utilized as buffer areas, and fencing along the boundaries has the potential to impact biological resources by removing native vegetation or special status plant species, fragmenting wildlife habitat, creating barriers for wildlife movement, causing injury to large mammals that run into or get caught in the fence, damming or altering streams, or creating corridors for weed dispersion. In addition to fence installation, the boundary fence will require periodic monitoring and maintenance, which means a permanent loss of vegetation and potential direct impacts to other biological resources within the fence construction corridor. Indirect impacts on biological resources outside the fence and access corridors may occur if invasive plant species establish in areas disturbed by fence installation or access routes and subsequently spread into adjacent native habitats. Fences that cross ephemeral streams or canyons can also act as dams altering the flow of surface water, which could affect the biological resources in the vicinity of the dam as well as downstream aquatic resources or wetlands that depend on the surface water input. Although it is likely that the direct impacts (e.g., mortality of species, fragmentation of habitat) to biological resources associated with the fence installation and maintenance will represent a fraction of the NTTR withdrawal area, disturbance to a natural corridor has greater potential for far-reaching direct and indirect impacts as it can span many habitat types, leading to fragmentation, with indirect impacts that may be difficult to assess or control." In addition, an updated figure has been provided with the most current NDOW data presented during the Beatty Public Hearing Meeting.
BI-7	The LEIS addresses environmental issues programmatically to address the broad decisions to be made by Congress. Subsequent site-specific NEPA analyses with their basis in the LEIS will be necessary in the future for specific locations and routes once the withdrawal legislation has been completed. Details

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	regarding the actions that are currently known are outlined in Section 2.3 (Alternatives). These details were the basis of analysis for the LEIS. Please see Section 3.8.2 for impacts on biological resources including bighorn sheep, which are located under each subsection associated with special status species. Section 2.9.2 has been updated to state: "Under all action alternatives, the INRMP will be revised under authority of AFI 32-7064, Integrated Natural Resources Management, as implemented by Air Force Policy Directive 32-70, Environmental Quality, and DoD Instruction 4715.3, Environmental Conservation Program. The authority to establish natural resources management programs at DoD installations is provided by 16 USC 670 (the Sikes Act, Conservation Programs on Military Installations). A primary goal of the INRMP is to maintain ecosystem integrity and dynamics on the NTTR without compromising the military mission. The INRMP is a cooperative effort between other federal agencies as well as Nevada stakeholders, and the Air Force implements the biological resources guidelines of the INRMP. Through various existing program offices and current practices, NTTR planners, with user group support, will: • Develop guidance on environmental restrictions and compliance requirements, to include mitigations and environmental constraints, and associated consultations, as well as the INRMP. • Provide restrictions to unit commanders and training personnel (through NTTR Range Safety and Operations Procedures annual briefings, additional site-specific environmental briefings, and/or the Center Scheduling Enterprise). • Document and resolve any issues related to environmental compliance with the cooperating agencies upon notice of any compliance issues. The following specific biological resources mitigations would be implemented under all action alternatives: • Provide information to range users, prior to conducting training or testing activities, regarding restrictions based on biologically sensitive areas and impacts on wildlife. This mitigation minimizes impacts across all action alternatives. • The Air Force and USFWS would explore jointly funding permanent position(s) that would be located at Nellis AFB to work directly with Air Force personnel on management of biological resources. This could be done under the Interagency Agreement for the Conservation of Natural Resources on Air Force Controlled Lands between USFWS and the Air Force." "The following would apply to all action alternatives: • Ensure the INRMP requires annual surveys of the desert bighorn sheep population level on the NTTR. For example, surveying could be conducted by air, of the major mountain ranges within the NTTR, including the Sheep Range on the DNWR. • Based on Intergovernmental Executive Committee direction, ensure the INRMP requires monitoring desert bighorn sheep movements. For example, collaring and health checks could be conducted on the sheep population as well as modeling/mapping spatial and temporal movements and location of high use and critical areas such as preferred corridors between mountain ranges. Desert bighorn sheep movements, establishment of a one mile buffer area around lambing areas, food and water sources, or other areas critical to their well-being could be identified for consideration in planning military activities. • Ensure the INRMP requires an annual survey of water sources. For example, a five-year cumulative survey of the NTTR could be conducted for natural water sources. The Air Force would continue to support USFWS efforts to assess man-made water sources maintained by non-DoD users, such as Fraternity of the Desert Bighorn, to ensure they are adequate for desert bighorn sheep and are not concentrating animals into areas incapable of sustaining them. • Ensure the INRMP prescribes procedures for surveys on the NTTR for amphibians and reptiles, include the Amargosa toad. • Ensure the INRMP prescribes procedures for surveys on the NTTR for birds include the greater sage grouse. Construction projects or military actions will consider employing the following management guidelines for special status wildlife species (which include bats, reptiles and amphibians, mammals, and wild horses): • To avoid, reduce, or eliminate potential direct impacts to bats: o If an action potentially impacts mines, wooded areas, seeps, springs, or abandoned structures, the areas could be surveyed to determine if bats are present and if those bats are species of concern that should be conserved.

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	o Potential locations of unimproved runways could be surveyed to assess bat activity, especially in mines, abandoned buildings, and springs or seeps. If necessary, bat roosts in common flying areas could be closed and bats moved to another area, if possible. Closing areas such as mine shafts, etc., that do not have bat presence would mitigate direct impacts by not allowing new use. o In areas that do not conflict with the military mission, the Air Force could consider using management guidelines for bats documented in the Nevada Bat Conservation Plan (Nevada Bat Working Group, 2006). Any relocation attempt should adhere to established guidelines to minimize impacts to bats (Ruffell, Guilbert, and Parsons, 2009). • To avoid, reduce, or eliminate potential direct impacts to special status reptiles, amphibians, small mammals, or wild horses: o Prior to the implementation and planning of any construction activity, the site will be surveyed to determine the presence of any of these species. If possible, construction plans could be altered to avoid impacts to any specials status, sensitive, rare, or uncommon species. The NDOW protocol for protection of the banded Gila monster (see Appendix H, Biological Resources) should be implemented when possible. o During any other surveys or projects, biologists and other qualified personnel would document the location and species of any reptiles and amphibians observed. o The Air Force will continue to support the BLM management process for wild horse population surveys." See, also, responses to BI-1, BI-2, and BI-3.
BI-8	As stated in the comment, the brochure provided at public hearings contains only a summary of the potential impacts and is not inclusive of all features or impacts. While not referenced by name, wildlife water developments are discussed in the LEIS in Section 3.8.1.5 (Biological Resources) and shown on Figure 3-23, as well as in Section 3.11.1.4 (Water Resources) and shown on Figure 3-26, as well as in Appendix J.3 (Water Resources) (as a spring). Spring names have been added to the Final LEIS.
BI-9	Programmatic impacts associated with re-designation of ECS to Range 77 would have been presented in the LEIS. As indicated in Section 1.1: "site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature. Details regarding the actions that are currently known are outlined in Section 2.3 (Alternatives). These conceptual details were the basis of analysis for the LEIS."
BI-10	There is no domestic grazing proposed by the Air Force associated with Alternative 3A/3A-1 proposed withdrawal areas. BLM has an active grazing allotment on lands that are adjacent to the Alternative 3A/3A-1, thus this grazing allotment is not managed by the Air Force. BLM has grazing policies in place and properly managed livestock grazing is congressionally mandated. Perimeter fencing of withdrawal areas would be designed to allow movement of local wildlife (see response to BI-5); however, the Air Force cannot speak to the containment of domestic sheep.
BI-11	Additional data on the Amargosa toad has been provided by NDOW and added to the Final LEIS in Section 3.8.1.4. See also response to BI-6.
BI-12	According to the USFWS, the Armargosa pupfish currently occurs on the Ash Meadows National Wildlife Refuge, which is outside the ROI for the Proposed Action and Alternatives 3A/3A-1. Therefore, the pupfish was not addressed in the LEIS. The Air Force has completed consultation with the USFWS regarding impacts to all potentially affected listed species and this information has been added to the LEIS and Appendix B.
BI-13	At the request of cooperating agencies (USFWS, BLM, and NDOW) at a Cooperating Agency Meeting on August 1, 2018, cooperating agency comments have been addressed at an interagency level. Therefore, this comment code is no longer applicable.
BI-14	At the request of cooperating agencies (USFWS, BLM, and NDOW) at a Cooperating Agency Meeting on August 1, 2018, cooperating agency comments have been addressed at an interagency level. Therefore, this comment code is no longer applicable.
BI-15	At the request of cooperating agencies (USFWS, BLM, and NDOW) at a Cooperating Agency Meeting on August 1, 2018, cooperating agency comments have been addressed at an interagency level. Therefore, this comment code is no longer applicable.
BI-16	Active bighorn sheep management on the NTTR is currently conducted, and would continue, including on expansion lands, in cooperation with the USFWS, NDOW, and the USGS as described in Section 3.8.1.6 of the LEIS. Additionally, Section 2.9, Mitigations, has been updated to state: "Ensure the INRMP requires an annual survey of water sources. For example, a five-year cumulative survey of the NTTR could be conducted for natural water sources. The Air Force would continue to support USFWS efforts to assess man-made water sources maintained by non-DoD users, such as Fraternity of the Desert Bighorn, to ensure

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	they are adequate for desert bighorn sheep and are not concentrating animals into areas incapable of sustaining them."
BI-17	At the request of cooperating agencies (USFWS, BLM, and NDOW) at a Cooperating Agency Meeting on August 1, 2018, cooperating agency comments have been addressed at an interagency level. Therefore, this comment code is no longer applicable.
BI-18	Please see Sections 3.8.2.2 and 3.8.2.4 for details regarding invasive species.
BI-19	Please see Sections 3.5 and 3.8 for details on impacts to wildlife, habitat, and landscape. Details associated with each of the following are located in Section 3.8: Vegetation, Wildlife, Aquatic and Wetlands, and Special Status Species. As stated in Section 3.5.2.3 for Alternative 2, "Potential impacts to the land and other resources that occur within the withdrawal area, including areas that were proposed for wilderness in the South Range, are discussed in other sections of the LEIS. Refer to Sections 3.4.2 (Land Use, Recreation, and Visual Resources), 3.8.2 (Biological Resources), 3.10.2 (Earth Resources), and 3.11.2 (Water Resources)." Specific to wildlife and wildlife habitat, Section 3.8.2.3 discusses how impacts to these resources would be similar to but slightly greater than those described under Alternative 1 (Section 3.8.2.2) and the Air Force would still be required to comply with applicable laws and regulations to minimize impacts to vegetation, wildlife, aquatic and wetland habitats, and special status species.
BI-20	All supporting studies were incorporated into the LEIS as appropriate. While some reports may have been finalized within two months of the release of the Draft LEIS, draft versions of the reports were incorporated in advance and any updates occurring as a result of the final reports were incorporated into the Draft LEIS prior to release.
BI-21	Requirements of the Sikes Act include natural resource management and involve use of an INRMP. Once the Congressional decision is made, the INRMP will be updated with the input of all cooperating agencies and appropriate stakeholders. Please see Section 2.9.2, which states: "Under all action alternatives, the INRMP will be revised under authority of AFI 32-7064, Integrated Natural Resources Management, as implemented by Air Force Policy Directive 32-70, Environmental Quality, and DoD Instruction 4715.3, Environmental Conservation Program. The authority to establish natural resources management programs at DoD installations is provided by 16 USC 670 (the Sikes Act, Conservation Programs on Military Installations). A primary goal of the INRMP is to maintain ecosystem integrity and dynamics on the NTTR without compromising the military mission. The INRMP is a cooperative effort between other federal agencies as well as Nevada stakeholders, and the Air Force implements the biological resources guidelines of the INRMP. Through various existing program offices and current practices, NTTR planners, with user group support, will: • Develop guidance on environmental restrictions and compliance requirements, to include mitigations and environmental constraints, and associated consultations, as well as the INRMP. • Provide restrictions to unit commanders and training personnel (through NTTR Range Safety and Operations Procedures annual briefings, additional site-specific environmental briefings, and/or the Center Scheduling Enterprise). • Document and resolve any issues related to environmental compliance with the cooperating agencies upon notice of any compliance issues. The following specific biological resources mitigations would be implemented under all action alternatives: • Provide information to range users, prior to conducting training or testing activities, regarding restrictions based on biologically sensitive areas and impacts on wildlife. This mitigation minimizes impacts across all action alternatives. • The Air Force and USFWS would explore jointly funding permanent position(s) that would be located at Nellis AFB to work directly with Air Force personnel on management of biological resources. This could be done under the Interagency Agreement for the Conservation of Natural Resources on Air Force Controlled Lands between USFWS and the Air Force."
BI-22	While greenhouse gases are discussed in Section 3.3.1.3, the potential effects of greenhouse gas emissions from the Proposed Action are, by nature, global. Given the global nature of climate change and the current state of the science, it is not useful at this time to attempt to link the emissions quantified for local actions to any specific climatological change or resulting environmental impact. It should be noted that Section 3.13.1.3 has been updated to state: "However, the Air Force does acknowledge that there is an increasing regional trend occurring with the size and intensity of wildfires in recent years; nonetheless, the activities of the Air Force under Alternative 1 will not by themselves increase

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	Lands between USFWS and the Air Force."
BI-26	The Air Force will continue to work with BLM as stated in the LEIS, "The Nevada Wild Horse Range is a special management area located within the North Range of the NTTR (Figure 3-6). The Southern Nevada District of BLM has administrative responsibilities for all land and management activities within the Nevada Wild Horse Range. The 2008 Nevada Wild Horse Range Herd Management Area Plan and the 1974 Wild Horse Management Area MOU provide management guidance for the wild horse population on the NTTR." The herds and their habitat are already affected by noise associated with aircraft overflights and military activities under the baseline condition. Any increase in aircraft overflights or weapons use in currently approved airspace would not have any substantive incremental impact over the baseline conditions. Since herds are currently thriving, no substantive increase in potential impacts are expected.
BI-27	Due to safety concerns associated with bird strikes, pilots avoid nesting areas and are typically at altitudes that will not impact these nesting areas. Sage grouse and desert tortoise are considered special status species as defined in Section 3.8.1 and are discussed in their respective sections depending on the alternative.
BI-28	Available information was utilized to assess the potential impact to the desert tortoise in the proposed expansion areas. Wildlife surveys and habitat modeling were developed in coordination with, and include input from, the USFWS, NDOW, and BLM. The surveys were not meant to be comprehensive; comprehensive surveys would take many years to accomplish to accommodate seasonal species. The surveys were conducted to help leverage the existing data that has been collected over time by the Air Force on NTTR lands, as well as NDOW, BLM, and USFWS data for the proposed expansion areas. Species inventories over land areas of this magnitude are typically conducted over long periods of time as part of resource management programs. In this case the NTTR would continue to be managed under the INRMP, and any expansion lands would be required to be managed in the same manner under the Sikes Act. The Air Force's commitment is associated with regulatory compliance under the Sikes Act, the ESA, MBTA, and other such regulatory mechanisms. Additionally, the INRMP is a public document and can be reviewed by request.
BI-29	As discussed in Section 3.8.1.6, the Joshua tree is currently not specifically identified as a sensitive species in the state of Nevada or on cooperative agency lists, although a collecting permit would be required to harvest this species in Nevada or on BLM-managed lands. There are 47,927 acres on the North Range and 407,229 acres on South Range currently mapped as Joshua tree habitat, which is managed along with the other NTTR acreage as part of the Nellis AFB INRMP. Additionally, discussion of the Joshua tree for each of the alternative areas is provided throughout the LEIS, and is also discussed as part of the Native American perspective provided for the LEIS. Consideration for protection of Joshua trees is given in proposed constraints associated with ground disturbance activities as discussed in Section 2.9.2 under Special Status Plant Species. Were the Joshua tree to be listed by the USFWS, the Air Force would comply with all requirements of the ESA.
BI-30	Given the scope of the land area, it is impractical to list every migratory bird species that might at some point be present on the NTTR or within the region. Section 3.8.1.6 (Special Status Species and Habitats) includes a section entitled "Migratory Bird Treaty Act Species" that discusses the various types of migratory birds that may be present based on observational data and habitat analysis, and provides reference to the complete list of all species of migratory birds protected by the MBTA in the Federal Register (50 CFR 10.13).
BI-31	The following text has been added in Section 3.8.2.2.2 to include additional causes of type conversion and the potential effects: "Disturbance such as munitions deployment can destroy vegetation and lead to type conversion. The effects of type conversion on wildlife are complex and can result in habitat fragmentation, edge effects, and loss of prey population."
BI-32	Section 3.8.2.2 discusses both direct and indirect impacts and includes the potential long-term effects of noise on the physiology of wild ungulates and long-term reproductive effects of overflights on nesting raptors. Given the less than 1 percent proposed area disturbance associated with the proposed withdrawal areas, and the fact that these disturbances (e.g., emitter pads) would likely occur near existing roadways (already disturbed) and consist of less than an acre each, it is unlikely that permanently displaced breeding, loss of remote and undisturbed retreat area or foraging opportunities, or population declines in the long term would occur; in fact, many species are known to thrive on military installations due to the protections offered. Additionally, species and habitat are legally required to be managed under the Sikes Act, ESA, MBTA, and other such regulatory mechanisms. Potential mitigations for addressing long-term impacts are

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	discussed throughout Section 2.9.2 (Proposed Resource-Specific Mitigations and Management Actions to Reduce the Potential for Environmental Impacts.)
BI-33	The LEIS is programmatic in nature; to that end, analysis focuses on the general impacts associated with the types of activities proposed. As stated numerous times throughout the document additional NEPA would be required as site specific locations are identified in the future. When site specific locations are considered, the types of impacts described in the comment will be fully analyzed.
BI-34	Noise impacts to eagles and other birds are addressed in Section 3.8.2.2.4. Ground disturbance would be expected to have no impact to tree-nesting birds or birds in flight, provided no trees are removed. Bird/wildlife air strike hazards are discussed in Section 3.13.1.4. Please see Sections 3.8.1.6 and 3.8.2.2.4 regarding impacts associated with roosting and nesting of golden eagles.
BI-35	Please note that wilderness occurs at elevations of 4,000 feet and above and desert tortoise habitat is below 3,500 feet (https://www.fws.gov/nevada/desert_tortoise/dt/dt_life.html). Also, the natural resource management efforts of the Air Force under the Sikes Act could attribute to the success of the desert tortoise. A biological opinion has been rendered by the USFWS regarding the desert tortoise.
BI-36	The following text has been added to Section 3.8.1.1: "Additionally, the Air Force reviewed concerns associated with pollinators and electromagnetic radiation. These concerns are generically known as Colony Collapse Disorder (CCD), which is a phenomenon that occurs when the majority of worker bees in a colony disappear and leave behind a queen, plenty of food, and a few nurse bees to care for the remaining immature bees and the queen. Once thought to pose a major long-term threat to bees, reported cases of CCD have declined substantially over the last five years (EPA, 2018). Based on EPA literature, there have been many theories about the cause of CCD, but researchers are now focused on these factors as a root cause: • Increased losses due to the invasive varroa mite (a pest of honey bees) • New or emerging diseases such as Israeli Acute Paralysis virus and the gut parasite Nosema • Pesticide poisoning through exposure to pesticides applied to crops or for in-hive insect or mite control • Stress bees experience due to management practices such as transportation to multiple locations across the country for providing pollination services • Changes to the habitat where bees forage • Inadequate forage/poor nutrition • Potential immune-suppressing stress on bees caused by one or a combination of factors identified above Some researchers have theorized that electromagnetic radiation, including cell phone signals, can confuse worker bees so that they are not able to find the way to their hive. However, these theories are speculative and were not evaluated further. Additionally, since CCD does not affect native pollinators, it is not addressed further."
BI-37	The Air Force cannot eliminate all impactful activities, but through the natural resources management program and biological opinion, impacts to vulnerable species are managed to the greatest extent possible.
BI-38	Yes, the Biological Opinion has been added to the Final LEIS and will be included in the Case File to Congress. Discrepancies in text have been resolved.
BI-39	The Biological Opinion has been incorporated into the Final LEIS in Appendix B (Section B.10.2). The Biological Opinion is a USFWS-generated document, and public review is not part of the USFWS's consultation process; however, the Biological Assessment and corresponding discussions are included in the Administrative Records.
BI-40	Please see Sections 3.8.2.2 through 3.8.2.4, which include impacts to special status species as outlined in Section 3.8.1.6.
BI-41	As stated in Section 3.8.2.2.4, "Tortoises that are removed to avoid harm in a construction area and/or from existing trails and access roads may be affected directly by physical stress of the handling and relocation (such as loss of bodily fluid), and, if moved beyond its home range, by associated stresses resulting from unfamiliarity with the area and not knowing the locations of cover sites, burrows, and foraging areas."
BI-42	Section 3.8.2.4 states: "Although it is likely that the direct impacts (e.g., mortality of species, fragmentation of habitat) to biological resources associated with the fence installation and maintenance will represent a fraction of the NTTR withdrawal area, disturbance to a natural corridor has greater potential for far-reaching direct and indirect impacts as it can span many habitat types, leading to fragmentation with indirect impacts that may be difficult to assess or control. Therefore, the installation, monitoring, and maintenance of up to 25 miles of fencing along the Alternative 3A or 3A-1 boundary has the potential to cause adverse impacts depending on the biological resources affected and implementation of suggested mitigation measures

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	described below."
BI-43	Please see Section 3.8.2.4, which states: "Ground-disturbance activities that occur within suitable desert tortoise habitat could result in direct and indirect impacts to the Mojave desert tortoise. Potential impacts could include habitat degradation caused by vegetation removal, mortality or impacts from conflicts with vehicles, and the associated damage or destruction of burrows that could result in harm, injury, or mortality of eggs, juveniles, or adult tortoises. The likelihood of direct impacts to desert tortoises from ground disturbance (i.e., continuing use of range targets, ground facilities, training areas, troop movement and roads) would decrease with distance from the areas of activity. The Air Force complies with all state and federal regulations to accommodate or remove hazardous materials and DU from target sites, construction sites, etc. Therefore, the potential for tortoises to be affected by contamination is low. Foot patrols and vehicular traffic on and off existing trails/access roads would have the potential to harass, injure or crush a tortoise, and/or crush a burrow in the direct path. Indirect impacts associated with the establishment and spread of invasive, nonnative plant species could result in the loss or compaction of soil, generate increased particulate matter emissions, and affect desert tortoise habitat (Berry, 1990; USFWS, 2011). Furthermore, the removal of native plants makes finding shelter and food more difficult and reduces cover for individual tortoises, which could become more vulnerable to predation (particularly by predators attracted to human activity such as common ravens or coyotes). An increase in invasive, nonnative plant species could modify existing plant communities and provide additional fuel that could pose a risk for wildfires. As described above under vegetation, there are ongoing management guidelines to control or minimize invasive, nonnative plant species on the NTTR and implementation of mitigation measures for desert tortoises, derived from the Desert Tortoise Management Plan, would minimize or avoid significant impacts to desert tortoises (99 CES/CEIEA, 2015); see Appendix H (Biological Resources). Direct impacts to desert tortoises may occur during construction activities within tortoise habitat. Construction impacts may include soil disturbance and/or habitat degradation caused by vegetation removal, and mortality or impacts from conflicts with vehicles as described above. Use of heavy equipment during construction and maintenance of infrastructure generally produces noise and vibration that may have temporary, minor impacts on desert tortoises in the immediate area. Application of water to minimize dust production during construction can result in attraction of desert tortoises to an area. Accumulation of trash in and around construction sites can result in attraction of certain predators, including ravens and coyotes. Pre-construction surveys would minimize adverse effects to desert tortoises during construction activities. Tortoises that are removed to avoid harm in a construction area and/or from existing trails and access roads may be affected directly by physical stress of the handling and relocation (such as loss of bodily fluid), and if moved beyond their home range, by associated stresses resulting from unfamiliarity with the area and not knowing the locations of cover sites, burrows, and foraging areas. Aircraft operations that occur in suitable desert tortoise habitat could affect tortoises. When desert tortoises are in burrows, caliche caves, or rock shelters, downwash impacts are expected to be minimal (except when directly under the aircraft). The area directly under the aircraft would experience substantially greater impacts due to focused downwash, engine exhaust heat, and landing gear. Burrows in nearby habitats could be collapsed or damaged by aviation activities. Desert tortoises may be also impacted by dust and noise generated from aircraft operations. Increased noise, dust, and aircraft activity would be localized and temporary, but could occur. Dust generation due to aircraft operations at the designated landing areas would have a minor adverse impact on plant productivity, but over time could result in degradation of desert tortoise habitat, with potential damage to food plants, disturbance to soils, compaction of soils, which could impede burrowing, and potential replacement of native vegetation by invasive, nonnative plants. Noise could elicit temporary behavioral responses by tortoises or could possibly affect hearing thresholds (Bowles et al., 1999). A desert tortoise would be expected to resume normal activities following departure of the aircraft from the immediate area of the tortoise. Implementation of mitigation measures for desert tortoise would minimize or avoid significant impacts to desert tortoise (99 CES/CEIEA, 2015)."
BI-44	As stated in Section 1.1, "Details regarding the actions that are currently known are outlined in Section 2.3 (Alternatives). These conceptual details were the basis of analysis for the LEIS." Thus, ground disturbance activities were included in the analysis. It should be noted that troop movement also generally occurs in single file movement of a small group, so that large troop movements over a large land mass do not occur. This language is reflected in Section 1.4.2. Additionally, Section 2.9.2 states: "Under all action alternatives, the INRMP will be revised under authority of

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	AFI 32-7064, Integrated Natural Resources Management, as implemented by Air Force Policy Directive 32-70, Environmental Quality, and DoD Instruction 4715.3, Environmental Conservation Program. The authority to establish natural resources management programs at DoD installations is provided by 16 USC 670 (the Sikes Act, Conservation Programs on Military Installations). A primary goal of the INRMP is to maintain ecosystem integrity and dynamics on the NTTR without compromising the military mission. The INRMP is a cooperative effort between other federal agencies as well as Nevada stakeholders, and the Air Force implements the biological resources guidelines of the INRMP. Through various existing program offices and current practices, NTTR planners, with user group support, will: • Develop guidance on environmental restrictions and compliance requirements, to include mitigations and environmental constraints, and associated consultations, as well as the INRMP. • Provide restrictions to unit commanders and training personnel (through NTTR Range Safety and Operations Procedures annual briefings, additional site-specific environmental briefings, and/or the Center Scheduling Enterprise). • Document and resolve any issues related to environmental compliance with the cooperating agencies upon notice of any compliance issues."
BI-45	The Air Force agrees that effective natural resource management and conservation in collaboration with NDOW, the USFWS, and other professionals are critical. The Sikes Act, which was enacted in 1960, requires cooperation with and by DOI (BLM, USFWS) and DoD with state agencies in planning, development, and maintenance of fish and wildlife resources on military reservations throughout the United States. The Sikes Act promotes effectual planning, development, maintenance, and coordination of wildlife, fish, and game conservation and rehabilitation in military reservations and attempts to ensure that fish, wildlife, and other natural resources that exist on and are associated with military lands in the United States are protected and enhanced. The legislation is such that conservation activities are promoted while allowing military lands to continue to meet the needs of military operations. The primary tool for attaining these goals is through a planning document called an INRMP. Additionally, Section 2.9.1 has been updated to state: "The Secretary of the Air Force and the Secretary of Interior would establish, by MOU, an Intergovernmental Executive Committee for the land withdrawn by Congress for the purpose of exchanging views, information, and advice relating to the management of the natural and cultural resources of the withdrawn and reserved lands and to proactively collaborate on studies and analyses developed in accordance with, but not limited to, NEPA, the Fish and Wildlife Coordination Act (16 USC 661 et seq.), NHPA (16 USC 470 et seq.), ESA (16 USC 1531 et seq.), and the Sikes Act (16 USC 670). The MOU would include the following primary goals and objectives: • Establish an Air Force-led Intergovernmental Executive Committee • Develop/document communication, data sharing, and reporting procedures • Coordinate biological and cultural resources management • Establish procedures for coordinating changes of activity within the DNWR • Establish reporting requirements for mitigation implementation • Establish a Comprehensive Public Report (published every five years) A suggested framework for the Intergovernmental Executive Committee would include selected representatives from the Air Force, USFWS, BLM, DOE, NDOW, and other appropriate government agencies. The Committee would be established for the purpose of reviewing and addressing biodiversity, environmental policy, and regulatory issues, as well as the exchange of views, information, and recommendations relating to adaptive management of natural and cultural resources of the lands withdrawn. The Committee could operate in accordance with specific terms set forth in an MOU. The Committee is a potential solution to address concerns that were raised during public review by both federal agencies and the public. The internal structure of the Committee and frequency of meetings would be addressed in its charter."

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BI-46	The Air Force does not target wildlife on its range lands. Procedures for combat pilots on the NTTR and other ranges expressly prohibit the targeting of wildlife and require that pilots abort dropping live munitions in target areas when large mammals are present. The Air Force operates under the Sikes Act, which was enacted in 1960 and requires cooperation with and by DOI (BLM, USFWS) and DoD with state agencies in planning, development, and maintenance of fish and wildlife resources on military reservations throughout the United States. The Sikes Act promotes effectual planning, development, maintenance, and coordination of wildlife, fish, and game conservation and rehabilitation in military reservations and attempts to ensure that fish, wildlife, and other natural resources that exist on and are associated with military lands in the United States are protected and enhanced. The legislation is such that conservation activities are promoted while allowing military lands to continue to meet the needs of military operations. The primary tool for attaining these goals is through a planning document called an INRMP. Under these requirements the Air Force does not target wildlife.
BI-47	The Air Force operates under the Sikes Act, which was enacted in 1960 and requires cooperation with and by DOI (BLM, USFWS) and DoD with state agencies in planning, development, and maintenance of fish and wildlife resources on military reservations throughout the United States. The Sikes Act promotes effectual planning, development, maintenance, and coordination of wildlife, fish, and game conservation and rehabilitation in military reservations and attempts to ensure that fish, wildlife, and other natural resources that exist on and are associated with military lands in the United States are protected and enhanced. The legislation is such that conservation activities are promoted while allowing military lands to continue to meet the needs of military operations. The primary tool for attaining these goals is through a planning document called an INRMP. Additionally, the Air Force has updated mitigation language in Section 2.9.1 to include: “The Secretary of the Air Force and the Secretary of Interior would establish, by MOU, an Intergovernmental Executive Committee for the land withdrawn by Congress for the purpose of exchanging views, information, and advice relating to the management of the natural and cultural resources of the withdrawn and reserved lands and to proactively collaborate on studies and analyses developed in accordance with, but not limited to, NEPA, the Fish and Wildlife Coordination Act (16 USC 661 et seq.), NHPA (16 USC 470 et seq.), ESA (16 USC 1531 et seq.), and the Sikes Act (16 USC 670). The MOU would include the following primary goals and objectives: • Establish an Air Force-led Intergovernmental Executive Committee • Develop/document communication, data sharing, and reporting procedures • Coordinate biological and cultural resources management • Establish procedures for coordinating changes of activity within the DNWR • Establish reporting requirements for mitigation implementation • Establish a Comprehensive Public Report (published every five years) A suggested framework for the Intergovernmental Executive Committee would include selected representatives from the Air Force, USFWS, BLM, DOE, NDOW, and other appropriate government agencies. The Committee would be established for the purpose of reviewing and addressing biodiversity, environmental policy, and regulatory issues, as well as the exchange of views, information, and recommendations relating to adaptive management of natural and cultural resources of the lands withdrawn. The Committee could operate in accordance with specific terms set forth in an MOU. The Committee is a potential solution to address concerns that were raised during public review by both federal agencies and the public. The internal structure of the Committee and frequency of meetings would be addressed in its charter.” Also, the Intergovernmental Executive Committee will help develop an Access Management Plan, which includes a Compensatory Access element. Also, the Air Force added the following language to Section 2.9.2: “Under all action alternatives, the INRMP will be revised under authority of AFI 32-7064, Integrated Natural Resources Management, as implemented by Air Force Policy Directive 32-70, Environmental Quality, and DoD Instruction 4715.3, Environmental Conservation Program. The authority to establish natural resources management programs at DoD installations is provided by 16 USC 670 (the Sikes Act, Conservation Programs on Military Installations). A primary goal of the INRMP is to maintain ecosystem integrity and dynamics on the NTTR without compromising the military mission. The INRMP is a cooperative effort between other federal agencies as well as Nevada stakeholders, and the Air Force

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	implements the biological resources guidelines of the INRMP. Through various existing program offices and current practices, NTTR planners, with user group support, will: • Develop guidance on environmental restrictions and compliance requirements, to include mitigations and environmental constraints, and associated consultations, as well as the INRMP. • Provide restrictions to unit commanders and training personnel (through NTTR Range Safety and Operations Procedures annual briefings, additional site-specific environmental briefings, and/or the Center Scheduling Enterprise). • Document and resolve any issues related to environmental compliance with the cooperating agencies upon notice of any compliance issues. The following specific biological resources mitigations would be implemented under all action alternatives: • Provide information to range users, prior to conducting training or testing activities, regarding restrictions based on biologically sensitive areas and impacts on wildlife. This mitigation minimizes impacts across all action alternatives. • The Air Force and USFWS would explore jointly funding a permanent position(s) that would be located at Nellis AFB to work directly with Air Force personnel on management of biological resources. This could be done under the Interagency Agreement for the Conservation of Natural Resources on Air Force Controlled Lands between the USFWS and the Air Force."
BI-48	NDOW manages the bighorn sheep collaring efforts based on their management practices. The Air Force only allows access to the range for these activities.
BI-49	The Air Force has added the need to establish an Intergovernmental Executive Committee for the purpose of exchanging views, information, and advice relating to the management of the natural and cultural resources of the withdrawn and reserved lands and to proactively collaborate on studies and analyses. The Air Force remains committed to working with the USFWS to serve the interest of the United States and missions assigned to both federal agencies. The Intergovernmental Executive Committee text has been added to Section 2.9.1: "The Secretary of the Air Force and the Secretary of Interior would establish, by MOU, an Intergovernmental Executive Committee for the land withdrawn by Congress for the purpose of exchanging views, information, and advice relating to the management of the natural and cultural resources of the withdrawn and reserved lands and to proactively collaborate on studies and analyses developed in accordance with, but not limited to, NEPA, Fish and Wildlife Coordination Act (16 USC 661 et seq.), NHPA (16 USC 470 et seq.), ESA (16 USC 1531 et seq.), and the Sikes Act (16 USC 670). The MOU would include the following primary goals and objectives: • Establish an Air Force-led Intergovernmental Executive Committee • Develop/document communication, data sharing, and reporting procedures • Coordinate biological and cultural resources management • Establish procedures for coordinating changes of activity within the DNWR • Establish reporting requirements for mitigation implementation • Establish a Comprehensive Public Report (published every five years) The Air Force has worked extensively with the USFWS as a cooperating agency since 2015 to prepare the LEIS and numerous supporting studies associated with the military land withdrawal and will continue to do so through the Intergovernmental Executive Committee.
BI-50	The Air Force is requesting a land withdrawal under the Federal Land Policy Management Act. The lands being requested for withdrawal are federal lands and do not constitute a taking. They will continue to be managed for preservation of natural and cultural resources in cooperation with state and federal natural resource and land managers. As part of the NEPA process, public entities were given the opportunity to comment on the environmental impacts associated with the requested land withdrawal. The Air Force has updated mitigation language to include an Intergovernmental Executive Committee that will help develop an Access Management Plan. Details regarding this language can be found in Sections 2.9.1 and 2.9.2. Additionally, the Air Force operates under the Sikes Act, which was enacted in 1960 and requires cooperation with and by DOI (BLM, USFWS) and DoD with state agencies in planning, development, and maintenance of fish and wildlife resources on military reservations throughout the United States. The Sikes Act promotes effectual planning, development, maintenance, and coordination of wildlife, fish, and game conservation and rehabilitation in military reservations and attempts to ensure that fish, wildlife, and other natural resources that exist on and are associated with military lands in the United States are protected and enhanced. The legislation is such that conservation activities are promoted while allowing military lands to

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	continue to meet the needs of military operations. The primary tool for attaining these goals is through a planning document called an INRMP.
BI-51	At the request of cooperating agencies (USFWS, BLM, and NDOW) at a Cooperating Agency Meeting on August 1, 2018, cooperating agency comments have been addressed at an interagency level. Therefore, this comment code is no longer applicable.
BI-52	To date, the Air Force has not received guidance that is contrary to those statements in the LEIS. Therefore, the narrative is still valid until guidance is provided to the contrary. The Solicitor's Opinion (that the MBTA does not prohibit incidental take of migratory birds) does not affect the "Memorandum of Understanding between the U.S. Department of Defense and the U.S. Fish and Wildlife Service to Promote the Conservation of Migratory Birds," which remains in effect. Additionally, the prosecutorial discretion for incidental take of migratory birds discussed in the DOI Solicitor's Opinion M-37050 (December 22, 2017) should have no effect on the way federal lands are managed for the protection of migratory birds. Federal agencies must still adhere to the regulations of the MBTA (16 USC 703–712), and with Executive Order 13186 - Responsibilities of Federal Agencies To Protect Migratory Birds. In accordance with Executive Order 13186, DoD and the USFWS entered into a "Memorandum of Understanding between the U.S. Department of Defense and the U.S. Fish and Wildlife Service to Promote the Conservation of Migratory Birds" in 2014 for the purpose of promoting the conservation of migratory bird populations on military managed lands and airspace used for testing, training, and operations. Actions to improve habitat for migratory birds, or to mitigate for any identified potential incidental take of migratory birds, are addressed in the installation INRMP prepared in collaboration with the USFWS and NDOW as required by 16 USC 670 et seq.
CM-1	The LEIS has been updated to address the Fallon Naval Air Station withdrawal request within Chapter 4 (Cumulative Impacts).
CM-2	The Air Force understands the impacts that federal actions have on Nye County and acknowledges that other federal actions have impacted Nye County in the past. With respect to the proposed withdrawal action, the Air Force has conducted analysis on various affected resources associated with Alternatives 3A, 3A-1, and 3B that would impact Nye County. Details regarding each of these impacts are located in the designated sections of the LEIS. The Air Force recognizes the impacts of federal actions on the Nye County tax base and addressed this issue in the Socioeconomics section. As part of the LEIS process the Air Force included the Nevada Association of Counties (NACO) as a cooperating agency to ensure all county concerns were thoroughly understood and suitably addressed. The Air Force looks forward to working with the counties on the Joint Land Use Study (JLUS) regarding projects that affect both the counties and the Air Force. Additionally, the LEIS evaluates PILT impacts on Nye County as has included military activities such as the Fallon Range Training Complex Modernization in the Cumulative Impacts section.
CM-3	In this LEIS, the Air Force identified actions on or near the proposed withdrawal areas that are under consideration and in the planning stage at this time. These actions are included in the cumulative effects analysis to the extent that details regarding such actions exist and the actions have a potential to interact with the proposed alternatives outlined in this LEIS. The Fallon Complex Modernization has been added to the Cumulative Impacts section.
CM-4	Please see Section 4.1.4.4 (Land Use), which discusses cumulative impacts to recreation including OHV trails.
CM-5	At the request of cooperating agencies (USFWS, BLM, and NDOW) at a Cooperating Agency Meeting on August 1, 2018, cooperating agency comments have been addressed at an interagency level. Therefore, this comment code is no longer applicable.
CM-6	The following text has been added in Section 4.1.4.8: "However, as outlined in the Biological Assessment, the Air Force is working with USFWS Ecological Services to develop compensatory mitigation strategies that include 'mitigation banking' to offset any loss of habitat. Additionally, the Air Force operates under an incidental take permit issued by the USFWS, which is anticipated to continue. Based on consultation with the USFWS, the agency believes that none of the alternatives will, even considering cumulative impacts, jeopardize the continued existence of the desert tortoise."
CU-1	Tribal access to land areas proposed for withdrawal will continue as it currently does under the Nellis AFB Cultural Resources Management Program, through coordination with the Air Force. The Air Force is committed to working with tribes so that they can have access to the NTTR and the areas

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	of ancestral concern for each tribe. As stated in the LEIS in Section 2.2.1, "The NTTR does have a process for enabling access by others to select areas of the NTTR, which do not include impact areas. Requests for access may be submitted to the NTTR Range Operations Branch, which can assess if such access could be granted. Requests for access by the general public must be made at least 90 days prior to an expected event to receive consideration while requests from government agencies or Native American tribal groups would follow the specific procedures established in the INRMP, ICRMP, or an appropriate agreement, such as a Memorandum of Agreement/Understanding between the Air Force and the government agency or tribal groups. The Air Force will review the requests and assist non-DoD users through the process of gaining access to a given area." Additionally, Section 2.9.2 has been updated to allow for an Access Management Plan: "• For all action alternatives, to address access issues for the South Range as well as the proposed expansion areas, the Air Force will develop an Access Management Plan, in coordination with stakeholders determined by the Intergovernmental Executive Committee. (Stakeholders could consist of the USFWS, U.S. Geological Survey [USGS], tribes, etc.). The Access Management Plan would evaluate and establish mechanisms and procedures for allowing access to withdrawn areas in support of scientific research, natural and cultural resources management programs (including the INRMP and ICRMP, respectively), and public affairs programs. Many of these mechanisms and procedures are currently in place, but the Access Management Plan would formalize the process so individual access requests would be submitted as outlined in the NTTR AFI 13-212 Supplement and evaluated based on each request's purpose and need. Criteria for legitimate purpose and need(s) would be developed and codified within the Access Management Plan. The Plan would be periodically reviewed by the Intergovernmental Executive Committee and associated Plan stakeholders to determine the efficacy of the Plan and identify any access-related issues and revisions/adjustments to established procedures and mechanisms for access. • Examples of criteria for access could include, but not be limited to: o Scientific Research Purposes – Access for purposes of natural or cultural resources studies. Examples of scientific research access could include gathering of sensitive species and migratory bird data, habitat data, archaeological and historic resource data, and other science-based data collection efforts. o Cultural/Religious Need – Access associated with cultural or religious need. As an example, some areas within the proposed withdrawal areas hold cultural and religious significance to Native American tribes and some members of the public who have historical ties to land areas and features (e.g., homesteads, mines, and gravesites). Tribes and other stakeholders need access to these sites in some fashion to support their cultural and religious heritage. For example, tribes will continue to conduct traditional ceremonies associated with pine nut gathering. o Natural Resource Management – Access for purposes of natural resources management activities conducted by groups not affiliated with the Air Force. The USFWS, USGS, NDOW, Fraternity of the Desert Bighorn, and others require access to land areas in support of natural resource management activities (e.g., maintenance of guzzlers, habitat restoration). o Public Affairs – Access in support of public and community relations. Examples include tours to ecologically or culturally significant areas, demonstrations of training activities on the withdrawal areas, and production of public communication materials such as videos. • If the request for access is approved, the appropriate level of access would be determined based on the purpose and need for the request, and access allowances would be based on the following 'access tiers,' or combination of access tiers, as appropriate: o Direct Physical Access – Direct physical access means actual access to the land areas in question. Direct access is currently granted on a case-by-case basis in accordance with the NTTR Supplement to AFI 13-212. This would continue under withdrawal renewal and/or expansion, with consideration of the purpose and need of the individual request as described above and as the mission schedule allows. Examples of opportunities for direct physical access may include conducting bird surveys, vegetation/habitat surveys, access to culturally significant sites, access to guzzlers, access for hunting (e.g., annual bighorn sheep hunt), and access for cultural representative tours. The Access Management Plan would further identify and codify duration and frequency of opportunities for direct access. As an example, potential training downtimes (e.g., range decontamination and holidays, where bombing ranges are closed for a period of time) could be leveraged to provide opportunities for direct access. o Virtual Access – Virtual access includes access to data, imagery, and other information-related aspects associated with the land areas in question. As an example, virtual access could include game camera shots available online, reports and data derived from NTTR natural resource management efforts, and other data/information useful in informing the aforementioned criteria.

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	o Compensatory Access – Compensatory access includes compensating the loss of access to one area by establishing mechanisms for access to other areas that are currently difficult to access or inaccessible. As an example, because the withdrawal may result in loss of access to existing recreational areas in the DNWR such as the Sheep Mountain Range due to closure of Alamo Road, the Air Force could provide resources for road improvements or trail development/improvements in other areas of the DNWR Complex where access is currently difficult or non-existent due to existing conditions. For example, this could include improvements to Mormon Well Road, the area around Moapa Wildlife Refuge, or opportunities on other federal lands. This may require additional Congressional appropriations."
CU-2	Construction, the use of vehicles, and overland troop movement on the NTTR would typically result in some degree of ground disturbance and, in turn, may potentially damage cultural resources. Current target areas would remain the same. Because this alternative would retain the current boundaries of the NTTR and not greatly increase the intensity of activities, no additional impacts beyond currently approved activities and those currently covered by standard operating procedures in the Nellis AFB ICRMP are anticipated with respect to cultural resources within the NTTR. Section 2.9.2 has been updated to state: "The following would apply to all action alternatives: • The Air Force will consider as per the installation (Nellis, Creech, and the NTTR) ICRMP (2012a) specific mitigations, management actions, and/or BMPs that would be presented as part of a treatment plan if cultural resources are threatened, although avoidance of the resource typically would be the preferred mitigation practice. For example, continue to restrict access and military operations around sensitive cultural sites, such as the Pintwater Cave. If the Air Force finds an undertaking may have an adverse effect on historic properties, Nellis AFB will consult with the Nevada SHPO, tribes, interested parties, and the Advisory Council on Historic Preservation to prepare a treatment plan to resolve adverse effects. • In accordance with the ICRMP, conduct annual site monitoring of eligible cultural areas, which includes Pintwater Cave and Kawich Range (e.g., the Basket Site). • In conjunction with the LEIS baseline ethnographic studies, the Air Force, in coordination with the tribes, will continue to develop ethnographic information along with archaeological studies. • The Air Force recognizes the rights of Native American tribes and other entities with historical ties to access religious sites, objects, and historical resources on lands under Air Force control, within the limitations of the military mission. The Air Force will continue to provide a process for continued access as outlined in Section 2.2.1. • Provide information to range users, prior to conducting training or testing activities, regarding restrictions and avoidance areas derived from culturally sensitive areas (specific cultural features will not be identified). This mitigation minimizes impacts across all action alternatives. • The Air Force will continue to host a semi-annual meeting with federally recognized tribes through the CGTO or other appropriate forum. This process was created through dialogue with the tribes during the 1999 Withdrawal process. • The Air Force will continue to conduct government-to-government consultation with federally recognized tribes as appropriate, for any activities that have the potential to adversely affect cultural resources. As a result, any future undertaking in this area could require additional consultation under NEPA and Section 106 of the NHPA, depending on the scope and location of the activity." It is anticipated that any future construction projects would be selected to avoid impacts to significant cultural resources. Section 5.2.4 of the Nellis AFB ICRMP requires a treatment plan when a historic property is identified as threatened. This requires an investigation and evaluation to be conducted according to procedures in 36 CFR 60. A draft treatment plan shall be composed by the Cultural Resources Manager followed by consultation. If possible, avoidance shall be selected as the preferred treatment measure. Because avoidance of resources is the preferred method of treatment, it is anticipated that sites would be selected that provide resources with a sufficient buffer that prevent direct impacts to cultural resources. In addition, depending on the scope of the activities, proposed actions may be subjected to additional consideration under NEPA and the NHPA. The Air Force will evaluate whether current funding is adequate after the Congressional decision is made.
CU-3	A Section 106 Consultation with the SHPO has occurred and is provided in Appendix I. Tribal perspective is included in Appendix K. Additionally, please see Section 3.9.2 (Environmental Consequences) for impacts associated with cultural resources and Appendix B for agency coordination and consultations.
CU-4	The Air Force has worked with tribal entities through the CTGO and will continue to foster dialogue on Native American issues as was the case on the LEIS as stated in Section 2.2.1, "Furthermore, the Air Force met with Native American groups in the early stages of the Draft LEIS development and obtained their input

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	and comments regarding the withdrawal proposals. One of their suggestions was to include a Native American perspective that would complement each of the affected resources discussed in the Draft LEIS. This perspective was provided by a Native American writers group that was created by the Consolidated Group of Tribes, which comprises 17 tribes. One specific concern raised during tribal engagement was the impacts of overflights on Native American cultural sites such as rock shelters and petroglyphs. As a result, the Air Force has specifically addressed this concern in Chapter 3." Another suggestion provided by the Native American groups was to perform ethnographic studies on the proposed expansion lands. These studies were performed; however, were not completed in time for inclusion in the Draft LEIS. These studies are now complete, including Native American review, and are included in Appendix I.
CU-5	Appendix B.9 describes in detail the tribal coordination and government-to-government efforts undertaken by the Air Force as part of this process. The CGTO established a working group to provide a Native American perspective document that was included as Appendix K of the Draft LEIS. The Air Force continues to work with the CGTO and other interested tribes as part of this process and will continue to do so as part of the Nellis AFB Cultural Resources Management Program into the future.
CU-6	The Air Force has taken these steps as part of its existing Cultural Resources Management Program. As described in Section 3.9.1.3 of the LEIS, Nellis AFB has a robust Cultural Resources Management Program and has conducted numerous cultural resource surveys, provided access to tribal resources to interested tribes, and worked to protect cultural resources through the Nellis AFB ICRMP in coordination with the Nevada SHPO, Advisory Council on Historic Preservation, and the CGTO. Efforts have been initiated to also identify cultural resources in proposed expansion lands in coordination with the Nevada SHPO and interested tribes as described in Section 3.9.1.3 of the LEIS. Additionally, Appendix A includes Native American interactions while Appendix K provides Native American perspectives.
CU-7	As part of the Nellis AFB existing Cultural Resources Management Program described in Section 3.9.1.3 of the LEIS, Nellis AFB has conducted numerous cultural resource surveys on the NTTR that have been coordinated with local native groups and involved Native American monitors and input. Efforts have been initiated to also identify cultural resources in proposed expansion lands in coordination with the Nevada SHPO, the CGTO, and other interested tribes as described in Section 3.9.1.3 of the LEIS.
CU-8	Based on this request, the Air Force met with the Moapa on May 8, 2018, from 5:00 PM to 7:00 PM. Those attending on behalf of the Air Force were Colonel Zuhlke, Colonel Davis, Lietenent Colonel Kolesiak, Roger Christensen, Ms. Hopper, Captain Ormsbee JA, and Kish LaPierre.
CU-9	The Air Force understands that that compliance with treaties is a longstanding point of disagreement between the U.S. Government and the tribes, and is outside the scope of the LEIS and Land Withdrawal process.
CU-10	A letter was sent to all tribes on June 22, 2016, requesting feedback and input as part of government-to-government consultation with tribes. Additional letters were sent in 2018 to reaffirm this relationship. The tribal consultation process in conjunction with the LEIS review and analysis has been extensive. It has included multiple tribal briefings, two sets of separate tribal meetings to address concerns, and also the compilation and formulation of tribal perspectives on the land withdrawal proposal, which can be found throughout the LEIS and in Appendix K. It has also included the completion of ethnographic studies and inclusion of tribal monitors on cultural survey teams, as well as visits to tribes by Nellis AFB leadership to ensure a clear understanding of tribal concerns.
CU-11	Section 2.9.2 has been updated to include the following for all action alternatives: "• The Air Force will consider as per the installation (Nellis, Creech, and the NTTR) ICRMP (2012a) specific mitigations, management actions, and/or BMPs that would be presented as part of a treatment plan if cultural resources are threatened, although avoidance of the resource typically would be the preferred mitigation practice. For example, continue to restrict access and military operations around sensitive cultural sites, such as the Pintwater Cave. If the Air Force finds an undertaking may have an adverse effect on historic properties, Nellis AFB will consult with the Nevada SHPO, tribes, interested parties, and the Advisory Council on Historic Preservation to prepare a treatment plan to resolve adverse effects. • In accordance with the ICRMP, conduct annual site monitoring of eligible cultural areas, which includes Pintwater Cave and Kawich Range (e.g., the Basket Site). • In conjunction with the LEIS baseline ethnographic studies, the Air Force, in coordination with the tribes, will continue to develop ethnographic information along with archaeological studies. • The Air Force recognizes the rights of Native American tribes and other entities with historical ties to access religious sites, objects, and historical resources on lands under Air Force control, within the

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	limitations of the military mission. The Air Force will continue to provide a process for continued access as outlined in Section 2.2.1. • Provide information to range users, prior to conducting training or testing activities, regarding restrictions and avoidance areas derived from culturally sensitive areas (specific cultural features will not be identified). This mitigation minimizes impacts across all action alternatives. • The Air Force will continue to host a semi-annual meeting with federally recognized tribes through the CGTO or other appropriate forum. This process was created through dialogue with the tribes during the 1999 Withdrawal process. • The Air Force will continue to conduct government-to-government consultation with federally recognized tribes as appropriate, for any activities that have the potential to adversely affect cultural resources. As a result, any future undertaking in this area could require additional consultation under NEPA and Section 106 of the NHPA, depending on the scope and location of the activity."
CU-12	The tribal consultation process in conjunction with the LEIS review and analysis has been extensive. It has included multiple tribal briefings, two sets of separate tribal meetings to address concerns, and also the compilation and formulation of tribal perspectives on the land withdrawal proposal. It has also included the completion of ethnographic studies and inclusion of tribal monitors on cultural survey teams, as well as visits to tribes by Nellis AFB leadership to ensure a clear understanding of tribal concerns. Additionally, the Air Force has worked extensively with the USFWS as a cooperating agency since 2015 to prepare the LEIS and numerous supporting studies associated with the military land withdrawal and will continue to do so through the Intergovernmental Executive Committee as outlined in Section 2.9.1.
CU-13	The Air Force has updated Section 2.9.2 to include the following text: "The following would apply to all action alternatives: • The Air Force will consider as per the installation (Nellis, Creech, and the NTTR) ICRMP (2012a) specific mitigations, management actions, and/or BMPs that would be presented as part of a treatment plan if cultural resources are threatened, although avoidance of the resource typically would be the preferred mitigation practice. For example, continue to restrict access and military operations around sensitive cultural sites, such as the Pintwater Cave. If the Air Force finds an undertaking may have an adverse effect on historic properties, Nellis AFB will consult with the Nevada SHPO, tribes, interested parties, and the Advisory Council on Historic Preservation to prepare a treatment plan to resolve adverse effects. • In accordance with the ICRMP, conduct annual site monitoring of eligible cultural areas, which includes Pintwater Cave and Kawich Range (e.g., the Basket Site). • In conjunction with the LEIS baseline ethnographic studies, the Air Force, in coordination with the tribes, will continue to develop ethnographic information along with archaeological studies. • The Air Force recognizes the rights of Native American tribes and other entities with historical ties to access religious sites, objects, and historical resources on lands under Air Force control, within the limitations of the military mission. The Air Force will continue to provide a process for continued access as outlined in Section 2.2.1. • Provide information to range users, prior to conducting training or testing activities, regarding restrictions and avoidance areas derived from culturally sensitive areas (specific cultural features will not be identified). This mitigation minimizes impacts across all action alternatives. • The Air Force will continue to host a semi-annual meeting with federally recognized tribes through the CGTO or other appropriate forum. This process was created through dialogue with the tribes during the 1999 Withdrawal process. • The Air Force will continue to conduct government-to-government consultation with federally recognized tribes as appropriate, for any activities that have the potential to adversely affect cultural resources. As a result, any future undertaking in this area could require additional consultation under NEPA and Section 106 of the NHPA, depending on the scope and location of the activity."
ER-1	Although the Air Force can recognize the long-term concerns, in the instance of this requested withdrawal, there is only one active mining claim located within the current withdrawn lands and proposed expansion areas, and it is located within the Range 77 expansion area proposed for Alternative 3A and 3A-1. If Congress withdraws the Range 77 parcel associated with Alternative 3A or 3A-1, then a subsequent potential restriction of access to this active claim could potentially represent an impact to economic resources. No active mining claims would be impacted by the selection of Alternative 3B or 3C, and currently, the USFWS-managed DNWR areas in the Alternative 3C proposed withdrawal area are not open to mining. If the Air Force withdraws the Range 77 parcel associated with Alternative 3A or 3A-1, then a subsequent potential restriction of access to this active claim could potentially represent an impact to earth resources.

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ER-2	The LEIS states in Section 1.4.2: "Personnel movement usually occurs on established roads, along mountainous terrain, and on rare occasions through riparian environments. These types of activities would occur with teams that are typically no more than 12 troops, and movements would occur in such limited frequency over the same area that the physical impact on the ground would be negligible. Typical troop movement activity includes the following: • Road march (done on existing roads for extended lengths of travel) • 6- to 12-man team insertion/extractions from varying methods (parachute, airplane insertion, and helicopter); insertions are clandestine activities and regardless of how an insertion is accomplished, personnel would most often walk out of the insertion area • Clandestine movement by foot to training objective sites (most often culminating at an Urban Operations Complex (UOC) • Foot movement to a UOC through the interstitial and on existing roads"
ER-3	Please see Sections 3.4 (Land Use and Recreation) and 3.6 (Socioeconomics) regarding impacts to mining. Section 2.9.2 has been updated to include an Access Management Plan process that will be developed and governed by the Air Force and Intergovernmental Executive Committee as outlined in Section 2.9 (Mitigation).
GE-1	The commenter is referencing maps provided which illustrate bike routes on the Spicer Ranch. The Air Force recognizes these concerns as indicated in the analysis, which states 4.88 miles of bike trails are impacted by Alternative 3A. Based on input during public scoping, an Alternative 3A-1 was created, which only impacts one proposed bike trail.
GE-2	Due to limited space not all landmarks can be represented on every map. Maps in Chapter 3 are focused on the affected resource being discussed. Large versions of the maps showing the expansion areas were provided on the website. Maps were updated, as applicable, including revisions of the Indian Springs label. However, with regards to the label for Indian Springs on page 3-209 of the Draft LEIS, Indian Springs is describing the prospect areas associated with the mining figure and not the town itself. Please see the map legend for more clarification.
GE-3	Sections 2.9.1 and 2.9.2 have been updated with new text regarding mitigations. Section 2.9.1 states: "During the initial development of the proposed implementation of various alternatives for extending the withdrawal and expanding the boundaries of the NTTR, constraints were included in the screening standards. This meant that avoiding, minimizing, or reducing potential impacts was a priority guiding the development of alternatives. Congress will make the final decision on the alternatives through legislation; however, it is appropriate for the Air Force to identify mitigations and current management actions to be carried forward as well as identify potential mitigations that would be put in place depending upon the alternatives selected." Text has been updated to state: "Section 2.9.2 below provides potential mitigations identified through analyses that would serve to avoid or minimize potential adverse impacts." Economic impacts associated with Nye County are located in Section 3.6. Additionally, funding is in part based on requirements established under the INRMP or other programs. Where necessary, the Air Force may submit mitigation funding requests to Congress.
GE-4	This document is publicly available and has been uploaded to the project website (www.NTTRLEIS.com) and will be part of the Administrative Records. Support studies that were developed as part of the withdrawal effort have been available on the public website. Reference documents are available in the LEIS Administrative Records.
GE-5	Thank you for your interest in future NEPA proposals. At this time there is no consolidated mailing list across all Nellis AFB/NTTR related projects. However, as proposals become available for review and comment, Nellis AFB will post them on its website at: http://www.nellis.af.mil/About/Environment.aspx.
GE-6	The Air Force recognizes your concern; however, please note this issue is outside of the scope and Proposed Action for the NTTR land withdrawal.
GE-7	The text has been updated to state: "The NTTR comprises about 2.9 million acres of land, 5,000 square miles of airspace that is restricted from civilian air traffic overflight, and another 7,000 square miles of Military Operations Area (MOA), which is shared with civilian aircraft." Land ownership acreage is not relevant since all expansion areas being requested are federal lands administered by DOI.

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GE-8	The LEIS has been updated to address impacts associated with Alternative 4 as appropriate for each affected resource. Updates were included for the following affected resources: Wilderness and Wilderness Study Areas, Socioeconomics, Biological Resources, Cultural Resources, Earth Resources, Water Resources, and Hazardous Materials and Solid Waste. For all other affected resources the proposed withdrawal periods associated with Alternative 4—Alternative 4A (20-year withdrawal period), Alternative 4B (50-year withdrawal period), and Alternative 4C (indefinite)—must be implemented in conjunction with one or more of the other alternatives or subalternatives. Because Alternative 4 reflects periods of time, which do not in and of themselves cause specific impacts except to provide a timeframe during which impacts from other chosen alternatives may occur. Therefore, while it is not anticipated that any of the withdrawal period subalternatives (4A, 4B, or 4C) would have a significant effect on the intensity of impacts described previously for any particular alternative, the duration of impact would potentially correspond to the withdrawal period.
GE-9	Footnotes associated with Table 2-4 entitled “Thirty Percent Increase in Munitions” have been updated.
GE-10	The following narrative has been included for Alternative 3C only: “For Alternative 3C, the proposed land withdrawal would provide the opportunity to alter the configuration of the training missions on the South Range. The current recreational uses of the land that may be taking place on those lands would likely be eliminated or available to the public on a limited basis or through specific agreements. Additional expenditures from the new training configurations potentially could offset some of the resulting economic losses as well as the 30 percent increase in aircraft operations associated with Alternative 3 as was discussed in Section 2.3.3 (Alternative 3).”
GE-11	As stated prior to the table “Table 2-5 summarizes the impacts for each resource area as they relate to the potential combination of alternatives. More detail on all impacts can be found in the respective resource-specific discussions provided in the associated sections in Chapter 3 and summarized in Section 3.15 (Summary of Impacts).” As stated in Section 3.15, the potential impacts from selecting a combination of the alternatives presented in Section 2.3 (Alternatives) are illustrated in a quick-reference, color-coded table in Section 2.8 (Environmental Comparison of Alternatives) and described in Section 3.15.1 (Summary of Impacts for Potential Alternative Combinations).” Section 3.15.1 provides the methodology as well as a summary of the potential impacts from the combination of alternatives. Additionally, details on mitigations can be found in Section 2.9. Detailed descriptions of mitigations for each affected resource are located in Section 2.9.1.
GE-12	Table 3-50 provides a summary of each alternative for each resource, not an impact ranking. As stated in Section 3.15, “The following table (Table 3-50) provides a summary of the potential impacts associated with each alternative, as described in Sections 3.1 (Airspace) through 3.14 (Transportation) for each resource area.”
GE-13	Please see responses for comment letter #6008.
GE-14	Any concerns can be coordinated through the Nellis AFB Public Affairs Office at 702-652-2750, which is also provided on the cover sheet of the LEIS: “Information regarding the Final LEIS is available on the website at www.NTTRLEIS.com. Questions can also be directed to: 99th Air Base Wing Public Affairs, 4430 Grissom Ave. Suite 107, Nellis AFB, Nevada 89191, and by telephone at 702-652-2750 or email at 99ABW.PAOutreach@us.af.mil.”
GE-15	Please note that Section 6 of the Order states: “Effect of Order. This Order is intended to improve the internal management of the Department. This Order and any resulting reports or recommendations are not intended to, and do not create any right or benefit, substantive or procedural, enforceable at law or equity by a party against the United States, its departments, agencies, instrumentalities or entities, its officers or employees, or any other person. To the extent there is any inconsistency between the provisions of this Order and any Federal laws or regulations, the laws or regulations will control.” However, it should be noted that under the Sikes Act, the Air Force must also provide natural resource management and allow public access where safe and appropriate.
GE-16	Please see responses for comment letter #4003.
GE-17	Changes were made as appropriate.
GE-18	The Air Force has responded to substantive comments as discussed in Section 1.5.2. The Air Force can only respond to comments that are directed specifically to the Proposed Action and alternatives associated with the NTTR LEIS withdrawal process. Using a document associated with Helena National Forest as a reference for comments would require the Air Force to speculate on the details of the comments since they are not specific to the Air Force’s Proposed Action.

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GE-19	At the request of cooperating agencies (USFWS, BLM, and NDOW) at a Cooperating Agency Meeting held on August 1, 2018, cooperating agency comments have been addressed at an interagency level.
HS-1	Please refer to Section 3.13.1.3 (Wildland Fire Risk and Management/Ground Safety) and subsequent alternative analyses in Section 3.13.2 for information regarding wildfire prevention and management as they relate to each alternative.
HS-2	Details regarding agency responsibilities are located in Section 13.1.3 of the LEIS, which states: "Currently, the USAFWC has no internal personnel certified to fight wildland fires. All wildfire suppression requires the assistance of other federal and state agencies. If a wildland fire occurs on the NTTR, fire suppression activities will be requested from BLM in the North Range or the USFWS in the South Range, in accordance with established procedures. Generally, BLM would respond to non-military fires inside and near the Air Force boundary and within withdrawn lands, while the Air Force would have primary responsibility for military-caused fires. Regardless of the actual cause, fire response for any fire would be a collaborative effort, as it is mutually beneficial for the Air Force and BLM to manage fires in accordance with their respective land use plans. Note: The Memorandum of Agreement between the BLM Nevada State Office and Nellis AFB titled "Wildland Fire Management Activities at Nevada Test and Training Range" (2010) expired in 2015. The 2010 agreement implies that BLM would provide fire response upon Air Force request to the South Range, which is USFWS-managed withdrawn lands. BLM, the USFWS, and the Air Force are currently working to establish a formal Memorandum of Understanding, as required by P.L. 106-65. (Note: The Air Force and BLM National Fire and Aviation Directorate have entered into an Interagency Agreement (2017), which includes wildland fire management.) Ensuring the safety of firefighters and other persons affected by fire operations is fundamental to successful fire suppression. Adherence to safety protocols is critical before participation in any wildland fire management activity. All personnel being deployed into an area immediately dangerous to life and health will be initially briefed regarding appropriate personal protective equipment, hazards, lookouts, escape routes, and safety zones. Communication links between firefighters and personnel in aircraft overhead will be established and tested before engaging in fire suppression activities (U.S. Air Force, 2012b). In addition, the Air Force recognizes that the USFWS Nevada Zone Fire Management Office has jurisdictional wildfire protection responsibility for USFWS lands. These responsibilities include fire suppression, fire management, and hazard fuel treatments. Using these responsibilities as guidance, the Air Force will continue to cooperate with the USFWS Nevada Zone Fire Management Office where appropriate by notifying the Office of all wildfires on or within 1 mile of range lands that are co-managed by both the Air Force and the USFWS as soon as practical. The Air Force will continue to provide input on a Community Protection Plan (CPP), as applicable. This will include identifying hazard fuel treatment areas on co-managed lands. Additionally, the Air Force will cooperate, as appropriate, on fire management preparedness and response through the use of the Wildfire Decision Support System (WFDSS)."
HS-3	The Air Force took into account public safety in their selection standards and internal planning sessions and stated in the LEIS in Section 2.3.3.4: "Unrestricted access would present public safety concerns associated with weapon safety footprints and security concerns for technologically advanced equipment that will be used for future test and training activities. Limited access, based on current practices, is granted on a case-by-case basis and would continue under Alternative 3C should Congress select this alternative." The Air Force is focused on ensuring a safe environment for military as well as civilians; as such the Air Force's minimum requirement for a safety weapons zone ensures that there is a 1 in 10,000 chance that debris will leave the safety zone.
HS-4	Please see Section 3.13, specifically 3.13.1.3, sub-heading "Electromagnetic Radiation and Radio Frequency Emissions," and subsequent alternative analyses sections for more information regarding potential impacts from electronic weaponry. Potential impacts with regard to biological resources can be found in Section 3.8.
HS-5	As stated in Section 3.8.2.4, "Use of electromagnetic radiation, lasers, and microwave transmission would not likely affect the tortoise because the tortoise would not be in direct contact with the emitter beam for an extended period of time. Any effects on desert tortoises from aircraft overflight or use of threat emitters would be low and not likely to result in a permanent change to the habitat for the species." Use of electronic emitters to provide training in electronic warfare and add realism to other types of training

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	activity would continue on the NTTR. Safe separation distances from specific emitters have been established. Operation of this equipment would continue with the required safety zones. All laser use would continue to be conducted in accordance with AFI 48-109, Electromagnetic Field Radiation (EMFR) Occupational and Environmental Health Program. Additionally, aircraft equipped for laser targeting would continue to operate and train on the NTTR. Laser use would be limited to targets that have been surveyed and have been specifically approved for such use. If new or additional targets were recommended for laser use, the target and target area would be surveyed and assessed before being approved for laser use to ensure that no potential hazards exist that could create safety risks. If required, some operational constraints may be placed on the use of the target to mitigate any potentially hazardous condition. All laser use would continue to be conducted in accordance with AFI 48-139, Laser and Optical Radiation Protection Program. These areas would continue to be restricted from public access, so impacts to the public from emitter operations on the range would be highly unlikely.
HZ-1	The 1999 MLWA requires the Air Force to annually report to Congress on the continuing cleanup on the range. As stated in Section 3.12.1, "The Coronet Clean policy was instituted in 1975 as a revised means of handling munitions through routine maintenance for active range targets, through a process known as range clearance. Note: 'Range clearance' is defined as the surface-removal or disposal of material potentially presenting an explosive hazard from the targets and surrounding areas. This material includes UXO, classified ordnance, inert ordnance debris, and any other range material fired on, or upon a military range. This program entails the identification and removal of target debris and UXOs. However, explosive residue introduced to the soil is left in place. Munitions are managed as follows (U.S. Air Force, 2017n): 1. EOD personnel or UXO contractor sweeps out around the target area following specific criteria at least every two years. 2. Any UXO encountered is inspected. If it is determined that it can be safely moved, it is consolidated next to a UXO that cannot be moved and then exploded in place. 3. Once the UXO is deemed safe, the debris is recycled or disposed of in a landfill. 4. The disturbed area surrounding the target is backfilled and graded if vegetation control is needed. New targets may be placed or reconstructed following grading activities. Munitions residue may contain hazardous constituents. These constituents are associated with brass casings and lead rounds (for live rounds) and may include copper, lead, and zinc. Established procedures require that expended brass cases be collected and sent off for recycling; however, items such as lead rounds may not be recovered. Nonhazardous solid waste, such as scrap metal, plastic, paper, etc., may also be generated depending on the type of munition used." Please see Section 3.12.1.5 for details on the DoD Monitoring Program, which contains this information.
HZ-2	Please see Section 2.4 (No Action Alternative), which outlines if Congress was not to extend the withdrawal legislation: "The lands withdrawn by the USFWS for the DNWR would be administered by the USFWS. Lands that the DOI does not consider contaminated would be administered by the BLM. Lands considered to be contaminated would remain the responsibility of the Air Force or the DOE until sufficiently decontaminated to allow for the transfer to the DOI." Please see Section 3.13.2.6 (No Action Alternative): "There would be no impacts related to munitions use and handling as munitions training would cease. Routine cleaning of munitions from ranges would also no longer be required; however, before the non-renewed lands could revert to BLM and USFWS control, the Air Force, DOE, USFWS and BLM would be required to assess the level of UXO cleanup required and to implement appropriate remedial measures. Firefighter and public safety would benefit and increase upon the cessation of munitions training and remediation of UXO."
HZ-3	Please refer to Section 3.12 (specifically Section 3.12.1.5) for potential impacts related to hazardous materials and solid waste, including contamination. Related water contamination discussions can be found in Section 3.11.1.6. Section 3.12.1 outlines the affected resource and the various agencies that are responsible for hazardous materials.

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HZ-4	Please see Section 3.12.1.5 for details on UXO and other contamination issues. Contamination as it relates to other resource areas, such as biological or water resources, can be found in their respective sections. See also response HZ-1 regarding ongoing contamination cleanup activities.
HZ-5	No potential routes of human exposure to munitions constituents have been identified. For example, the drinking water sources at Creech AFB and other locations on the range are not subject to the impact from munitions constituents. This is due to the extensive work on groundwater that has been done over several years by multiple parties, with the latest data obtained from the Desert Research Institute in Las Vegas. There are no surface waters impacted by munitions constituents on the NTTR.
HZ-6	Figure 3-38 has been updated and includes regional drinking water wells in relation to on-base wells that were sampled.
HZ-7	"Final Operational Range Assessment Phase I Qualitative Assessment, Phase I Qualitative Assessment Update, and Phase II Quantitative Assessment Update - Nellis Air Force Base, Nevada." May, 2015. EA Engineering, Science, and Technology, Inc., PBC. 2015.
HZ-8	The Air Force has an active program mandated by DoD to study munitions constituents—the Operational Range Assessment Program (ORAP). Initial sampling results have alluded to potential concerns that require further study and are currently being studied. The proposals, which would include the area known as R65 Expansion, would effectively make the potential for migration of munitions consituents off range in soil non-existent. The area where the munitions constituents were found on range near the range boundary was near the northeast corner of that proposed expansion area. Should Congress include the R65 area in the new withdrawal, the location would be nearly 10 miles inside the new range boundary. The Operational Range Assessment Program looks at the potential for munitions constituents migration off range once every five years. There are no drinking water sources threatened with munitions constituents contamination. Active targets are currently in the playas, which do not have outlets, so the potential for release from the playas does not exist.
HZ-9	The text has been modified to include the following information: "Also, BMPs that have been enacted for targets include the defluidization of vehicles by removing fluids (fuel and oils) to prevent release to the environment as well as an active program to destroy UXO and remove and recycle target residue." Also, stormwater BMPs are not currently employed on the playas. If the playas had outlets downstream, there could be no installation of structural BMPs as that area is currently proposed for wilderness (such activities prohibited) and is under the jurisdiction of the USFWS. They have historically not allowed even military foot traffic in such areas, much less any kind of structural enhancement
HZ-10	The LEIS has been updated to reference the technical report "Department of Defense Operational Range Sustainability through Management of Munitions Constituents." That report will be included as part of the Administrative Record.
HZ-11	Initial sampling results have alluded to potential concerns that require further study and are currently being studied, as the Air Force has an active program mandated by DoD to study munitions contamination. The LEIS has been updated to include a statement that investigative efforts and responses would consider increases in training operations for Alternatives 2 and 3. These efforts would be designed to prevent or slow contaminant migration.
HZ-12	The total quantity of DU contamination would continue to increase (an approximate average of 4,400 pounds of DU rounds are expended annually). However, current studies indicate that DU residues are not migrating outside of the license area by water or other means. The Air Force would develop a closure plan if the DU program is eliminated. This plan would include provisions to remove UXO and remediate any remaining contamination. The USFWS requested suspension of the use of DU in 1993 due to concerns for plants and wildlife. The Air Force initiated site assessments to address USFWS concerns. The assessment findings revealed no effects on soil, water, air quality, wildlife, or plants; the USFWS concurred with the Air Force. The target resumed activity in 2002 after a management plan was developed.
HZ-13	At this time site-specific target locations and impacts associated with converting EC South to a live fire range are not available. However, the Air Force will coordinate with the DOE during the planning stages following Congressional decision. Section 2.3.3 states: "However, at this time, the details associated with specific locations that might experience ground disturbance are not ready for decision or site-specific NEPA-related environmental analysis in this LEIS. Analysis of this alternative focuses mainly on the proposed use of the area from a

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	conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature."
LU-1	The Air Force understands the concerns regarding the potential closure of some recreational areas and recognizes the potential impacts as stated in Section 3.4.2.4. Please refer to Section 3.4.2.4 and Figures 2-14 and 2-15 for a comprehensive list of recreational areas that would remain open and that could potentially be restricted. Recreational areas not impacted by the proposed expansion include, but are not limited to: Hidden Forest Cabin, road and trail; Corn Creek Field Station, dunes, trail, and trailhead; Cow Camp Road; Wagon Wheel Trail; Joe May Road and trail; Gass Peak Road and trail; Mormon Well Road; Desert Pass Campground; Sawmill Canyon Trail; and Hayford Peak. See also the response to LU-2 regarding access requests. The Air Force also recognizes indirect impacts as indicated in Section 3.4.2.4, which states: "Indirect impacts could occur if closure of roads and trails in the affected area results in greater visitation and use of the unaffected recreation sites than presently occurs. This could negatively affect user experience and satisfaction and result in overuse of certain areas." Please note that NEPA does not have a requirement for a special need assessment.
LU-2	The Air Force would continue to allow public access as stated Section 2.2.1, which states: "The Air Force would continue to coordinate with agencies that share responsibility for land and wildlife management, such as the USFWS and NDOW, to manage biological resources on DNWR lands that overlap with the NTTR and expansion areas, and would comply with federal regulations and plans." The Air Force is committed to working with cooperating agencies and public groups as appropriate to provide safe access to the range and as stated in Section 2.2.1, "During discussions with cooperating agencies, one of the major considerations raised by all agencies was their respective ability to access the currently withdrawn NTTR lands and any proposed military withdrawal expansion areas in order to conduct natural and cultural resource management activities. Currently, Air Force Instruction (AFI) 13-212 encourages shared use of range land with non-DoD users when it will not compromise public safety, detract from mission accomplishment, or impair range operations. For safety and security purposes, access by others (non-DoD users) must be strictly controlled. For example, public access is prohibited in areas known or suspected to contain UXO or other munitions. Hazard areas present operational hazards from ongoing testing and training activities, as well as residual hazards following the use of munitions. The Air Force must not allow public access to unsafe areas, to ensure the protection of members of the public during mission operations and their continued safety at other times. Potentially unsafe areas would need to be clear of UXO or other munitions before access could be allowed. The sensitivity of certain areas requires additional controls or restrictions related to access by non-DoD users. The NTTR does have a process for enabling access by others to select areas of the NTTR, which do not include impact areas. Requests for access may be submitted to the NTTR Range Operations Branch, which can assess if such access could be granted. Requests for access by the general public must be made at least 90 days prior to an expected event to receive consideration while requests from government agencies or Native American tribal groups would follow the specific procedures established in the INRMP, ICRMP, or an appropriate agreement, such as a Memorandum of Agreement/Understanding between the Air Force and the government agency or tribal groups. The Air Force will review the requests and assist non-DoD users through the process of gaining access to a given area. If a request is approved, the Air Force assigns a Project Officer, who manages the request throughout the entire process. All visitors granted access must participate in a range safety briefing prior to entering the range. The Air Force is committed to assisting the cooperating agencies and other non-DoD users in meeting their access needs and will refine this procedure as necessary to ensure non-DoD activities can be conducted compatibly with DoD test and training missions to the extent practicable. Using this procedure, the Air Force will coordinate with the appropriate agencies to allow physical access for management and hunting in specified areas under mutually agreed upon conditions. Additionally, the Air Force will support management of resources on lands withdrawn for military use by ensuring that monitoring and other data is exchanged between the applicable cooperating agencies. The coordination procedure for data exchange

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	and access would be outlined in the INRMP and ICRMP. Access to natural and cultural resources in a safe manner on a non-interference basis can be compatibly addressed through these plans, subject to scheduling requirements for test and training activities. As an example of access by others currently allowed, the INRMP addresses the hunting program, which provides for limited access to select areas subject to specific conditions compatible with operational activities and hunter safety. Regarding access by the public to the areas of the DNWR included in the proposed withdrawal expansion, the Air Force has heard from several public and recreational groups of their desire to visit specific areas for birding and other recreational uses in the spring and fall migration timeframes. Since the data gathered by these recreational groups are used to support management decisions by cooperating agencies, the Air Force could seek to modify the INRMP to address shared use for these types of activities…." Additionally, the Air Force has updated Section 2.9.2 to include: "For all action alternatives, to address access issues for the South Range as well as the proposed expansion areas, the Air Force will develop an Access Management Plan, in coordination with stakeholders determined by the Intergovernmental Executive Committee. (Stakeholders could consist of the USFWS, U.S. Geological Survey [USGS], tribes, etc.) The Access Management Plan would evaluate and establish mechanisms and procedures for allowing access to withdrawn areas in support of scientific research, natural and cultural resources management programs (including the INRMP and ICRMP, respectively), and public affairs programs. Many of these mechanisms and procedures are currently in place, but the Access Management Plan would formalize the process so individual access requests would be submitted as outlined in the NTTR AFI 13-212 Supplement and evaluated based on each request's purpose and need. Criteria for legitimate purpose and need(s) would be developed and codified within the Access Management Plan. The Plan would be periodically reviewed by the Intergovernmental Executive Committee and associated Plan stakeholders to determine the efficacy of the Plan and identify any access-related issues and revisions/adjustments to established procedures and mechanisms for access."
LU-3	The Air Force is working directly with the rancher that will be impacted by Alternative 3A to address this issue.
LU-4	The Air Force has considered the potential impacts to OHV operation both in terms of land use (Section 3.4) and economic impacts (Section 3.6). As stated in Section 3.6, Alternative 3A-1 was developed after public scoping to minimize the potential impacts to existing and future OHV trails. Should Alternative 3A or 3A-1 be implemented by Congress, the Air Force would coordinate with local OHV groups.
LU-5	The Air Force would continue to allow public access as stated Section 2.2.1, which states: "The Air Force would continue to coordinate with agencies that share responsibility for land and wildlife management, such as the USFWS and NDOW, to manage biological resources on DNWR lands that overlap with the NTTR and expansion areas, and would comply with federal regulations and plans." The Air Force is committed to working with cooperating agencies and public groups as appropriate to provide safe access to the range and as stated in Section 2.2.1, "During discussions with cooperating agencies, one of the major considerations raised by all agencies was their respective ability to access the currently withdrawn NTTR lands and any proposed military withdrawal expansion areas in order to conduct natural and cultural resource management activities. Currently, Air Force Instruction (AFI) 13-212 encourages shared use of range land with non-DoD users when it will not compromise public safety, detract from mission accomplishment, or impair range operations. For safety and security purposes, access by others (non-DoD users) must be strictly controlled. For example, public access is prohibited in areas known or suspected to contain UXO or other munitions. Hazard areas present operational hazards from ongoing testing and training activities, as well as residual hazards following the use of munitions. The Air Force must not allow public access to unsafe areas, to ensure the protection of members of the public during mission operations and their continued safety at other times. Potentially unsafe areas would need to be clear of UXO or other munitions before access could be allowed. The sensitivity of certain areas requires additional controls or restrictions related to access by non-DoD users. The NTTR does have a process for enabling access by others to select areas of the NTTR, which do not include impact areas. Requests for access may be submitted to the NTTR Range Operations Branch, which can assess if such access could be granted. Requests for access by the general public must be made at least 90 days prior to an expected event to receive consideration while requests from government

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	agencies or Native American tribal groups would follow the specific procedures established in the INRMP, ICRMP, or an appropriate agreement, such as a Memorandum of Agreement/Understanding between the Air Force and the government agency or tribal groups. The Air Force will review the requests and assist non-DoD users through the process of gaining access to a given area. If a request is approved, the Air Force assigns a Project Officer, who manages the request throughout the entire process. All visitors granted access must participate in a range safety briefing prior to entering the range. The Air Force is committed to assisting the cooperating agencies and other non-DoD users in meeting their access needs and will refine this procedure as necessary to ensure non-DoD activities can be conducted compatibly with DoD test and training missions to the extent practicable. Using this procedure, the Air Force will coordinate with the appropriate agencies to allow physical access for management and hunting in specified areas under mutually agreed upon conditions. Additionally, the Air Force will support management of resources on lands withdrawn for military use by ensuring that monitoring and other data are exchanged between the applicable cooperating agencies. The coordination procedure for data exchange and access would be outlined in the INRMP and ICRMP. Access to natural and cultural resources in a safe manner on a non-interference basis can be compatibly addressed through these plans, subject to scheduling requirements for test and training activities. As an example of access by others currently allowed, the INRMP addresses the hunting program, which provides for limited access to select areas subject to specific conditions compatible with operational activities and hunter safety. Regarding access by the public to the areas of the DNWR included in the proposed withdrawal expansion, the Air Force has heard from several public and recreational groups of their desire to visit specific areas for birding and other recreational uses in the spring and fall migration timeframes. Since the data gathered by these recreational groups are used to support management decisions by cooperating agencies, the Air Force could seek to modify the INRMP to address shared use for these types of activities…." Additionally, Section 2.9.2 has been updated to include an Access Management Plan process. In addition, the Air Force would continue to manage bighorn sheep through the natural resources program required under the Sikes Act. This includes coordination with NDOW and the USFWS.
LU-6	Please note that while the Air Force provides access to the NTTR for the sheep hunt, NDOW is the managing agency that sets the quotas and distributes the permits.
LU-7	It should be noted that the DNWR/3C area is not available for mining, grazing, or development. Hunting and camping can only occur in designated areas at specified times. Impacts to grazing are discussed in Section 3.6. Please see the subsection entitled "Grazing," which states under Alternative 3A, "However, it should be noted that this would be an 83 percent reduction in available grazing area to the rancher leasing the AUM [animal unit months] and would be a significant impact. The Air Force plans to work directly with the rancher to address this impact. In addition, to minimize potential conflicts between NTTR operations and population, housing, and economic activity in the region (to include grazing and mining), the Air Force would continue coordination between the military, other adjacent federal land management agencies, as well as local and regional planning departments."
LU-8	The Air Force plans to continue to allow hunting but during designated times and through a process that has already been vetted with NDOW, which manages the hunts on the NTTR. However, road closures could impact the routes that hunters use to access available hunting areas. Please see response to LU-2 concerning access concerns and process to access Restricted Areas. As stated in Section 3.4.2.4, "The proposed expansion area for Alternative 3A also includes approximately 17,900 acres located within NDOW hunting units, including 5,700 acres in Unit 252, and 12,200 acres in Unit 253. These units allow for hunting of mule deer and desert bighorn sheep (U.S. Air Force, 2016c). For Alternative 3A-1, less acreage would also be affected in the NDOW hunting unit 253. The Air Force plans to continue to allow limited hunting within the affected units during the currently designated hunting season (December 17 through January 1). The proposed expansion area for Alternative 3B includes approximately 54,400 acres located within NDOW hunting units, including 47,200 acres in Unit 280, 200 acres in Unit 281, and 7,000 acres in Unit 282 (U.S. Air Force, 2016c). These units only allow for the hunting of desert bighorn sheep. The Air Force plans to continue to allow limited bighorn sheep hunting within the affected units during the currently designated

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	hunting season (December 17 through January 1). However, the current NDOW MOU would be modified and new language will be incorporated into the MOU to address continued hunting while avoiding potential conflicts with hunting activities during certain military training activities. The proposed expansion area for Alternative 3C is located entirely within the DNWR and also falls entirely within NDOW-designated bighorn sheep hunting units. This includes approximately 11,400 acres in Unit 282, 132,400 acres in Unit 283, and 83,100 acres in Unit 284. The Air Force plans to continue to allow limited bighorn sheep hunting within these affected units during the currently designated hunting season. However, the current 30-day hunting season would be reduced by two weeks. As would be the case with Alternative 3B, the current NDOW MOU would be revised and language will be incorporated into a new MOU to address continued hunting while averting potential conflicts between hunting activities and military training activities."
LU-9	The NTTR does have a process for enabling access by others to select areas of the NTTR, which do not include impact areas. Requests for access may be submitted to the NTTR Range Operations Branch, which can assess if such access could be granted. Requests for access by the general public must be made at least 90 days prior to an expected event to receive consideration while requests from government agencies or Native American tribal groups would follow the specific procedures established in the INRMP, ICRMP, or an appropriate agreement, such as a Memorandum of Agreement/Understanding between the Air Force and the government agency or tribal groups. The Air Force will review the requests and assist non-DoD users through the process of gaining access to a given area. If a request is approved, the Air Force assigns a Project Officer, who manages the request throughout the entire process. All visitors granted access must participate in a range safety briefing prior to entering the range. In addition, Section 3.8.2.2.3 states "As part of the NTTR natural resources management program, procedures have been developed to monitor and maintain all wetlands, seeps, springs, and water sources important for wildlife on the NTTR. These procedures include annual assessment of ecosystem health, delineation and mapping of ephemeral streams, ongoing assessment of USACE jurisdiction for wetlands, and annual monitoring and assessment of surface water quality. Mission activities are reviewed to ensure avoidance of direct and indirect impacts to all aquatic and wetland habitats on the NTTR whether they are jurisdictional features or not. For any activity that may directly or indirectly affect a potential jurisdictional wetland or waters of the United States, consultation with USACE is required as part of the planning process." The Air Force has heard this concern from NDOW and other organizations and does not anticipate reducing the ability of cooperating agencies from managing water resources for wildlife. For example, the Air Force has worked with BLM for years on maintaining water resources for the wild horse herd in the North Range. However, there is a process that the Air Force has for accessing the NTTR, which is outlined in Section 2.2.1, "During discussions with cooperating agencies, one of the major considerations raised by all agencies was their respective ability to access the currently withdrawn NTTR lands and any proposed military withdrawal expansion areas in order to conduct natural and cultural resource management activities. Currently, Air Force Instruction (AFI) 13-212 encourages shared use of range land with non-DoD users when it will not compromise public safety, detract from mission accomplishment, or impair range operations. For safety and security purposes, access by others (non-DoD users) must be strictly controlled. For example, public access is prohibited in areas known or suspected to contain UXO or other munitions. Hazard areas present operational hazards from ongoing testing and training activities, as well as residual hazards following the use of munitions. The Air Force must not allow public access to unsafe areas, to ensure the protection of members of the public during mission operations and their continued safety at other times. Potentially unsafe areas would need to be clear of UXO or other munitions before access could be allowed. The sensitivity of certain areas requires additional controls or restrictions related to access by non-DoD users. The NTTR does have a process for enabling access by others to select areas of the NTTR, which do not include impact areas. Requests for access may be submitted to the NTTR Range Operations Branch, which can assess if such access could be granted. Requests for access by the general public must be made at least 90 days prior to an expected event to receive consideration while requests from government agencies or Native American tribal groups would follow the specific procedures established in the INRMP, ICRMP, or an appropriate agreement, such as a Memorandum of Agreement/Understanding between the

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	Air Force and the government agency or tribal groups. The Air Force will review the requests and assist non-DoD users through the process of gaining access to a given area. If a request is approved, the Air Force assigns a Project Officer, who manages the request throughout the entire process. All visitors granted access must participate in a range safety briefing prior to entering the range. The Air Force is committed to assisting the cooperating agencies and other non-DoD users in meeting their access needs and will refine this procedure as necessary to ensure non-DoD activities can be conducted compatibly with DoD test and training missions to the extent practicable. Using this procedure, the Air Force will coordinate with the appropriate agencies to allow physical access for management and hunting in specified areas under mutually agreed upon conditions. Additionally, the Air Force will support management of resources on lands withdrawn for military use by ensuring that monitoring and other data are exchanged between the applicable cooperating agencies. The coordination procedure for data exchange and access would be outlined in the INRMP and ICRMP. Access to natural and cultural resources in a safe manner on a non-interference basis can be compatibly addressed through these plans, subject to scheduling requirements for test and training activities. As an example of access by others currently allowed, the INRMP addresses the hunting program, which provides for limited access to select areas subject to specific conditions compatible with operational activities and hunter safety." This process allows for entry on the range for both cooperating agencies as well as public individuals. Additionally, Section 2.9.2 has been revised to include an Access Management Plan process.
LU-10	At this time the Air Force anticipates proposed withdrawal areas to be permanently closed to public access, with the exception of hunting (see response to LU-8). Access may be allowed on a case-by-case basis (see response to PA-10).
LU-11	The Air Force does not manage the hunts themselves; so, this is a concern that would need to be addressed with NDOW and a coordinated effort between all cooperating agencies to determine whether this is a viable option after the Congressional decision is made.
LU-12	Please see the following Sections: 3.5 (Wilderness and Wilderness Areas), 3.6 (Socioeconomics), 3.8 (Biological), and 3.9 (Cultural) for impacts as they relate to finite resources, recreation, natural, cultural, and historical resources, and solitude.
LU-13	The LEIS has been updated to address BLM's concerns about the Energy Corridor. Please see Sections 3.6.1.3 and 3.6.2.4 regarding these changes. The Air Force has and will continue to coordinate with BLM and through the state clearinghouse to address concerns from stakeholders.
LU-14	Hunting is only allowed in areas that currently are permissible for this activity and the NDOW manages the hunts. The Air Force plans to continue to allow hunting in these permissible areas.
LU-15	Please see Section 3.4.1, which describes in detail the affected environment associated with land use activities and includes information on historical activities.
LU-16	As discussed in Section 3.4.1.3, there is only one active mining claim (lode mining) and two grazing allotments (one unallocated or closed and one active) within the 3A and 3A-1 proposed withdrawal areas. Additionally, Section 3.4.2.4 states that the Air Force would develop an agreement with the mine claimant to allow for continued access. As stated in Section 3.4.2.4, "To address access to the mining claim, the Air Force would develop an agreement with the claimant to allow continued access." As stated in Section 3.6.2.4, "The BLM Razorback grazing allotment, which would be impacted by Alternative 3A, consists of 266,329 acres and has an allotment of 1,926 animal unit months (AUM). Currently, there are 386 AUM suspended. Assuming uniform forage production within the allotment and an 18,000 acre reduction in the allotment due to Alternative 3A (or a 15,000 acre reduction in the allotment due to Alternative 3A-1), the allotment capacity would be reduced by about 6 percent. With the total active AUM managed by BLM currently at 1,525,738 AUM, this loss of the grazing allotments would represent a potential reduction of economic impact of about $128,000 for the BLM-managed lands for Alternative 3A or 3A-1. However, it should be noted that this would be an 83 percent reduction in available grazing area to the rancher leasing the AUM and would be a significant impact. The Air Force plans to work directly with the rancher to address this impact. In addition, to minimize potential conflicts between NTTR operations and population, housing, and economic activity in the region (to include grazing and mining), the Air Force would continue coordination between the military, other adjacent federal land management agencies as well as local and regional planning departments."
LU-17	Please note that under Alternative 3A there would be an impact on 4.88 miles of existing bike trails on the western side of the NTTR near Beatty without impacting the rest of the trails in the immediate area.

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	Section 3.6.2.4 states: "Bike trails have been developed on the Spicer Ranch and connect with trails to the east on BLM land in the Transvaal region. Biking events are held on the ranch. Current trail use estimates are at about 100 or more user days during the months of September to June. A proposal to expand the bike trails in the Beatty area would incorporate some 36 miles of existing roads, 23 miles of existing trails for horseback riding and biking, and 32 miles of new single tract trails for biking and other activities. The new routes would not be impacted by the proposed expansion under Alternative 3A. While existing bike trails would not be impacted under Alternative 3A-1, one of the new proposed bike trails would be impacted by the proposed expansion for Alternative 3A-1." "Previously published race routes for the Pahrump Nugget 250 appear to be sufficiently south of the NTTR such that the proposed land expansion associated with Alternative 3A or 3A-1 will not impact the race route. In 2016, the Best in the Desert race was approximately 650 miles long, starting from Alamo, Nevada, and finishing at Reno, Nevada. The race lasts about 10 to 12 hours, with visitors staying one to two days. Total related spending is estimated between $714,000 to $2,142,000 over the entire race course with larger proportions being spent near the beginning and the end of the course. Portions of the race routes such as the Best in the Desert's Vegas to Reno route are close to the NTTR boundary and may be impacted by the additional land withdrawal for Alternative 3A but not for Alternative 3A-1 (BLM, 2016j). The 2016 route would not have been impacted by any of the proposed Alternative 3 actions. In any event, the race routes may vary between years, so it is likely that the routes could be altered as needed to avoid the expansion areas or the Air Force might be able to adjust mission-related activities to accommodate these races. It is important to note that these races have been occurring for over 20 years in some cases and are an essential element of the local culture and economy of Beatty."
LU-18	The jeep trail referenced by the commenter appears to be the same route as the Best in the Desert's Vegas to Reno Race route. Alternative 3A would affect the jeep trail as well as the OHV race route, which is already discussed in the LEIS. Alternative 3A-1 was developed to reduce these impacts. For the mountain bike trails, only the Transvaal Trail would be impacted regardless of alternative selected. Alternative 3A-1 would only impact one proposed bike trail. The Air Force's preferred alternative includes implementation of Alternative 3A-1 (see Section 2.5).
LU-19	The presentation discussed impacts to trails around Beatty and the Air Force assumes the commenter is referring to those trails, as no trails around Alamo would be impacted by the proposed expansion. Please see response to LU-17 and Sections 3.6.1.3 and 3.6.2.4, subsection "Impacts on Recreational Activities."
LU-20	Under Alternative 3A and 3A-1, the EC South area would be redesignated as "Range 77" to allow full air-to-ground operations. This area was previously used for live-fire exercises in the past but had been changed to an electronic range (see Section 1.4.1). These alternatives would be used to add buffer to the safety footprint of Range 77. Fencing would be the only issue for access and the Air Force would work with the land owners to request access. This would be similar to the efforts outlined in Section 3.6.2.4, which states: "The Air Force plans to work directly with the rancher to address this impact. In addition, to minimize potential conflicts between NTTR operations and population, housing, and economic activity in the region (to include grazing and mining), the Air Force would continue coordination between the military, other adjacent federal land management agencies as well as local and regional planning departments."
LU-21	Informal communications cannot be used as a data source. Visitation data was requested from the USFWS; however, the Air Force was told that the USFWS did not keep detailed visitation records other than the visitation registration book at the Corn Creek visitor location.
LU-22	The Air Force will continue to allow the DOE access to the NTTR; so, the DOE's EM Nevada Program can continue. See also response to LU-2.
NO-1	The following text has been added to Section 3.2.2.1: "During public hearings, some commenters asked about the process to address public noise concerns and complaints. The Air Force explained that complaints are addressed through the Public Affairs (PA) office at Nellis AFB, as outlined in AFI 32-7070, Air Force Noise Program, and specifically addressed in AFI 35-108, Environmental Public Affairs, which states: Noise Complaints. PA should handle noise complaints or queries directly and as completely as possible. PA should not refer callers to other bases or commands regardless of the aircraft origin or type. PA should provide timely, responsive, and factual answers to aircraft noise complaints in order to maintain positive media and community relations. PA should attend relevant installation meetings, which are conducive to presenting the complaints, such as the Air Operations Board Meeting. Refer all claims to the installation office of the Staff Judge Advocate."

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NO-2	Supersonic noise was modeled using the BOOMAP modeling software. BOOMAP accounts for the statistical variations in air combat maneuvers when computing C-weighted day-night average sound level (CDNL) levels and the number of sonic booms per month expected to reach the ground under Special Use Airspace. CDNL values are measured in dBC and are denoted dBC. For details regarding the BOOMAP, please see Appendix C.4.
NO-3	Please see Section 3.8.2 regarding details on overflights and noise impacts on wildlife and special status species.
NO-4	As shown in Figures 3-2 and 3-3, the airspace in the vicinity of Pahranagat National Wildlife Refuge could experience an increase in 1 dB (60 dB to 61 dB) and one sonic boom per day as a result of the potential 30 percent increase in aircraft operations. However, as this is not a substantial increase over baseline conditions, potential impacts to wildlife would also not increase substantially over baseline conditions. Please see Section 3.8.2 regarding details on overflights and noise impacts on wildlife and special status species. The are several factors for avoiding birds. According to AFI 11-250, Pahranagat is a Low Level and Noise Sensitive avoidance area. Pilots must avoid by 1 nautical mile and 2,000 feet above ground level. Additionally, there are additional restrictions based on bird activity throughout the range based on what is called BASH (Bird/Wildlife Aircraft Strike Hazard) levels. If BASH is: - Severe: all flights must avoid the area - Moderate: must change flight profile or altitudes to avoid - Low: normal operations
NO-5	Based on noise modeling analysis stated in Tables 3-7 and 3-8, the noise levels will increase by 1 dB over the baseline levels. However, the Air Force has updated Section 2.9.2 (Mitigations) to state: “Under all action alternatives, continue to provide information to range users, through the NTTR Supplement to AFI 13-212, Range Planning and Operations, regarding noise-sensitive areas, prior to conducting training or testing activities. This assists pilots in avoiding noise-related impacts. This action minimizes impacts across all action alternatives.” Please see Section 3.2.2.1 regarding AFI 32-7070, Air Force Noise Program, and specifically addressed in AFI 35-108, Environmental Public Affairs.
NO-6	Noise is an issue that the Air Force takes seriously and will consider the suggestion as part of ongoing efforts to address noise concerns.
NO-7	Please see Section 3.2 for the details on the noise modeling conducted for the LEIS and Appendix C, which contains supporting information for the analysis.
NO-8	Although the Air Force can appreciate the position of the Moapa, the current activities creating noise represent the baseline for the noise analysis.
NO-9	Section 3.9.1.3 has been revised as follows: “Consultations between the NTTR and potentially affected tribes occurred early in the planning process. This early engagement helps to ensure that traditional cultural properties are not affected by the proposed project. Individual consultations with specific tribes, when requested, were also conducted for the same purpose, including a specific meeting with the Moapa Tribe to address noise concerns. Throughout the LEIS process, the Native American Program has participated in informational as well as scoping meetings regarding this Proposed Action. Issues of concern include the potential for impacts due to potential restriction of access to areas of interest and noise and vibration effects on sacred or traditional resources.” The primary effect of aircraft noise on exposed communities is one of annoyance, including activity interference, which includes speech interference and sleep disturbance. Noise annoyance is defined by EPA as any negative subjective reaction on the part of an individual or group (EPA, 1974). The best available method for predicting community annoyance response to aircraft noise is the updated Schultz curve. The Schultz curve was validated by FICON (1992) based on the additional data points collected by the Air Force, for use by federal agencies in aircraft noise-related environmental impact analysis and by the American National Standards Institute as a standard on community responses to environmental noise (U.S. Air Force, 2016a). There are several commonly recognized average noise level thresholds that are based on expected

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	community reaction. The first is DNL of 65 dB. This is a level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like aviation, which unavoidably result in noise. Areas exposed to DNL above 65 dB generally are not considered suitable for residential use. The second is DNL of 55 dB, which was identified by EPA as a level "…requisite to protect public health and welfare with an adequate margin of safety" (EPA, 1974). From a noise exposure perspective, that would be an ideal selection. However, financial and technical resources are generally not available to achieve that goal. Most agencies have identified DNL of 65 dB as a criterion that protects those most impacted by noise, and that often can be achieved on a practical basis (FICON, 1992). This corresponds to about 12 percent of the exposed population being highly annoyed. The third is DNL of 75 dB. This is the lowest level at which adverse health effects could be credible (EPA, 1974). For all practical purposes, DNL and L_{dnmr} are equivalent with the major differences being that DNL is based on the number of average annual day operations while L_{dnmr} is based on the month with the largest number of operations. Also, L_{dnmr} accounts for the startle effect of humans and/or animals from high-speed jet aircraft overflying the terrain, which is not necessary when analyzing noise in the normal airdrome environment.
NO-10	Noise annoyance is defined by EPA as any negative subjective reaction on the part of an individual or group (EPA, 1974). The best available method for predicting community annoyance response to aircraft noise is the updated Schultz curve. The Schultz curve was validated by FICON (1992) based on the additional data points collected by the Air Force, for use by federal agencies in aircraft noise-related environmental impact analysis and by the American National Standards Institute as a standard on community responses to environmental noise (U.S. Air Force, 2016a). There are several commonly recognized average noise level thresholds that are based on expected community reaction. The first is DNL of 65 dB. This is a level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like aviation, which unavoidably result in noise. Areas exposed to DNL above 65 dB generally are not considered suitable for residential use. The second is DNL of 55 dB, which was identified by EPA as a level "…requisite to protect public health and welfare with an adequate margin of safety" (EPA, 1974). From a noise exposure perspective, that would be an ideal selection. However, financial and technical resources are generally not available to achieve that goal. Most agencies have identified DNL of 65 dB as a criterion that protects those most impacted by noise, and that often can be achieved on a practical basis (FICON, 1992). This corresponds to about 12 percent of the exposed population being highly annoyed. The third is DNL of 75 dB. This is the lowest level at which adverse health effects could be credible (EPA, 1974). For all practical purposes, DNL and L_{dnmr} are equivalent with the major differences being that DNL is based on the number of average annual day operations while L_{dnmr} is based on the month with the largest number of operations. Also, L_{dnmr} accounts for the startle effect of humans and/or animals from high-speed jet aircraft overflying the terrain, which is not necessary when analyzing noise in the normal airdrome environment.
NO-11	The LEIS has included information on noise and its impacts to citizens and wildlife. Figure 3-2 illustrates avoidance areas and low-level restrictions. Section 3.2 discusses the noise impacts to humans while Sections 3.8.2.2 and 3.8.2.4 discuss the impacts of noise on biological sources. The Air Force procedure for addressing noise complaints has been added to Section 3.2.2.1 so the public can better understand the process. Additionally, Section 2.9.2 states: "Under all action alternatives, continue to provide information to range users, through the NTTR Supplement to AFI 13-212, Range Planning and Operations, regarding noise-sensitive areas, prior to conducting training or testing activities. This assists pilots in avoiding noise-related impacts. This action minimizes impacts across all action alternatives."
NO-12	The Air Force will take this suggestion into consideration during discussions with both Lincoln County and Alamo city officials. The Air Force will continue to provide "information to range users, through the NTTR Supplement to AFI 13-212, Range Planning and Operations, regarding noise-sensitive areas, prior to conducting training or testing activities. This assists pilots in avoiding noise-related impacts. This action minimizes impacts across all action alternatives."
NP-1	Please refer to Section 1.5 for a summary of public involvement opportunities. Though not required for a LEIS, the Air Force elected to involve the community through a series of public scoping meetings and solicited the public's input during the scoping period (September to December 2016). See response to NP-8 for more details. Please refer to Appendix B regarding stakeholder coordination and consultation. The USFWS, NDOW, and DOE have been cooperating agencies and have been involved in the process since fall of 2015. These agencies were invited to and took part in several meetings with the Air Force during the alternative development stage and had the opportunity to review and comment on various studies and documents

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	throughout the process that led to the development of the Draft LEIS. The Nevada Association of Counties was added as a cooperating agency at their request during the scoping period. Native American tribes have also been involved throughout the process through tribal meetings, GCTO meetings, and the GCTO writer's group (see Appendix K).
NP-2	The Air Force has successfully included cooperating agencies and has involved them substantively in the land withdrawal renewal and expansion process. Beginning in 2015, meetings were held with each of the cooperating agencies on October 15–16th and December 9–10th. In addition to these meetings, cooperating agencies were involved in developing study plans for each of the support documents and in the review of those documents as drafts, which occurred throughout 2016. The Air Force received scoping comments from the Nevada Association of Counties on December 13, 2016. Additionally, the Nevada State Clearinghouse sent out a scoping input request on August 23, 2016. The following are various communications with cooperating agencies during the 2016 timeframe. This is not an all-encompassing list and more details can be found in Appendix B, but this does provide indication that the Air Force made every effort to involve the cooperating agencies in discussions over the course of development of the LEIS. On January 29, 2016, a formal letter was sent, requesting formal participation as a cooperating agency, to BLM, NDOW, NNSA, and the USFWS. On February 3–4, 2016, cooperating agencies were engaged in discussions with the Air Force with respect to the Description of the Proposed Action and Alternatives. On March 17, 2016, NDOW accepted the invitation as a cooperating agency. The USFWS sent a letter on April 27, 2016, to the Air Force regarding the cultural resource plan. The Air Force requested via email input from cooperating agencies on the Public Scoping Plan on June 6, 2016. On July 18, 2016, a consultation request was sent to the Nevada SHPO. The USFWS signed a cooperating agency acceptance letter on August 5, 2016. The Nevada SHPO provided input via a letter dated September 12, 2016. The USFWS was sent a formal letter request for Section 106 consultation. The USFWS provided scoping comments on December 9, 2016. On March 31, 2017, the Air Force received a response from Nye County regarding the use of the Nevada Association of Counties cooperating agency status as the avenue for discussions with Nye County. the Nevada Association of Counties accepted correspondence as a cooperating agency on June 7, 2017. Cooperating agencies were afforded the opportunity to review the Preliminary Draft LEIS from July 17 through August 17, 2017. On July 20, 2017, the Nevada SHPO was informed of the extension and expansion undertaking and on August 24, received a confirmation letter. On September 19, 2017, the Air Force received information regarding I-11, including the Hyperloop. The Air Force met with cooperating agencies for on-board review to discuss comments on the Preliminary Draft LEIS on October 16–17, 2017. Finally, the LEIS is programmatic in nature as stated in Section 1.1: “This LEIS is programmatic in nature. Programmatic NEPA reviews address the general environmental issues and provide the basis for decisions to approve such broad or high-level decisions such as identifying geographically-bounded areas within which future proposed activities can be conducted or identifying broad mitigation and conservation measures that can be applied to subsequent tiered reviews. Programmatic NEPA reviews can effectively frame the scope of subsequent site- and project-specific federal actions. The programmatic analysis in this LEIS focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature. Details regarding the actions that are currently known are outlined in Section 2.3 (Alternatives). These conceptual details were the basis of analysis for the LEIS. Because a programmatic analysis establishes the broad view of environmental impacts and benefits of a proposed decision, agencies can then rely on that programmatic NEPA review to make decisions such as rulemaking or establishing a policy, program, or plan, as well as decisions based on subsequent, tiered NEPA review. The Air Force is the lead agency for the LEIS, while the BLM; the Department of Energy (DOE) and the National Nuclear Security Administration (NNSA); the U.S. Fish and Wildlife Service (USFWS) – National Wildlife Refuges and Ecological Services programs; the Nevada Department of Wildlife (NDOW); and the Nevada Association of Counties are cooperating agencies. NOTE: In order to distinguish between the two branches of the USFWS, the LEIS specifically refers to the Ecological Services branch if the term USFWS applies to that branch. In all other cases, the term USFWS applies to the agency as a whole or to the Refuge branch associated with the Desert National Wildlife Refuge Complex.”
NP-3	The Air Force has successfully included cooperating agencies and has involved them substantively in the land withdrawal renewal and expansion process, beginning in 2015, meetings were held with each of the

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	cooperating agencies on October 15-16th and December 9-10th. In addition to these meetings cooperating agencies were involved in developing study plans for each of the support documents and in the review of those documents as drafts, which occurred throughout 2016. Received scoping comments from the Nevada Association of Counties on December 13, 2016. Additionally, the Nevada State Clearinghouse sent out a scoping input request on August 23, 2016. The following are various communications with cooperating agencies during the 2016 timeframe. This is not an all-encompassing list and more details can be found in Appendix B, but this does provide indication that the Air Force made every effort to involve the cooperating agencies in discussions over the course of development of the LEIS. On January 29, 2016, a formal letter was sent requesting formal participation as a cooperating agency, to BLM, NDOW, NNSA, and the USFWS. On February 3–4, 2016, cooperating agencies were engaged in discussions with the Air Force with respect to the Description of the Proposed Action and Alternatives. On March 17, 2016, NDOW accepted the invitation as a cooperating agency. The USFWS sent a letter on April 27, 2016, to the Air Force regarding the cultural resource plan. The Air Force requested via email input from cooperating agencies on the Public Scoping Plan on June 6, 2016. On July 18, 2016, a consultation request was sent to the Nevada SHPO. The USFWS signed a cooperating agency acceptance letter on August 5, 2016. The Nevada SHPO provided input via a letter dated September 12, 2016. The USFWS was sent a formal letter request for Section 106 consultation. The USFWS provided scoping comments on December 9, 2016. On March 31, 2017, the Air Force received a response from Nye County regarding the use of the Nevada Association of Counties cooperating agency status as the avenue for discussions with Nye County. The Nevada Association of Counties accepted correspondence as a cooperating agency on June 7, 2017. Cooperating agencies were afforded the opportunity to review the Preliminary Draft LEIS from July 17 through August 17, 2017. On July 20, 2017, the Nevada SHPO was informed of the extension and expansion undertaking and on August 24, received a confirmation letter. On September 19, 2017, the Air Force received information regarding I-11, including the Hyperloop. The Air Force met with cooperating agencies for on-board review to discuss comments on the Preliminary Draft LEIS on October 16–17, 2017. A letter was sent to all tribes on June 22, 2016, requesting feedback and input as part of government-to-government consultation with tribes. Additional letters were sent in 2018 to reaffirm this relationship. The tribal consultation process in conjunction with the LEIS review and analysis has been extensive. It has included multiple tribal briefings, two sets of separate tribal meetings to address concerns, and also the compilation and formulation of tribal perspectives on the land withdrawal proposal, which can be found throughout the LEIS and in Appendix K. It has also included the completion of ethnographic studies and inclusion of tribal monitors on cultural survey teams, as well as visits to tribes by Nellis AFB leadership to ensure a clear understanding of tribal concerns.
NP-4	The Nevada Association of Counties was included as a cooperating agency and coordination with the State Clearinghouse began in early 2016. In addition, the Air Force worked with cooperating agencies to better understand their planning considerations as outlined in Section 2.2.1.
NP-5	At the request of cooperating agencies (USFWS, BLM, and NDOW) at a Cooperating Agency Meeting on August 1, 2018, cooperating agency comments have been addressed at an interagency level. Therefore, this comment code is no longer applicable.
NP-6	Thank you for the comment; the Air Force has every intent to continue to work with the State Land Use Planning Advisory Council.
NP-7	The Air Force developed a LEIS for the proposed withdrawal, as required by NEPA, and published the Draft LEIS for public review on December 8, 2017. The Draft LEIS includes proposed impacts to lands, animals, people, socioeconomics, and also includes a summary of the concerns raised at the public scoping meetings held in October 2016. While scoping is not a requirement for LEISs, the Air Force chose to do so and incorporated substantive comments received during the scoping process into the Draft LEIS. Additionally, substantive comments from the Draft LEIS review period have been incorporated into the Final LEIS. See also response to NP-1.
NP-8	The text has been corrected to state that a full detailed report of the submitted scoping comments will be part of the Administrative Record. Section 1.5.2 of the Draft LEIS describes the scoping process and a summary of the concerns raised during

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	scoping (please note this section has been moved to Appendix A for the Final LEIS). While NEPA does not require scoping for LEISs, the Air Force held scoping meetings and solicited comments. NEPA also does not require that scoping comments are responded to; however, all scoping comments were reviewed by the Air Force and any substantive comments were incorporated into the Draft LEIS. Scoping comments with regard to alternatives that include other locations (see response to PA-5) or land swap (see response to PA-32) were not incorporated for the following reasons. As stated in Section 2.2, as a result of the information provided in the 2014 Congressional report, it was concluded that the need for the withdrawal was specific to the NTTR; therefore, other locations were not included. Additionally, the Air Force is unable to make a land swap since it is not relinquishing any lands as stated in Section 2.3, "The Air Force recognized that there was one commonality associated with each candidate alternative: the Air Force would not relinquish any lands as part of the land withdrawal. Since each alternative includes this commonality, it will not be discussed in detail below for each specific alternative."
NP-9	Please note the Air Force was unable to grant extension requests for the Draft LEIS review period. The document was released to the public for a 90-day review period on December 8, 2017, and the Air Force had already implemented an extended comment period (90-day instead of the required 45-day comment period). While all comments (regardless of when they are received during the duration of the LEIS process) will be included in the Administrative Record upon completion, in order for comments to be considered and included in the Final LEIS they must have been received or postmarked by March 8, 2018.
NP-10	As stated in Section 1.1, "Congress has reserved the authority for renewing the NTTR land withdrawal for itself, through the Defense Withdrawal Act of 1958 (43 United States Code [USC] Sections 155–158), and will make the final decision through legislation on whether to extend or expand the boundaries of the current NTTR land withdrawal. The LEIS is the detailed environmental statement required by law that will support the legislative proposal." Therefore, Congress is the only decision maker for the proposal. While BLM is a cooperating agency since the proposal includes lands managed by BLM, they are not the decision maker. The Air Force, the USFWS, and BLM will provide their recommendations as part of the case file that will be submitted to Congress by DOI.
NP-11	As stated in Section 1.5.2, comments from the public are solicited for review by the Air Force. Additionally, as stated in Section 1.1, Congress has reserved the authority for renewing the NTTR land withdrawal. The final LEIS and all public comments will become part of the case file submitted to Congress, who in turn will make the decision on the NTTR land withdrawal.
NP-12	The Air Force held these meetings as a special request for the tribes and planned to receive comments from Native American tribes after the public commenting period to indicate the importance of Native American input. This is the reason that Appendix K of the LEIS is dedicated to the Native American perspectives and is named as such.
NP-13	The Air Force submitted a letter to Chairman Robert Tom on June 22, 2016, indicating that the Air Force would like to begin government-to-government discussions with the tribal council regarding the NTTR land withdrawal process. As a follow-up the Air Force attended the tribal meeting on January 19, 2017, at the request of Chairman Darren Daboda and briefed the status of the LEIS. Further the Air Force attended the tribal council meeting on March 2, 2017, to discuss the LEIS and F-35 noise issues. Following concerns raised during the March 14, 2018 tribal meeting, the Air Force attended the May 8, 2018 council meeting to hear the concerns raised during the tribal meeting in March 2018. Please see Appendix B for a complete correspondence list of tribal interactions.
NP-14	The meeting times were requested and approved by the tribes. These times were acceptable during the 2016 tribal meetings and it was assumed since there was not feedback to the contrary that the times would be acceptable for the tribal meetings in 2018.
NP-15	The Air Force has no record of any comments or requests from the Western Governors Association.
NP-16	The Air Force is part of the DoD and as such reports to the Executive Branch and cannot lobby Congress for legislation. However, DoD can answer inquiries made by Congressional delegations regarding requirements and the necessary assets required to implement those requirements. If riders were added to the legislation, then those riders were a result of Congressional efforts and not that of the DoD and the Air Force.
NP-17	The Air Force has updated Section 2.9.2 to include the following text: "The Secretary of the Air Force and the Secretary of Interior would establish, by MOU, an Intergovernmental Executive Committee for the land withdrawn by Congress for the purpose of exchanging views, information, and advice relating to the

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	management of the natural and cultural resources of the withdrawn and reserved lands and to proactively collaborate on studies and analyses developed in accordance with, but not limited to, NEPA, Fish and Wildlife Coordination Act (16 USC 661 et seq.), NHPA (16 USC 470 et seq.), ESA (16 USC 1531 et seq.), and the Sikes Act (16 USC 670). The MOU would include the following primary goals and objectives: • Establish an Air Force-led Intergovernmental Executive Committee • Develop/document communication, data sharing, and reporting procedures • Coordinate biological and cultural resources management • Establish procedures for coordinating changes of activity within the DNWR • Establish reporting requirements for mitigation implementation • Establish a Comprehensive Public Report (published every five years) The Air Force has worked extensively with the USFWS as a cooperating agency since 2015 to prepare the LEIS and numerous supporting studies associated with the military land withdrawal and will continue to do so through the Intergovernmental Executive Committee.
PA-1	New/additional bombing ranges are not part of this proposal or any of the alternatives (Section 2.3). Regardless of alternative(s) implemented, bombing activities would continue and remain restricted to the existing target impact areas on the South Range (Figure 1-2), which are located on valley floors and are not within bighorn sheep habitat. However, bomb safety footprints would be expanded as part of the activities proposed. Please refer to Section 2.3 of the LEIS for a description of the potential military activities that could occur within the potential expansion areas. Additionally, use of live-fire weapons within the proposed expansion areas are not part of this proposal or any of the alternatives.
PA-2	Ready access consists of four essential elements: adequacy, flexibility, timeliness, and variability. Adequacy means the complete ability to fully utilize all of the withdrawn land and its many features to meet NTTR mission requirements. Flexibility entails sufficiently permissive and cooperative management under applicable regulatory standards that allows the DoD and supported agencies to meet mission requirements, while timeliness is described in terms of the ability to conduct mission activities in a time-sensitive manner relative to national security timelines, including short-notice, urgent missions, following established measures for expediting any necessary coordination. Finally, variability identifies the ability to adjust testing and training activities over time, including realignment of sites on lands withdrawn for the NTTR and varying the uses of such lands to meet DoD and supported agencies' mission requirements. The Air Force will still be required to address applicable laws as stated in Section 2.3.2: "It should be noted that ready access does not mean exemption from applicable laws and regulations that are not specifically addressed by legislation supporting the withdrawal." This includes site specific NEPA once details regarding site-specific activities become mature. Establishing ready access in the South Range would considerably increase the capabilities there for MCO test and training missions.
PA-3	Ready access could be instituted through a combination of methods, which may include the following: • A Congressionally-directed change in land management that effectively eliminates the need to manage the withdrawn lands as if they were wilderness. This could be incorporated in the 2021 Congressional decision on the NTTR withdrawal extension and expansion. • Reallocation of primary jurisdiction between the USFWS and the Air Force for portions or all of the area of the DNWR that overlaps with the NTTR. • Development, within a specified time period, of a binding Memorandum of Agreement, granting ready access to the DoD and establishing written procedures to ensure full compliance with other federal agency requirements. These written procedures may be included in other support documents such as the INRMP or ICRMP. • Enactment of legislative provisions that ensure ready access, notwithstanding the operation of other specific statutory measures limiting such access, provided the withdrawn lands are managed under an approved INRMP in accordance with the Sikes Act (16 USC 670). The Air Force would not have complete control as a result of ready access. The Air Force will still be required to address applicable laws as stated in Section 2.3.2, "It should be noted that ready access does not mean exemption from applicable laws and regulations that are not specifically addressed by legislation supporting the withdrawal."

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	The Air Force has indicated that the LEIS is programmatic and that once site-specific actions become more mature that site-specific NEPA analyses will be implemented. As stated in the narrative in Section 2.2.2, "Although these potential sites were identified, they are not ready for detailed consideration at this time but are an anticipated requirement in the future. When this requirement becomes more refined, the Air Force will conduct a more detailed NEPA analysis. Section 2.3 presents the detailed alternatives that the Air Force developed to address this operational requirement." In addition Section 2.3.3 states: "However, at this time, the details associated with specific locations that might experience ground disturbance are not ready for decision or site-specific NEPA-related environmental analysis in this LEIS. Analysis of this alternative focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature." The first line of Section 2.3.3 states "Each of the subalternatives included in Alternative 3 would include ready access as defined in Section 1.4.1 (Increase MCO Test/Training Capability) and described under Alternative 2." As described under Alternative 2, ready access could be implemented in one (or more) of four different ways, including removal of areas proposed as wilderness. Associated impacts of ready access under Alternatives 2 and 3 are acknowledged and incorporated into the impact analyses.
PA-4	As stated in Section 2.1, "An alternative that is outside the legal jurisdiction of the lead agency must still be considered in the EIS if it is reasonable. A potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered (40 CFR 1506.2(d))." Please note that the NTTR and DNWR currently overlap. The USFWS has primary jurisdiction over approximately 714,000 acres that overlap between DNWR and the NTTR. The Air Force only has primary jurisdiction and access to approximately 112,000 acres that consist of the target impact areas. Expansion into the DNWR does not remove the land from the DNWR, unless otherwise directed by Congress through legislation.
PA-5	The need for additional land is described throughout Section 1.4. Please note that additional land was requested during the previous 1999 withdrawal as the lands withdrawn by P.L. 99-606 as amended do not fully meet the land requirements of the DoD missions on NAFR.; however, it was not carried forward. Section 2.1 of the LEIS outlines the development of the LEIS and selection standards while Section 2.2 details the implementation of these standards as well as input from the cooperating agencies. Additionally, Section 2.2 outlines alternatives evaluated but not carried forward for each operational requirement.
PA-6	Although virtual training and simulators are an important aspect of test and training activities and are already utilized, they do not necessarily recreate real-life situations that may be encountered by military personnel in a combat environment. Virtual training and simulators cannot recreate the physical stresses (increased heart rate and adrenalin levels to name a few) that a live-fire exercise provides. In addition, consequences for mistakes in a simulator can be tempered while in a live-fire exercise the lethality of the situation becomes much more apparent and personal. Finally, the results and feedback are only as effective as the actual training being conducted.
PA-7	As stated in Section 1.4, "Therefore, the Air Force's purpose and need for action is to sustain and enhance the military testing and training capacity, capability, and functionality of the NTTR through the land withdrawal process to meet current and future mission requirements, while continuing environmental stewardship of the lands entrusted to it. Mission requirements include, without limitation, the following: • Increase MCO test/training capability to meet the demands of strategic guidance and alleviate competition for critical MCO electronic assets • Enhance IW test/training capability • Increase NTTR operational security and safety Additionally, as a result of the overlap of the DNWR and areas that were proposed for wilderness in the South Range, there are significant restrictions on Air Force activities. These restrictions limit Air Force activities to ground areas below 4,000 feet and constrain development of new locations (such as emitter sites and communication sites) and use of historical targets that are located in areas that were proposed as wilderness in 1971." Detailed explanations for each of the mission requirements can be found in Section 2.2. The Proposed Action is embodied in the following narrative from Section 1.4: "As a result of the evolving mission, the Air Force proposes to withdraw and reserve public lands for military use to support the

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	utilization and modernization of the NTTR by enhancing range capability for improved training and testing. The NTTR is the preeminent range for testing and evaluation of weapons systems, tactics development, and advanced combat training; however, the range and its infrastructure are quickly becoming outdated as rates of technological development of new weapons systems and electronic warfare systems accelerate. Over the last two decades, enemy technology has become increasingly advanced and complex, requiring more space to replicate their potential threat configurations. The NTTR can no longer replicate this threat environment."
PA-8	Maps depicting the overlap between the DNWR and the current NTTR boundary were provided at the public hearings in the brochure (pages 8–9), on the large display boards, and in the video presentation. These materials are also available on the public website (www.NTTRLEIS.com). Additionally, numerous maps throughout the Draft LEIS, particularly Figures 1-5 and 1-9, show the overlap of the DNWR and the current NTTR boundary. Discussion regarding the acreage of overlap as well as land management jurisdiction of these areas are provided in the Draft LEIS in Sections 1.2 (Background) and 1.2.2 (South Range). In summary, the text explains that while 826,000 acres (approximately half of the DNWR) overlaps the current NTTR boundary, only areas below 4,000 feet can be used by the Air Force, primarily the 112,000 acres that consist of the target impact areas.
PA-9	There are no altitude limitations associated with the proposed expansion areas.
PA-10	As stated in Section 1.4.1, "The status quo for the NTTR is that testing and training requirements, along with maintenance and stewardship as well as regulatory activities, demand more than 100 percent of existing capacity. Virtually 24 hours per day/seven days per week, multiple test and training missions along with other requirements compete for the same limited resources. As a result, on nearly any given day, an important national security testing or training mission gets delayed. As technologies continue to advance, the Air Force can no longer discount the need for additional land to support its operations." Twenty Nine Palms and the NTTR have two different missions. Johnson OHV is available for public recreation 10 months per year and for military training two 30-day periods each year. As indicated from the narrative above, this would not be feasible for the NTTR.
PA-11	This area belongs to the DOE/NNSA. Please see Section 2.2.1, which states: "In addition to the Air Force's selection standards, the Air Force held discussions with its cooperating agency partners and identified the following planning considerations. The DOE/NNSA explained that the following infrastructure on the NNSS could not be moved because of their national security significance: Device Assembly Facility; Nonproliferation Test and Evaluation Complex; Big Explosives Experimental Facility; Radioactive Waste Management (Area 5); and Joint Actinide Shock Physics Experimental Research (JASPER). Figure 2-8 illustrates the locations that were identified as infrastructure that could not be moved." As such, during training on the NTTR live ordnance is used and overflying these storage areas could create a safety issue for the NNSS as well as for any personnel that might survive a mishap.
PA-12	Please refer to Section 2.2.1, to include Figures 2-3, 2-6, and 2-7, for detailed explanations of required safety footprints. In particular, Figure 2-7 illustrates the required weapons employment for an operationally realistic training scenario. The yellow circle represents a 360-degree approach to the target at a combat-representative altitude as compared to the current limited weapons employment. This higher altitude and faster approach speeds increase the weapons safety footprint, represented by the dotted red circle. The dotted red circle illustrates the weapons safety footprint and depicts the area that is required to be cleared to ensure human safety when dropping a weapon in a realistic training scenario. It should be noted that there will be no new target impact areas created as a result of the withdrawal process.
PA-13	Please refer to Section 2.3 of the LEIS for a description of the proposed military activities within the proposed expansion areas. Chapter 3 in its entirety provides the impacts associated with these activities.
PA-14	Please see responses to PA-1 and PA-5. Also, please refer to Section 1.4 regarding the need to drop munitions realistically on the existing target impact areas (no new impact areas would be created). This need is not related to number of aircraft, but rather the type of munitions and the platform delivery.
PA-15	Throughout the LEIS, narratives for Alternatives 2 and 3 explain the Proposed Action as well as the impacts associated with each affected resource as it relates to each alternative with Alternative 1 serving as the baseline or status quo for which impacts can be compared to. For example, see Section 3.2.4 (Land Use, Recreation and Visual Resources) for impacts associated with public resources and Section 3.8.2.4 for impacts on wildlife on the refuge. Proposed mitigations to minimize potential impacts are discussed in Section 2.8. See also response to GE-3.

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PA-16	Section 1.4.1, subsection “Current Capacity,” explains the competition between MCO test and MCO training issues. The narrative in Section 2.2.1 and Figure 2-5 illustrate how Alternative 2 and 3 would meet the purpose and need.
PA-17	Section 2.3.2 provides the following details: “For the purpose of analyzing the potential impacts associated with the increase in overall range utilization under Alternative 2, this LEIS uses a projected 30 percent increase in test and training activities to provide a reference point for analytical comparisons. Therefore, aircraft operations, munitions expenditures, and motorized vehicular activity were analyzed at operational tempos 30 percent greater than those levels stated in Alternative 1. The anticipated increase in aircraft operations stems from projected F-35 requirements (U.S. Air Force, 2015a) as well as UAS and other operations. It is presumed that munitions usage and other operational equipment would increase at a level consistent with aircraft operations. In addition, it is assumed that there will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. The road improvements and maintenance would generally consist of leveling and grading activities; no road widening, paving, or hardening is anticipated at this time. Consequently, there would be a total of 11.5 acres of total ground disturbance. Table 2-3 and Table 2-4 provide the operational tempo for aircraft operations and munitions used for analysis associated with Alternative 2. Regarding vehicle operations, since specific numbers and types of vehicles (i.e., motorized vehicles that are not aircraft) are difficult to obtain, analysis for this category was based on historical installation fuel consumption data. Resources that are affected by changes in motorized vehicular operations are addressed in Chapter 3 under the respective resource section.” Alternative 3C will be the only alternative with potential ground disturbance as outlined in Section 2.3.3.4, which states: “The insertion point would include one runway that would be a mockup location to provide special operations personnel a location to practice tactics, while a second runway would be an active runway, providing more realistic insertion training. Each runway would be 6,000 feet long and 90 feet wide. It is anticipated that ground disturbance activities associated with construction of the runways would be less than 13 acres. The mockup runway would not be used for aircraft operations. However, it is anticipated that the active runway would be a dirt runway and operational levels would occur at a tempo of 520 takeoffs and landings annually. Also, it is assumed that there will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. The road improvements would generally consist of leveling and grading activities; no road widening, paving, or hardening is anticipated at this time. Consequently, it is anticipated that there would be 24.5 acres of total ground disturbance for Alternative 3C, which was the upper limit used in analyses of the affected resources outlined in Chapter 3 (Affected Environment and Environmental Consequences).” It should be noted that the LEIS is programmatic in nature as stated in Section 1.1: “This LEIS is programmatic in nature. Programmatic NEPA reviews address the general environmental issues and provide the basis for decisions to approve such broad or high-level decisions such as identifying geographically bounded areas within which future proposed activities can be conducted or identifying broad mitigation and conservation measures that can be applied to subsequent tiered reviews. Programmatic NEPA reviews can effectively frame the scope of subsequent site- and project-specific federal actions. The programmatic analysis in this LEIS focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature. Details regarding the actions that are currently known are outlined in Section 2.3 (Alternatives). These conceptual details were the basis of analysis for the LEIS.” Additionally, Section 2.3.3 states “However, at this time, the details associated with specific locations that might experience ground disturbance are not ready for decision or site-specific NEPA-related environmental analysis in this LEIS. Analysis of this alternative focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature.”
PA-18	Section 1.4 outlines the Air Force requirements and national security needs for the withdrawal.
PA-19	Under this proposal, taking “no action” would mean that Congress would not extend the current land withdrawal, which expires in November 2021. Therefore, the land withdrawal would expire and NTTR lands would be reverted back as described under the No Action Alternative. Alternative 1 does take the action of

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	extending the current withdrawal for a determined number of years and continues current activities as they occur today.
PA-20	The Air Force is proposing three time periods for the withdrawal: 20 years, 50 years, and indefinite. While these are proposed time frames, Congress has the authority to implement any length of time for the land withdrawal. For example, while 25 years is typical, for the 1999 NTTR land withdrawal, Congress implemented a 20-year time frame.
PA-21	As discussed in Section 2.3.3.1, UAS training would be introduced to the EC South area in order to alleviate impacts to the MCO environment. Additionally, live weapons would be reintroduced within EC South (which would be redesignated as Range 77), requiring new safety footprints resulting in the need for additional safety buffers. Figure 2-7 provides an example of a safety weapons footprint that would impact DNWR if realistic training is allowed. UAS training is anticipated to increase; however, weapons employment will be on already established target impact areas. See also response to PA-1.
PA-22	Figure 1-8 depicts an overlay of a real-world peer IADS over the NTTR and is not representative of any IADS or other mobile equipment operated by the NTTR. There are no IADS located outside of the current NTTR boundaries. As stated, Figure 1-8 illustrates "the limitations of the current land boundaries" and "is not representative of any conceptual ideas for the Air Force's withdrawal application" (Figure 1-6 illustrates the current MCO capacity). Please refer to Section 1.4.1 for more details regarding the current and proposed future use of electronic assets.
PA-23	As stated in Sections 2.2.3.1 and 2.3.3.3, this expansion would address operational security and safety in the areas where the most incidents of unauthorized public access have occurred, as well as resolve historical legal description of areas included in the 2001 land withdrawal.
PA-24	Please note that the areas proposed for wilderness within the NTTR boundaries were proposed by the USFWS in 1974. Only through legislative mandate can the Wilderness determination be made (see WI-2). As described under Alternative 2 in Section 2.3.2, "ready access" could only be achieved by a Congressionally directed change in land management no longer requiring areas proposed for wilderness to be managed as wilderness; reallocation of primary jurisdiction between the Air Force and the USFWS; development of an Memorandum of Agreement; or enactment of legislative provisions to ensure ready access. However, the need for the expansion near Beatty differs from the need for ready access in the South Range. As indicated in Section 1.4.2 of the LEIS, the Air Force has identified ISR as a key component in IW strategies and has incorporated a robust training program to implement those strategies. As a result, NTTR planners assessed range areas along the exterior perimeter of the NTTR that could accommodate the UAS training while reducing the impact to the MCO environment. As discussed in Section 2.3.3.1, it was determined that the EC South area was the only area available to accommodate UAS training while reducing the impact to MCO activities. Therefore, under Alternative 3A and 3A-1, EC South would be redesignated as "Range 77" and areas previously used for live-fire exercises would allow for full air-to-ground operations. These activities require an extended safety buffer that is reflected in Alternative 3A and 3A-1; however, targets would be located within the current boundary of the NTTR. Please see Section 1.4.2 and subsection "Combined UAS and IW Training" for a detailed explanation on the Air Force's requirements.
PA-25	Yes, the schedulers currently work on the weekends. As stated in Section 1.4.1, the status quo for the NTTR is that testing and training requirements, along with maintenance and stewardship as well as regulatory activities, demand more than 100 percent of existing capacity. Virtually 24 hours per day/seven days per week, multiple test and training missions along with other requirements compete for the same limited resources. As a result, on nearly any given day, an important national security testing or training mission gets delayed. As technologies continue to advance, the Air Force can no longer discount the need for additional land to support its operations.
PA-26	As indicated in Section 2.2.1, "In addition to the Air Force's selection standards, the Air Force held discussions with its cooperating agency partners and identified the following planning considerations. The DOE/NNSA explained that the following infrastructure on the NNSS could not be moved because of their national security significance: Device Assembly Facility; Nonproliferation Test and Evaluation Complex; Big Explosives Experimental Facility; Radioactive Waste Management (Area 5); and Joint Actinide Shock

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	Physics Experimental Research (JASPER). Figure 2-8 illustrates the locations that were identified as infrastructure that could not be moved." "The NDOW and BLM indicated any conceptual withdrawal planning efforts must consider, at a minimum: bighorn sheep and the impacts to guzzlers; mule deer; pronghorn; burrowing owls; bats; chuckwallas; banded Gila monsters; wild horse and/or burro herd management areas (HMA); and invasive species. Two divisions of the USFWS (Refuge and Ecological Services) were contacted about any conceptual withdrawal planning efforts. They indicated that in addition to cultural resource concerns associated with Native Americans, at a minimum, the following must be considered: desert tortoise; migratory birds; Las Vegas buckwheat; Las Vegas bearpoppy; bighorn sheep; golden eagle; burrowing owls; spring snails; spring resources and potential impacts; Alamo Road; and Hidden Forest Road. In addition, the USFWS added after initial discussions that public access to the northern part of the DNWR along Alamo Road and connecting spur roads, including Hidden Forest Road, should be considered as well." Additionally, in Section 2.3.3.4, "During public scoping, concerns were raised about the loss of public access to the DNWR. During initial development of the Alternative 3C proposed expansion area, the Air Force took into consideration the potential impacts to grazing and recreational areas and reduced the land area to accommodate grazing rights and recreational areas to the south of the proposed expansion area. As a result, the public would continue to have access to key recreational areas such as Hidden Forest Cabin, Corn Creek Field Station, Cow Camp trailhead, and Joe May trailhead, as well as springs such as Corn Creek, Cow Camp, Upper Deadman, Lower Deadman, and Sawmill, among others. Figures 2-14 and 2-15 illustrate recreational areas in the vicinity of Alternative 3C. The public expressed an interest in the Air Force developing a "shared use" concept for the area associated with Alternative 3C. Unrestricted access would present public safety concerns associated with weapon safety footprints and security concerns for technologically advanced equipment that will be used for future test and training activities. Limited access, based on current practices, is granted on a case-by-case basis and would continue under Alternative 3C should Congress select this alternative." Additionally, the Air Force has updated Section 2.9.1 to include the development of an Intergovernmental Executive Committee, which is outlined in the following narrative: "The Secretary of the Air Force and the Secretary of Interior would establish, by MOU, an Intergovernmental Executive Committee for the land withdrawn by Congress for the purpose of exchanging views, information, and advice relating to the management of the natural and cultural resources of the withdrawn and reserved lands and to proactively collaborate on studies and analyses developed in accordance with, but not limited to, NEPA, the Fish and Wildlife Coordination Act (16 USC 661 et seq.), NHPA (16 USC 470 et seq.), ESA (16 USC 1531 et seq.), and the Sikes Act (16 USC 670). The MOU would include the following primary goals and objectives: • Establish an Air Force-led Intergovernmental Executive Committee • Develop/document communication, data sharing, and reporting procedures • Coordinate biological and cultural resources management • Establish procedures for coordinating changes of activity within the DNWR • Establish reporting requirements for mitigation implementation • Establish a Comprehensive Public Report (published every five years) A suggested framework for the Intergovernmental Executive Committee would include selected representatives from the Air Force, USFWS, BLM, DOE, NDOW, and other appropriate government agencies. The Committee would be established for the purpose of reviewing and addressing biodiversity, environmental policy, and regulatory issues, as well as the exchange of views, information, and recommendations relating to adaptive management of natural and cultural resources of the lands withdrawn. The Committee could operate in accordance with specific terms set forth in an MOU. The Committee is a potential solution to address concerns that were raised during public review by both federal agencies and the public. The internal structure of the Committee and frequency of meetings would be addressed in its charter."
PA-27	There are no new impact areas or weapons proposed as part of the Proposed Action or any of the alternatives. As outlined in Section 1.4, "Therefore, the Air Force's purpose and need for action is to sustain and enhance the military testing and training capacity, capability, and functionality of the NTTR through the

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	land withdrawal process to meet current and future mission requirements, while continuing environmental stewardship of the lands entrusted to it." Section 1.3 details the USAFWC/NTTR mission and requirements.
PA-28	Although the suggested moratorium would allow for a baseline, it is not practicable because of the human impacts that already occurred. However, the Air Force and its cooperating agency partners are already working on follow-up activities to better understand the impacts of military activities on the desert bighorn sheep population. In 2015, 25 GPS collars were deployed on desert bighorn sheep on the NTTR and 21 collars were deployed in 2016 (U.S. Air Force, 2017f). All collars were real-time satellite collars, with a battery life of about two years and GPS data recorded every hour. Data is downloaded weekly and combined into monthly datasets. Data collected from the monitoring of collars will be used to determine the locations and movements of bighorn sheep herds and to provide baseline information for development of a habitat range model by the USGS. Figure 3-29 provides data from the collaring effort. Currently, there is a groundwater sampling program being conducted by the DOE surrounding the town of Beatty.
PA-29	The LEIS is programmatic in nature as stated in Section 1.1 and as stated in the narrative: "The programmatic analysis in this LEIS focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature. Details regarding the actions that are currently known are outlined in Section 2.3 (Alternatives). These conceptual details were the basis of analysis for the LEIS."
PA-30	Large versions of the maps were provided on the website and geographic information system (GIS) analysis utilizing available data was used to determine features within the area, which are addressed throughout the LEIS, appendices, and supplement studies (available at www.NTTRLEIS.com). A large printed map was also sent to the Beatty Community Center upon request and was received on February 2, 2018.
PA-31	The Air Force developed selection standards as outlined in Section 2.2 of the LEIS. In addition the Air Force worked with cooperating agencies to better understand their planning considerations as outlined in Section 2.2.1. As stated in Section 2.2.1 "To reduce overall impacts, the Air Force would locate threat emitters along existing roads or unpaved two-tracks, and threat emitter sites must have closed access for up to 1 mile if they are located outside of NTTR-controlled boundaries." Section 2.3.2, "In addition, it is assumed that there will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. The road improvements and maintenance would generally consist of leveling and grading activities; no road widening, paving, or hardening is anticipated at this time. Consequently, there would be a total of 11.5 acres of total ground disturbance." Section 2.3.3 states: "Each of the subalternatives included in Alternative 3 would include ready access as defined in Section 1.4.1 (Increase MCO Test/Training Capability) and described under Alternative 2. As was the case with Alternative 2, it is anticipated that operations will increase by 30 percent in the near future. For the purpose of analyzing the potential impacts associated with the increase in overall range capacity under Alternative 3, this LEIS uses a projected 30 percent increase in test and training activities to provide a reference point for analytical comparisons (see Tables 2-3 and 2-4). The land boundary under Alternative 3 would include the current NTTR boundary as outlined in Alternative 1, plus various options for additional lands needed for the operational and safety requirements described in Sections 1.4.1 (Increase MCO Test/Training Capability) through 1.4.3 (Increase NTTR Operational Security and Safety). Each of the subalternatives associated with Alternative 3 would require fencing but only on the proposed boundaries that do not abut the current NTTR boundary. The fencing would be constructed to meet BLM fencing requirements, dependent on the topography and wildlife present, as outlined in BLM Handbook H-1741-1: Fencing, and the objective of the fencing would be to provide a physical barrier to prevent public access while allowing wildlife passage. For example, if the topography in an area supports bighorn sheep predominantly, fencing would be constructed using BLM Handbook H-1741-1: Fencing, conducive to bighorn sheep passage. Figure 2-11 illustrates those areas that would be fenced. In order to conduct programmatic analysis, the following fencing specifications were used. The fencing would consist of four strands of wire. The bottom strand would be smooth while the three upper wires would be barbed. The maximum fence height would 40

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	inches. Wire spacing from the ground up would be 16 inches and then spacing between wires would be 6 inches, 6 inches, and 12 inches (i.e., 16 inches, 22 inches, 28 inches, and 40 inches above ground level), which is the standard for BLM antelope fencing. As is typical practice for fencing installation, a two-track impression on the ground surface would be formed parallel to the fencing route during construction so that fencing supplies can be carried along the route of the fence as it is being built. Future use of the two-track impression would be periodic, depending on scheduled fence monitoring. The two-track impression would be associated with Alternative 3 subalternatives. It should be noted that the environmental consequences analysis for each applicable affected resource has been conducted using the total area to be fenced that abuts the current NTTR boundary. This has provided a conservative analysis. However, there may be instances where natural barriers will not allow for fence construction."
PA-32	The Air Force recognizes the concerns and the request, however as outlined in Section 2.3, "The Air Force recognized that there was one commonality associated with each candidate alternative: the Air Force would not relinquish any lands as part of the land withdrawal."
PA-33	At the request of cooperating agencies (USFWS, BLM, and NDOW) at a Cooperating Agency Meeting on August 1, 2018, cooperating agency comments have been addressed at an interagency level. Therefore, this comment code is no longer applicable.
PA-34	Please see Section 2.3.3 for details regarding the activities that will occur in areas associated with Alternative 3.
PA-35	At the request of cooperating agencies (USFWS, BLM, and NDOW) at a Cooperating Agency Meeting on August 1, 2018, cooperating agency comments have been addressed at an interagency level. Therefore, this comment code is no longer applicable.
PA-36	As stated in Section 2.3.3.3, Alternative 3B would withdraw approximately 33,000 acres that is managed by the USFWS Refuge program while Alternative 3C would request the withdrawal of 227,027 acres of the DNWR to correspond with potential weapons safety footprints associated with target impact areas associated with the 60-series ranges.
PA-37	As stated in Section 2.3.3.4, "...Alternative 3C implements IW capabilities that would involve developing potential insertion points as outlined in Section 2.2.2 (Enhance IW Test/Training Capability) and conceptualized in Figure 2-10. The insertion point would include one runway that would be a mockup location to provide special operations personnel a location to practice tactics, while a second runway would be an active runway, providing more realistic insertion training. Each runway would be 6,000 feet long and 90 feet wide. It is anticipated that ground disturbance activities associated with construction of the runways would be less than 13 acres. The mockup runway would not be used for aircraft operations. However, it is anticipated that the active runway would be a dirt runway and operational levels would occur at a tempo of 520 takeoffs and landings annually. Also, it is assumed that there will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. The road improvements would generally consist of leveling and grading activities; no road widening, paving, or hardening is anticipated at this time. Consequently, it is anticipated that there would be 24.5 acres of total ground disturbance for Alternative 3C, which was the upper limit used in analyses of the affected resources outlined in Chapter 3 (Affected Environment and Environmental Consequences)."
PA-38	Congress can pick and choose alternatives or a combination there of or create their own alternative, including the time frame for the withdrawal. Alternative development was outlined in Sections 2.1 and 2.2. Each alternative was evaluated against selection standards established and described in Section 2.1. Input from the scoping process as described in Section 1.5 (Environmental Impact Analysis Process) also affected development of the alternatives. It should be noted that although Alternative 1 significantly restricts test and training missions, it was evaluated and also used as a baseline for a comparative programmatic evaluation contrasted to all other alternatives and is an alternative that does not include any expansion and could potentially be selected for 20 years. Please see Table 2-5 in the LEIS, which summarizes the degree of impacts for each potential alternative combination, which are further explained in Section 3.15 (Summary of Impacts). As indicated in Section 1.1, the LEIS is programmatic and as stated in Section 2.2.2, "Although these potential sites were identified, they are not ready for detailed consideration at this time but are an anticipated requirement in the future. When this requirement becomes more refined, the Air Force will

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	conduct a more detailed NEPA analysis. Section 2.3 (Alternatives) presents the detailed alternatives that the Air Force developed to address this operational requirement." Additionally, the LEIS states in Section 2.3, "However, at this time, the details associated with specific locations that might experience ground disturbance are not ready for decision or site-specific NEPA-related environmental analysis in this LEIS. Analysis of this alternative focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature."
PA-39	As stated in Section 2.3.3, "The land boundary under Alternative 3 would include the current NTTR boundary as outlined in Section 2.3.1, plus various options for additional lands needed for the operational and safety requirements described in Sections 1.4.1 through 1.4.3. Each of the subalternatives associated with Alternative 3 would require fencing but only on the proposed boundaries that do not abut the current NTTR boundary. The fencing would be constructed to meet BLM fencing requirements, dependent on the topography and wildlife present, as outlined in BLM Handbook H 1741-1: Fencing, and the objective of the fencing would be to provide a physical barrier to prevent public access while allowing wildlife passage. For example, if the topography in an area supports bighorn sheep predominantly, fencing would be constructed using BLM Handbook H-1741-1: Fencing, conducive to bighorn sheep passage. However, to conduct programmatic analysis for the affected resources discussed in this chapter, the following fencing specifications were used. The fencing would consist of four strands of wire. The bottom strand would be smooth while the three upper wires would be barbed. The maximum fence height would 40 inches. Wire spacing from the ground up would be 16 inches, and then spacing between wires would be 6 inches, 6 inches, and 12 inches (i.e., 16 inches, 22 inches, 28 inches, and 40 inches above ground level), which is the standard for BLM antelope fencing." It should be noted that the environmental consequences analysis for each applicable affected resource has been conducted using the total area to be fenced that abuts the current NTTR boundary. This will provide a conservative analysis. However, there may be instances where natural barriers will not allow for fence construction." Costs do not factor into the decision and level of trespassing information has security implications.
PA-40	The USFWS has primary jurisdiction over approximately 714,000 acres that overlap between DNWR and the NTTR. The Air Force only has primary jurisdiction and access to approximately 112,000 acres that consists of the target impact areas. Any disturbance in these target impact areas that impacts desert tortoise habitat requires consultation with the USFWS Ecological Services Branch. The Air Force does not have access to the entire South Range or half of the DNWR. Currently, the Air Force can use only about 112,000 acres of the approximately 1.2 million acres on the South Range for test and training activities and as stated in Section 1.4 (Purpose and Need): "as a result of the overlap of the DNWR and areas that were proposed for wilderness in the South Range, there are significant restrictions on Air Force activities. These restrictions limit Air Force activities to ground areas below 4,000 feet and constrain development of new locations (such as emitter sites and communication sites) and use of historical targets that are located in areas that were proposed as wilderness in 1971. While the Air Force has primary jurisdiction over the 60-series range impact areas, which are within the overlap between the DNWR and the NTTR, they are live-fire target areas and do not offer the topography required for the development of simulated IADS. The South Range as a whole provides the terrain necessary to provide military training that would meet DoD requirements. However, land management restrictions outside of areas with primary Air Force jurisdiction currently do not allow for any ground-disturbing military testing or training activities. As a result, current land management practices prevent the majority of the South Range of the NTTR and associated airspace from being effectively used to support military testing and training activities." The Air Force has been restricted on training for almost twenty plus years and can no longer meet future training requirements if these restrictions continue. As outlined in Section 1.4, "Therefore, the Air Force's purpose and need for action is to sustain and enhance the military testing and training capacity, capability, and functionality of the NTTR through the land withdrawal process to meet current and future mission requirements, while continuing environmental stewardship of the lands entrusted to it. Mission requirements include, without limitation, the following:

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	• Increase MCO test/training capability to meet the demands of strategic guidance and alleviate competition for critical MCO electronic assets • Enhance IW test/training capability • Increase NTTR operational security and safety Additionally, as a result of the overlap of the DNWR and areas that were proposed for wilderness in the South Range, there are significant restrictions on Air Force activities. These restrictions limit Air Force activities to ground areas below 4,000 feet and constrain development of new locations (such as emitter sites and communication sites) and use of historical targets that are located in areas that were proposed as wilderness in 1971." Additionally, it should be noted that in the 1999 Land Withdrawal LEIS, the Air Force had one alternative that was evaluated but not carried forward entitled Withdraw Additional Land to Fully Meet the Mission Requirements. This alternative explained that the "lands withdrawn by PL 99-606 as amended do not fully meet the land requirements of the Department of Defense (DoD) missions on NAFR. Examples of mission-derived land requirements are discussed in Section 1.5. To maximize its ability to perform the mission requirements while ensuring public safety and the preservation of national security, the Air Force limits its operations within the NRC and on NAFR to conform to the current capabilities and constraints of the land and airspace. Expansion of NAFR to fully meet the existing and projected military operations requirements was considered as an alternative but not carried forward since it was considered infeasible in light of the various environmental and sociopolitical concerns of other federal agencies, the State of Nevada, local governments, and the public."
PA-41	The entire narrative, read in order for context, explains the scheduling process and competition for test and training resource times. The complete narrative in Section 1.4.1 states: "The status quo for the NTTR is that testing and training requirements, along with maintenance and stewardship as well as regulatory activities, demand more than 100 percent of existing capacity. Virtually 24 hours per day/seven days per week, multiple test and training missions along with other requirements compete for the same limited resources. As a result, on nearly any given day, an important national security testing or training mission gets delayed. As technologies continue to advance, the Air Force can no longer discount the need for additional land to support its operations." Prior to this portion of the narrative in the same section the following is stated: "Use of the NTTR is accomplished by an internal scheduling and prioritization of requests within Nellis AFB and Creech AFB user groups; numerous requests for range time result in intense competition for NTTR land and airspace. The NTTR test and training schedule blocks are managed to 15-minute intervals for each airspace and range area to ensure efficiency. Often, multiple users are active in one airspace unit, and many activities restrict or preclude the ability to conduct ground-based training activities because of safety considerations. Given the high demand for NTTR range access, the NTTR range managers must often defer training for requesting military units while assigning them as a back-up user to a higher priority activity. Maintenance activities are scheduled for each ground area when not in active use, as windows of time become available. These activities include clearing ranges of unexploded ordnance (UXO) or preparing the range area for the next military test or training activity. Competition for land and airspace exceeds both permanent and transient/tenant units located at Nellis AFB and Creech AFB because a significant amount of the space is periodically used by other high-priority off-station users, such as Air Force Materiel Command and Edwards AFB assets, for test missions. Secondary-priority range users (Air Force Thunderbirds, 58th and 66th Rescue Squadrons, etc.), including tenant units and visiting off-station units, are increasingly constrained by scheduling challenges and encounter difficulties in efficiently meeting operational training objectives. A review of the previous 10 years of UAS scheduling data shows the sustained growth of remotely piloted aircraft mission requirements has only added to the complexity and magnitude of scheduling, further intensifying mission competition. This competition has led to moving missions within the NTTR and in some situations displacing other missions."
PA-42	Section 1.4.2 states: "The Air Force has identified ISR as a key component in IW strategies and has incorporated a robust training program to implement those strategies. Creech AFB is at the center of UAS training and is located on the NTTR. This provides a seamless opportunity to test and train crews and systems that are currently required for any IW operation. Ground personnel must be able to integrate ISR strategy into operations. Because of Creech AFB's proximity to the South Range, the South Range is the

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	ideal location to test and train these assets." However, it should be noted that the programmatic analysis in this LEIS focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature.
PA-43	Figure 2-7 shows a conceptual illustration of weapons employment required for an operationally realistic training scenario. Note this is a conceptual illustration and thus shows a composite ordnance safety footprint. As a result of the frequency of use of munitions and scheduling difficulties test areas are rotated based on the use/type of munitions as well as type of mission being conducted. As outlined in Section 1.4.1, "Since ready access for military use in the South Range is not available, there is limited ability to use the NTTR airspace to its maximum capacity. Simply put, pilots currently can approach the existing target impact areas only at limited angles from limited points in the airspace, which is one way that airspace is not being used to its maximum capacity. Approach angles are currently limited in large part because the emitters cannot be placed at realistic distances from the targets, which creates threat rings that are too close to the targets. The land available for threat emitter placement is extremely limited due to access restrictions and the current size of the NTTR withdrawal. The limitations on approaches could be greatly reduced if the Air Force were allowed access to other areas on the South Range to place threat emitters farther from existing target impact areas. While no new target impact areas are being considered as part of this proposed withdrawal extension or expansion, the ability to place threat emitters farther away from impact areas would allow pilots to approach the targets from a wider variety of points throughout the existing airspace, making the use of the airspace much more effective."
PA-44	This statement is alluding to military actions in the middle east, it isn't intended to mean that the NTTR is the only place with unique natural topography.
PA-45	The Air Force has identified a Preferred Alternative in Section 2.5 of the Final LEIS of the selection of Alternatives 2, 3A-1, 3B, 3C, and 4C . However, as of the Draft LEIS, the Air Force had not selected a preferred alternative in order to evaluate and consider all agency, tribal, and public concerns raised during the public review period. If there is no longer a need to utilize the withdrawn lands, they are released back to DOI as occurred in 2001. However in this case and as stated in the LEIS, "In accordance with Section 3016 of the MLWA, the Department of the Air Force, in coordination with DoD, has notified Congress of a continuing military need for the NTTR withdrawal." Additionally, per Section 1502.14(e) of 40 CFR requires the section of the EIS on alternatives to "identify the agency's preferred alternative if one or more exists, in the draft statement, and identify such alternative in the final statement . . ." This means that if the agency has a preferred alternative at the Draft EIS stage, that alternative must be labeled or identified as such in the Draft EIS. If the responsible federal official in fact has no preferred alternative at the Draft EIS stage, a preferred alternative need not be identified there. By the time the Final EIS is filed, Section 1502.14(e) presumes the existence of a preferred alternative and requires its identification in the Final EIS "unless another law prohibits the expression of such a reference."
PA-46	Reduced public access is due to safety issues associated with military training and would occur whether the military unit is US or an allied entity.
PA-47	The Air Force recognize' s Nye County's position that the pre-land withdrawal should be used for baseline conditions instead of the status quo; however, it is the Air Force's position that the status quo should be used as the baseline for comparison purposes as stated in Section 2.3.1, "Although Alternative 1 significantly restricts test and training missions, it was evaluated and also used as a baseline for a comparative programmatic evaluation contrasted to all other alternatives."
PA-48	Thank you for the comment and you are correct that there were no display boards that illustrated this information. The display boards focused on summarizing the alternatives and potential impacts; however, three copies of the LEIS were available and these figures were tabbed so that Air Force personnel could quickly reference the material if asked. LEIS Figure 2-6 illustrates the current limitations while Figure 2-7 illustrates the required weapons employment for an operationally realistic training scenario. The yellow circle in the figure represents a 360-degree approach to the target at a combat- representative altitude as compared to the current limited weapons employment shown in Figure 2-6. This higher altitude and faster approach speeds increase the weapons safety footprint.
PA-49	Please note this is an Air Force proposal for the NTTR located in Southern Nevada. Additional information can be found in Section 1.1 of the LEIS.

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PA-50	Section 2.2.1 states: "The Air Force would continue to coordinate with agencies that share responsibility for land and wildlife management, such as the USFWS and NDOW, to manage biological resources on DNWR lands that overlap with the NTTR and expansion areas, and would comply with federal regulations and plans." Currently, the Air Force works with the USFWS, BLM, DOE, as well as the Nellis CGTO regarding issues on the range where appropriate. The Air Force will continue to work with these agencies as appropriate within the context of defined Memos of Agreement or Understanding as well as the framework of established plans such as the Integrated Natural Resources Plan (INRMP) or Integrated Cultural Resources Plan (ICRMP). Additionally, Section 2.9.1 has been updated with the following text: "The Secretary of the Air Force and the Secretary of Interior would establish, by MOU, an Intergovernmental Executive Committee for the land withdrawn by Congress for the purpose of exchanging views, information, and advice relating to the management of the natural and cultural resources of the withdrawn and reserved lands and to proactively collaborate on studies and analyses developed in accordance with, but not limited to, NEPA, the Fish and Wildlife Coordination Act (16 USC 661 et seq.), NHPA (16 USC 470 et seq.), ESA (16 USC 1531 et seq.), and the Sikes Act (16 USC 670). The MOU would include the following primary goals and objectives: • Establish an Air Force-led Intergovernmental Executive Committee • Develop/document communication, data sharing, and reporting procedures • Coordinate biological and cultural resources management • Establish procedures for coordinating changes of activity within the DNWR • Establish reporting requirements for mitigation implementation • Establish a Comprehensive Public Report (published every five years) A suggested framework for the Intergovernmental Executive Committee would include selected representatives from the Air Force, the USFWS, BLM, DOE, NDOW, and other appropriate government agencies. The Committee would be established for the purpose of reviewing and addressing biodiversity, environmental policy, and regulatory issues, as well as the exchange of views, information, and recommendations relating to adaptive management of natural and cultural resources of the lands withdrawn. The Committee could operate in accordance with specific terms set forth in an MOU. The Committee is a potential solution to address concerns that were raised during public review by both federal agencies and the public. The internal structure of the Committee and frequency of meetings would be addressed in its charter."
PA-51	Please note that some of the activities described in your comment already occur and there would be no new impact areas created for live fire use. For example, there are overflights of this area that cause noise and sonic boom on daily basis and electromagnetic radiation is used by sensors on the range. It should be noted that the 3C area in question was used as a practice bombing range during WW II. However, ground disturbance activities described in your comment cannot occur in areas proposed for wilderness since the USFWS manages areas proposed for wilderness as de facto wilderness. See also responses to BI-4, WI-2, and LU-1.
PA-52	The USFWS has had secondary jurisdiction in the management hierarchy. The Air Force coordinates with the USFWS and NDOW on the management of wildlife as well as consults with the USFWS Ecological Services regarding the desert tortoise. The Air Force does not record the level of effort provided by other federal agencies but does work with those agencies as appropriate. The Air Force cannot answer what the level of effort of other federal agencies might be. The Air Force will continue to work with other federal agencies and has outlined processes for range access as state in Section 2.2.1 of the LEIS.
PA-53	The Air Force is unaware of UAS flight activities that are suspended over the highway.
PA-54	The activities mentioned are not and should not be considered "lost acreage" for the following reasons: munitions use areas are already part of the baseline (i.e. impact areas) and no new impact areas are proposed. Off road use, camping and "gathering sites" may disturb the ground initially, but it would be temporary. "Lost" implies never to return, which would only apply to construction areas, or areas converted from a "natural" state to a permanently disturbed state, such as the ground disturbance estimates for road, runway, and infrastructure footprints as described under each alternative in Sections 2.3.2 and 2.3.3.

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	Within the context of this particular discussion, ground disturbance is related to construction activities or activities that would have a long-term effect on the ground surface. Unless specifically describing areas removed from public access, "lost" implies areas that are disturbed to the extent that they cannot return to their former state, which would normally apply to construction areas, or areas converted from a "natural" state to a permanently disturbed state. Counting motorized off-road activities, camp sites or other gathering places, munitions impacts, and areas designated as "off limits," as areas "lost" due to ground disturbance would not be an accurate statement. However, depending on the scope of activity (random use of ORVs spread throughout the area vs. targeted use of ORVs to a single area) there could be long-term impacts to the ground surface; suggested mitigations/BMPs have been identified to avoid long-term impacts (e.g., rotation of camp sites). However, at this time it is difficult to quantify the number of acres that could be affected by ORV use or camping. Areas used for munitions are already considered part of the baseline (Alternative 1) and therefore not included in the ground disturbance "plus-up" associated with the expansion. Areas "off limits" are not necessarily disturbed and therefore not included as acres lost due to ground disturbance. Acres lost to recreational access (which in and of themselves may result in ground disturbance based on scope) are already addressed under Section 3.4 (Land Use). All potential ground disturbing activities are stated under each proposed alternative in Section 2.3. As stated no new impact areas would be created and no live munitions would be used in the proposed expansion areas. Road improvements would occur under Alternative 3C, as stated. As stated in Section 1.1: "This LEIS is programmatic in nature. Programmatic NEPA reviews address the general environmental issues and provide the basis for decisions to approve such broad or high-level decisions such as identifying geographically bounded areas within which future proposed activities can be conducted or identifying broad mitigation and conservation measures that can be applied to subsequent tiered reviews. Programmatic NEPA reviews can effectively frame the scope of subsequent site- and project-specific federal actions. The programmatic analysis in this LEIS focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature. Details regarding the actions that are currently known are outlined in Section 2.3 (Alternatives). These conceptual details were the basis of analysis for the LEIS." Additionally, Section 2.3.3 states: "However, at this time, the details associated with specific locations that might experience ground disturbance are not ready for decision or site-specific NEPA-related environmental analysis in this LEIS. Analysis of this alternative focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature."
PA-55	Thank you for the comment. However, the Air Force believes that the No Action Alternative would occur only if the withdrawal was not renewed by Congress. Thus, the Air Force evaluated the No Action Alternative as required by NEPA and in this case the No Action Alternative is outlined in Section 2.4, which states: "Under the No Action Alternative, Congress would exercise its constitutional authority to not take action to extend the withdrawal legislation in time to support MLWA expiration in November 2021."
PA-56	The affected environment represents the "baseline" condition for comparison purposes in the LEIS. A new affected environment configuration would exist subsequent to Congressional action. Projections of changes to the baseline (e.g., effects) are described in the "Environmental Consequence" subsections of Chapter 3 of the LEIS. The baseline represents the current condition of the affected environment at the time of the development of the LEIS. Therefore, any projections of changes to the baseline condition would need to be addressed as part of reasonably foreseeable future actions under the Cumulative Impacts discussion. This is described in Section 4.1.3 of the LEIS. A selection of Alternative 1 by Congress would extend the withdrawal under the baseline conditions, for example, no changes to the boundaries and no increases in operations. A selection of the No Action Alternative would not extend the current withdrawal and the land would be returned to the BLM and the USFWS as discussed under the No Action Alternative.
PA-57	Each Major Range and Test Facility Base (MRTFB) has a unique purpose and although UTTR is a MRTFB, it does not incorporate an MCO element or robust electronic warfare component to the scale of the NTTR's Red Flag exercises. In addition, testing of tactics within an MCO environment is not adequate at UTTR to

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	meet the Air Force requirements. Eglin Gulf Test Range does not have the realistic desert terrain to test and train tactics in an environment similar to current actions in the middle east. Although Edwards is a MRTFB, it does not incorporate an MCO element or robust electronic warfare component to the scale of the NTTR's Red Flag exercises. In addition, testing of tactics within an MCO environment is not adequate at Edwards to meet the Air Force requirements.
PA-58	The cover page abstract section has been updated to include a synopsis of the alternatives being considered. Details regarding all alternative can be found in Section 2.3 of the LEIS.
PA-59	The Air Force's requirements are outlined in Section 1.3 and help to formulate the purpose and need stated in Section 1.4. Without the outlined requirements, there is not a purpose or need.
PA-60	Slower moving aircraft can disrupt MCO test and training activities whether in the North or South Ranges, which was the rationale behind the statement in Section 2.2.3, "After reviewing the perimeter range areas, it was clear that all perimeter range areas with the exception of EC South and the live-fire ranges on the South Range could not be carried forward without creating scheduling conflicts with MCO operations."
PA-61	The LEIS considers a range of expansion alternatives that include no expansion, all three proposed expansions, or any combination of the three proposed expansions, based on the Purpose of and Need for the Action in Section 1.1. Based upon public inputs the Air Force refined the range of alternatives to include Alternative 3A-1. The impacts to wildlife and cultural resources under each of the expansions are evaluated for each of the proposed expansion alternatives. Action alternatives also consider changes in management jurisdiction and time frames for the withdrawal. Alternatives within the LEIS are driven by Air Force requirements. Alternatives in an LEIS need not be exhaustive but there should be enough information to allow Congress to make a reasoned choice as far as environmental facets are concerned.
PA-62	Preliminary siting efforts have begun that include evaluating the weapons safety footprints associated with the target sites, which are the driving factor for requesting the withdrawal areas associated with Alternative 3A and 3A-1. As stated in Section 1.1 of the LEIS, "This LEIS is programmatic in nature. Programmatic NEPA reviews address the general environmental issues and provide the basis for decisions to approve such broad or high-level decisions such as identifying geographically bounded areas within which future proposed activities can be conducted or identifying broad mitigation and conservation measures that can be applied to subsequent tiered reviews. Programmatic NEPA reviews can effectively frame the scope of subsequent site- and project-specific federal actions. The programmatic analysis in this LEIS focuses mainly on the proposed use of the area from a conceptual and qualitative perspective, and site-specific NEPA analyses will be necessary in the future for specific locations and routes once a decision on withdrawal has been made and information becomes more mature."
PA-63	The Air Force is evaluating alternatives that would extend the current NTTR land withdrawal as well as withdrawal of additional lands for the NTTR mission. The LEIS provides a basis for evaluation of the benefits of the Proposed Action in light of its environmental risks. It should be noted that the development of alternatives need not be exhaustive. However, the LEIS should be sufficient to permit the lead agency to make a reasoned choice of alternatives so far as environmental aspects are concerned. Additionally, NEPA does not have a requirement for a special need assessment.
PA-64	The alternatives do not convert multiple-use lands to de facto wilderness. Lands proposed for wilderness are managed as de facto wilderness per the 1971 USFWS proposal. Wilderness standards are evaluated for these lands because they are currently managed by the USFWS as de facto wilderness. Designation of these lands as Wilderness can only be done by Congress (see response to WI-2). Alternatives 2 and 3 incorporate ready access as described in Section 2.3.2, which states, "The NTTR boundary under Alternative 2 would be the same as with Alternative 1, but the Air Force would have 'ready access' in both the North and South Ranges. Section 1.4.1 describes the four essential elements of ready access (adequacy, flexibility, timeliness, and variability) that are necessary to meet current and future NTTR mission requirements. Ready access could be instituted through a combination of methods, which may include the following: • A Congressionally directed change in land management that effectively eliminates the need to manage the withdrawn lands as if they were wilderness. This could be incorporated in the 2021 Congressional decision on the NTTR withdrawal extension and expansion.

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	• Reallocation of primary jurisdiction between the USFWS and the Air Force for portions or all of the area of the DNWR that overlaps with the NTTR. • Development, within a specified time period, of a binding Memorandum of Agreement, granting ready access to the DoD and establishing written procedures to ensure full compliance with other federal agency requirements. These written procedures may be included in other support documents such as the INRMP or ICRMP. • Ready access means having the ability to use the lands and resources on the NTTR without having to compromise mission success and realistic training because of land use restrictions and delays in access to the range. Coordination with other federal agencies that share responsibility for managing resources on these lands would still be essential. Enactment of legislative provisions that ensure ready access, notwithstanding the operation of other specific statutory measures limiting such access, provided the withdrawn lands are managed under an approved INRMP in accordance with the Sikes Act." (See response BI-4 regarding Sikes Act.)
PA-65	RS2477 was repealed in 1976 under the Federal Land Policy and Management Act (FLPMA).
PA-66	As indicated in Sections 2.3.3.1, 2.3.3.2, and 2.3.3.4, the rationale for alternatives are to ensure safety. For example, "Unrestricted access would present public safety concerns associated with weapon safety footprints and security concerns for technologically advanced equipment that will be used for future test and training activities. Limited access, based on current practices, is granted on a case-by-case basis and would continue under Alternative 3C should Congress select this alternative." Congress recognizes the land is withdrawn and reserved for the Air Force as: "…. an armament and high hazard testing area; for training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support; for equipment and tactics development and testing; and for other defense-related purposes …." (MLWA, §3011(b)(a), 1999).
PA-67	Under Alternative 1, "the status quo," this would occur; which states: "The Secretary of the Interior maintains secondary jurisdiction over this acreage for wildlife conservation purposes. The area proposed by the USFWS for wilderness designation located in the South Range would be continued to be managed as de facto wilderness." The LEIS indicates in Section 2.2.1, "The Air Force reviewed the planning considerations of BLM, USFWS (Ecological Services and DNWR), and NDOW and discussed potential conceptual site threat emitter locations in areas with the least impact. However, all three cooperating agencies indicated that the conceptual ideas described by the Air Force were contrary to the current governing legislation (the Wilderness Act and National Wildlife Refuge System Improvement Act of 1997) associated with the areas of overlap between the NTTR and the USFWS areas in the DNWR. During discussions with the cooperating agencies, the Air Force explained that a potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered (40 CFR 1506.2(d))." Section 2.3.2 states, "The NTTR boundary under Alternative 2 would be the same as with Alternative 1, but the Air Force would have ready access in both the North and South Ranges. Section 1.4.1 describes the four essential elements of ready access (adequacy, flexibility, timeliness, and variability) that are necessary to meet current and future NTTR mission requirements. Ready access could be instituted through a combination of methods, which may include the following: • A Congressionally directed change in land management that effectively eliminates the need to manage the withdrawn lands as if they were wilderness. This could be incorporated in the 2021 Congressional decision on the NTTR withdrawal extension and expansion. • Reallocation of primary jurisdiction between the USFWS and the Air Force for portions or all of the area of the DNWR that overlaps with the NTTR. • Development, within a specified time period, of a binding Memorandum of Agreement, granting ready access to the DoD and establishing written procedures to ensure full compliance with other federal agency requirements. These written procedures may be included in other support documents such as the INRMP or ICRMP. • Enactment of legislative provisions that ensure ready access, notwithstanding the operation of other specific statutory measures limiting such access, provided the withdrawn lands are managed under an approved INRMP in accordance with the Sikes Act (16 USC 670)."

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	Therefore, the analysis assumes the removal of lands from the refuge system by Congressional decision, but would not preclude the National Wildlife Refuge System from conducting its mission on remaining National Wildlife Refuge System lands. The Refuge Improvement Act would not apply to any lands that are removed from that designation and therefore the National Wildlife Refuge System mission would no longer apply. It should be noted that ready access does not mean exemption from applicable laws and regulations that are not specifically addressed by legislation supporting the withdrawal. Please see Section 2.3.2 for discussion of implementation of ready access.
PA-68	The Air Force evaluated a "shared use concept" but as stated in Section 2.3.3.4, "The public expressed an interest in the Air Force developing a "shared use" concept for the area associated with Alternative 3C. Unrestricted access would present public safety concerns associated with weapon safety footprints and security concerns for technologically advanced equipment that will be used for future test and training activities. Limited access, based on current practices, is granted on a case-by-case basis and would continue under Alternative 3C should Congress select this alternative." The status quo for DNWR is Alternative 1 or the No Action. Also, because each location is separated as a subalternative (which can be chosen independently by Congress), by design, impacts of only using BLM lands are analyzed. See also responses to LU-2, PA-5, and PA-11.
PA-69	The Air Force discussed the possibility of more flexible use of the South Range with the USFWS over the years since the previous withdrawal and specifically during preparation of the LEIS. The USFWS informed the Air Force that such use was not a viable option due to the proposed designation of wilderness, along with the provisions of the Wilderness Act and the Refuge Act. Consequently, seeking a legislative change through Congressional action is necessary to provide the flexibility described as "ready access" in the LEIS. Access to small acreage sites could be provided through legislative action, but that would not provide sufficient safeguards associated with buffer zones required for ready access to fully utilize the existing impact areas and allow the South Range to offer suitable capacity as an alternative to the North Range.
PA-70	The Air Force has updated Section 2.9.1 narrative to include: The Secretary of the Air Force and the Secretary of Interior would establish, by MOU, an Intergovernmental Executive Committee for the land withdrawn by Congress for the purpose of exchanging views, information, and advice relating to the management of the natural and cultural resources of the withdrawn and reserved lands and to proactively collaborate on studies and analyses developed in accordance with, but not limited to, NEPA, the Fish and Wildlife Coordination Act (16 USC 661 et seq.), NHPA (16 USC 470 et seq.), ESA (16 USC 1531 et seq.), and the Sikes Act (16 USC 670). The MOU would include the following primary goals and objectives: • Establish an Air Force-led Intergovernmental Executive Committee • Develop/document communication, data sharing, and reporting procedures • Coordinate biological and cultural resources management • Establish procedures for coordinating changes of activity within the DNWR • Establish reporting requirements for mitigation implementation • Establish a Comprehensive Public Report (published every five years) A suggested framework for the Intergovernmental Executive Committee would include selected representatives from the Air Force, the USFWS, BLM, DOE, NDOW, and other appropriate government agencies. The Committee would be established for the purpose of reviewing and addressing biodiversity, environmental policy, and regulatory issues, as well as the exchange of views, information, and recommendations relating to adaptive management of natural and cultural resources of the lands withdrawn. The Committee could operate in accordance with specific terms set forth in an MOU. The Committee is a potential solution to address concerns that were raised during public review by both federal agencies and the public. The internal structure of the Committee and frequency of meetings would be addressed in its charter." Section 2.9.2 outlines a mitigation to address access issues for the South Range as well as the proposed expansion areas. Thus, the Air Force will develop, in coordination with stakeholders determined by the Intergovernmental Executive Committee (stakeholders could consist of the USFWS, the USGS, tribes, etc.), an Access Management Plan (AMP). The AMP would evaluate and establish mechanisms and procedures for allowing access to withdrawn areas in support of scientific research, natural resource (INRMP) /cultural

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	resource (ICRMP) management programs, as well as public affairs programs.
PA-71	NEPA's purpose and need is driven by the requirements of the lead federal agency and in this case that is the Air Force. Native American input is provided in the NEPA process through public scoping and review. Additionally, the Air Force met with Native Americans separately to ensure their perspectives were included in the LEIS, which are included in Appendix K. This occurred not only through two sets of tribal meetings and a tribal writing group that provided Native American perspectives. The Air Force and the LEIS analysis does recognize the criticality of sound stewardship of the lands outside of the military training mission. Please see Section 3.2.3 for noise mitigations.
PA-72	Section 2.9.2 has included an element of Compensatory Access, which states: "Compensatory Access – compensatory access includes compensating the loss of access to one area by establishing mechanisms for access to other areas that are currently difficult to access or inaccessible. As an example, because the withdrawal may result in loss of access to existing recreational areas in the DNWR such as the Sheep Mountain Range due to closure of Alamo Road, the Air Force could provide resources for road improvements or trail development/improvements in other areas of the DNWR Complex where access is currently difficult or non-existent due to existing conditions. For example, this could include improvements to Mormon Well Road, the area around Moapa Wildlife Refuge, or opportunities on other federal lands. This may require additional Congressional appropriations."
PA-73	The commenter assertion is correct that even with limitations, the NTTR is still a preeminent range. However, as stated in the LEIS, "The NTTR is the preeminent range for testing and evaluation of weapons systems, tactics development, and advanced combat training; however, the range and its infrastructure are quickly becoming outdated as rates of technological development of new weapons systems and electronic warfare systems accelerate. Over the last two decades, enemy technology has become increasingly advanced and complex, requiring more space to replicate their potential threat configurations. The NTTR can no longer replicate this threat environment. As a result of the evolving mission, this Legislative Environmental Impact Statement (LEIS) is programmatically evaluating alternatives that would extend or expand the current military land withdrawal in order to safely execute its missions in a more realistic and operationally relevant manner." As stated in the LEIS, land management policies limit the Air Force's abilities to use the land and airspace effectively. As indicated in Section 1.4, "The South Range as a whole provides the terrain necessary to provide military training that would meet DoD requirements. However, land management restrictions outside of areas with primary Air Force jurisdiction currently do not allow for any ground-disturbing military testing or training activities. As a result, current land management practices prevent the majority of the South Range of the NTTR and associated airspace from being effectively used to support military testing and training activities."
PA-74	The LEIS has been updated to include a Section 2.5 (Preferred Alternative), which states: "The Air Force's Preferred Alternative is the selection of Alternatives 2, 3A-1, 3B, 3C, and 4C. The Preferred Alternative includes mitigations and appropriate procedures for permitting/deconflicting non-military activities on the ground that will not compromise public safety, detract from mission accomplishment, or impair range operations . The Air Force is committed to assisting tribal governments and cooperating agencies with their management responsibilities as well as assisting other non-DoD users with their access needs where feasible. Section 2.8 identifies current procedures and outlines specific strategies, including the development of an Intergovernmental Executive Committee, to balance military needs with land management requirements and other access requests."
PA-75	In Section 2.9.2, the Air Force has indicated that the INRMP will include a requirement to: "• Provide restrictions to unit commanders and training personnel (through NTTR Range Safety and Operations Procedures annual briefings, additional site-specific environmental briefings, and/or the Center Scheduling Enterprise)."
PA-76	The Air Force does not have any information to support the commenter's assertion, nonetheless, land withdrawal actions take into account changing national defense needs.
SO-1	The Air Force recognizes that there will be impacts to both the Beatty and Alamo communities. This was established during public scoping and additional subalternatives were created to address these concerns where appropriate. However, these economic impacts are not significant and are addressed in Sections 3.6.2.4 and 4.1.4.6.
SO-2	It is not anticipated that Nevada will loose economic growth as outlined in Section 4.1.4.6, "Implementation of the Proposed Action would enable the NTTR to continue as an important economic contributor to the

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	region from employment and income associated with training activities. Other reasonably foreseeable future actions that would involve construction and development in the area would have a positive cumulative impact on the area from continued increases in population, housing, and employment and economic activity such as military and general aviation, energy industries, and agriculture in the area. Additional military training in the area would contribute to the local economy through continued employment and earnings. However, additional and continuing military operations could create further conflicts between military users and the general public and land use compatibility. Coordination between the military and local and regional planning departments would minimize potential conflicts. Therefore, implementation of the Proposed Action combined with the past, present, and reasonably foreseeable future projects would not result in significant impacts within the ROI."
SO-3	The Air Force recognizes this impact and estimated an impact to closures associated with Alternative 3C at $1.9 million. Please see Sections 3.6 (Socioeconomics), 3.6.1.7 (Public Services and Facilities), and Section 3.6.1.8 (Public Finance) regarding the baselines for comparison and then please see Section 3.6.2 for the details as compared to the individual alternatives. For Alternative 3 there are three subsections with impacts outlined on Payment in Lieu of Taxes, Recreational Areas, Grazing, and the Energy Corridor.
SO-4	Alternative 3A-1 was created: "As a result of the public input process, the Air Force added an additional subalternative to Alternative 3A. Alternative 3A-1 was created in response to concerns raised by the Beatty community regarding potential impacts to recreational and economic resources as well as concerns identified by the state of Nevada related to the designated routes of the Section 368 Energy Corridor 18-224 and Interstate 11 (I-11). The Air Force considered this public input and sought an option that would allow them to adjust target areas so the proposed expansion area could be reduced. Alternative 3A-1 reduces the proposed expansion area of Alternative 3A by 2,592 acres so that the total proposed expansion area of Alternative 3A-1 is 15,314 acres. For the purposes of the LEIS and the ease of the reader, the LEIS presents this acreage as "approximately 15,000 acres." Figure 2 12 illustrates the adjustments made to the boundary for Alternative 3A to create Alternative 3A-1. The reasons for the withdrawal proposed by Alternative 3A-1 are the same as outlined in Section 2.3.3.1 (Alternative 3A)." Previously published race routes for the Pahrump Nugget 250 appear to be sufficiently south of the NTTR such that the proposed land expansion associated with Alternative 3A or 3A-1 will not impact the race route. Portions of the race routes such as the Best in The Desert's Beatty-to-Dayton route are close to the NTTR boundary and may be impacted by the additional land withdrawal for Alternative 3A but not for Alternative 3A-1 (BLM, 2016j). The 2016 route would not have been impacted by any of the proposed Alternative 3 actions. In any event, the race routes may vary between years, so it is likely that the routes could be altered as needed to avoid the expansion areas or the Air Force might be able to adjust mission-related activities to accommodate these races.
SO-5	We recognize that you have concerns regarding the proposed Alternative 3C. However, based on the LEIS analysis there is no significant impact to the Coyote Springs development. There will be an increase in noise of 1 dB over current levels and groundwater usage will not increase above already approved authorizations.
SO-6	Please see Section 3.6.2.4, subsection "Impacts on Payment In Lieu of Taxes," which states: "The withdrawal of the additional acreage may have a potential impact on the PILT for each county. This is particularly case with Nye County since all of Alternative 3A (and Alternative 3A-1) is located in Nye County. Nye County's total PILT for 2016 (Appendix G, Socioeconomics, Table G-10, Payments in Lieu of Taxes to Clark, Lincoln, and Nye Counties, 2016) provides revenue of $3,108,497 based on 8,546,257 acres (a value of about $0.36 per acre was funded in 2016). The withdrawal of the additional land from Nye County under Alternative 3A and Alternative 3B (estimated at about 28,000 acres) may reduce its annual PILT allocation by about $10,000, which amounts to about 0.3 percent of the county's total allocation for 2016. Alternative 3A accounts for $6,400, while the remaining $3,600 is associated with Alternative 3B. No acres in Nye County are affected by Alternative 3C, and so no PILT reduction would occur for that subalternative. Since less land area would be withdrawn (2,592 acres) under Alternative 3A-1, the estimated reduction in PILT would be $933.12 when compared to Alternative 3A. Therefore, impacts to PILT allocation would be less for Nye County with Alternative 3A-1. The impact for Alternative 3A-1 would be approximately $5,500. The allocations to both Clark and Lincoln County are currently based on population limitation such that the reduction in federal entitlement acres should not have a significant impact, if any, on their PILT allocation regardless of any subalternative."

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SO-7	The referenced text has been changed to "If the land withdrawal is not extended and the control of the land is returned to its originating federal agency, the land may again become part of the entitlement acres considered in determining the PILT for Clark, Lincoln, and Nye Counties. The 1,808,244 acres in Nye County and 1,141,359 acres total in Clark and Lincoln Counties are managed by the Air Force in the NTTR. The acres in Nye County eligible for PILT payments would increase, at 2016 rates, an estimated $682,000 to the Nye County PILT payments." The word 'add' has been deleted and 'increase' inserted for clarity. Please note this is in reference to the No Action Alternative.
SO-8	Section 3.6.2.4 states: "The withdrawal of the additional land from Nye County under Alternative 3A and Alternative 3B (estimated at about 28,000 acres) may reduce its annual PILT allocation by about $10,000, which amounts to about 0.3 percent of the county's total allocation for 2016. Alternative 3A accounts for $6,400, while the remaining $3,600 is associated with Alternative 3B. No acres in Nye County are affected by Alternative 3C, and so no PILT reduction would occur for that subalternative. Since less land area would be withdrawn (2,592 acres) under Alternative 3A-1, the estimated reduction in PILT would be $933.12 when compared to Alternative 3A. Therefore, impacts to PILT allocation would be less for Nye County with Alternative 3A-1. The impact for Alternative 3A-1 would be approximately $5,500. The allocations to both Clark and Lincoln County are currently based on population limitation such that the reduction in federal entitlement acres should not have a significant impact, if any, on their PILT allocation regardless of any subalternative."
SO-9	This assertion assumes that all lands associated with the withdrawal will be available to public use. As stated in Section 2.4, "Although withdrawal of these lands under MLWA from all forms of appropriative land use (such as mining, geothermal leasing, or livestock grazing) would expire, segregation of these lands from appropriative land uses would continue until the Secretary of the Interior publishes an order opening the lands for such uses." In addition, "If land is contaminated, and the Secretary of the Interior and the Secretary of the Air Force determine that decontamination is practicable and economically feasible and that upon decontamination the land could be opened to operation of some or all of the public land laws, including the mining laws, the Secretary of the Air Force shall decontaminate the land to the extent that funds are appropriated for such purpose. If the Secretary of the Interior decides that it is in the public interest to accept jurisdiction over lands proposed for relinquishment, it is authorized to revoke the withdrawal. Should the decision be made to revoke the withdrawal, the Secretary of the Interior shall publish in the Federal Register an appropriate order that shall: 1. terminate the withdrawal and reservation; 2. constitute official acceptance of full jurisdiction over the lands by DOI; and 3. state the date upon which the lands will be opened to the operation of some or all of the public lands laws, including the mining laws. If the Secretary of the Interior concludes that decontamination is not practicable or economically feasible of all or part of the former NTTR, or that the land cannot be decontaminated sufficiently to be opened to operation of some or all of the public land laws, or if Congress does not appropriate funds for the decontamination of such land, the Secretary of the Interior shall not be required to accept the proposed land for relinquishment." The assertion that PILT monies would increase if the NTTR was no longer withdrawn is correct but whether that value is $2.2 million dollars has not been verified by the Air Force.
SO-10	Indian Springs Elementary School, Indian Springs MS and Indian Springs HS are the same point on the map because in essence they share the same property when comparing the data points to an aerial. However, the label "Indian Springs Elementary School" on the Figures will be changed to "Indian Springs Schools." Analyses include all populations.
SO-11	Please see Section 3.6.2, which provides economic analysis for each of the alternatives.
SO-12	The Air Force is empathetic to the impacts that federal actions have on Nye County and its county services; however, as stated in Section 3.13.1.1 (Health and Safety), the affected environment for Safety and Health is defined in terms of ground, flight, and munitions safety for activities conducted by units operating within the ROI. Ground safety considers fire risk and management, as well as safety issues associated with training operations. Flight safety considers aircraft flight risks such as aircraft mishaps and bird/wildlife-aircraft strike hazards (i.e., BASH). Munitions safety considers the use and handling of ordnance associated with operations and training activities.

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	The Air Force is committed to being a good neighbor as noted by its previous informal agreement with Nye County. With this said Nye county's concerns might better be addressed through the Nevada Joint Military Affairs Committee (NJMAC). The NJMAC is held twice a year and is facilitated by the Nevada State Clearinghouse. NJMAC is composed of personnel from the military to include all DoD stakeholders, federal land managers, state agencies, Congressional staff and one representative from the Nevada Association of Counties. The intent of NJMAC is to meet and discuss topics of mutual interest, increase dialogue and be proactive regarding emerging issues of importance to Nevada. In addition, the Air Force could develop a formal agreement to address dire emergencies.
SO-13	The impacts associated with Environmental Justice include impacts to tribes as they are defined as a minority in Section 3.7.1.1. Additionally, Appendix K Section 3.6.1.1.1 provides a summary of the Native American perspective as it relates to environmental justice impacts. "Currently, Air Force Instruction (AFI) 13-212 encourages shared use of range land with non-DoD users when it will not compromise public safety, detract from mission accomplishment, or impair range operations. For safety and security purposes, access by others (non-DoD users) must be strictly controlled. For example, public access is prohibited in areas known or suspected to contain UXO or other munitions. Hazard areas present operational hazards from ongoing testing and training activities, as well as residual hazards following the use of munitions. The Air Force must not allow public access to unsafe areas, to ensure the protection of members of the public during mission operations and their continued safety at other times. Potentially unsafe areas would need to be clear of UXO or other munitions before access could be allowed. The sensitivity of certain areas requires additional controls or restrictions related to access by non-DoD users. The NTTR does have a process for enabling access by others to select areas of the NTTR, which do not include impact areas. Requests for access may be submitted to the NTTR Range Operations Branch, which can assess if such access could be granted. Requests for access from government agencies or Native American tribal groups would follow the specific procedures established in the INRMP, ICRMP, or an appropriate agreement, such as a Memorandum of Agreement/Understanding between the Air Force and the government agency or tribal groups. The Air Force will review the requests and assist non-DoD users through the process of gaining access to a given area. If a request is approved, the Air Force assigns a Project Officer, who manages the request throughout the entire process. All visitors granted access must participate in a range safety briefing prior to entering the range. The Air Force is committed to assisting Native American tribes and cooperating agencies as well as other non-DoD users in meeting their access needs and will refine this procedure as necessary to ensure non-DoD activities can be conducted compatibly with DoD test and training missions to the extent practicable. Using this procedure, the Air Force will coordinate with the appropriate agencies and tribal entities to allow physical access in specified areas under mutually agreed upon conditions." Recommendations provided through Appendix K will be discussed during development of a revised ICRMP once a Congressional decision has been made. Additionally, Section 2.9.2 has been updated to include: "For all action alternatives, to address access issues for the South Range as well as the proposed expansion areas the Air Force will develop an Access Management Plan, in coordination with stakeholders determined by the Intergovernmental Executive Committee. (Stakeholders could consist of the USFWS, U.S. Geological Survey [USGS], tribes, etc.) The Access Management Plan would evaluate and establish mechanisms and procedures for allowing access to withdrawn areas in support of scientific research, natural and cultural resources management programs (including the INRMP and ICRMP, respectively), and public affairs programs. Many of these mechanisms and procedures are currently in place, but the Access Management Plan would formalize the process so individual access requests would be submitted as outlined in the NTTR AFI 13-212 Supplement and evaluated based on each request's purpose and need. Criteria for legitimate purpose and need(s) would be developed and codified within the Access Management Plan. The Plan would be periodically reviewed by the Intergovernmental Executive Committee and associated Plan stakeholders to determine the efficacy of the Plan and identify any access-related issues and revisions/adjustments to established procedures and mechanisms for access."
TR-1	In times of emergency, the Air Force can work with state and other federal entities to allow usage of the areas. This is similar to EPA allowing petroleum products into areas after a natural disaster that do not contain additives, which assists with meeting Clean Air Act requirements.

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WA-1	The potential for groundwater contamination in the context of wildlife use is stated in the existing text: "Although the potential for metal and chemical contamination is decreased by the typical target locations (closed basins), soil conditions, and depth to groundwater, some munitions constituents (lead and 2,6-dinitrotoluene) have been found in groundwater on the NTTR. However, the concentration of these materials does not currently indicate contaminant levels that would raise risk concerns for human health or wildlife."
WA-2	The proposed expansion areas for Alternative 3A or 3A-1 would serve only as a safety buffer and as an operational security and safety buffer for Alternative 3B. There would be no ordnance use within the geographic boundaries associated with the proposed expansion areas of Alternatives 3A, 3A-1, and 3B and, therefore, no potential for surface water or groundwater contamination due to ordnance use. The Alternative 3B boundary would occur within approximately 4 miles of the area around Devil's Hole, where new groundwater withdrawal applications are prohibited. However, increased water use would not be anticipated under Alternative 3B. The Air Force does not plan to pump groundwater at rates that exceed current authorizations. If additional groundwater is needed, the Air Force will make the appropriate request through the Nevada State Engineer in compliance with P.L. 106-65 Section 3019, Water Rights.
WA-3	The Air Force does not plan to pump groundwater at rates that exceed current authorizations. If additional groundwater is needed, the Air Force will make the appropriate requests through the Nevada State Engineer. The Air Force has federal rights to groundwater that were acquired in the 1940s when the ranges were established. P.L. 106-65 Sec 3019 requires the Air Force to work with the state engineer to acquire any new water rights. The Air Force does not anticipate the need to request any additional groundwater rights in conjunction with the military land withdrawal proposal.
WA-4	Cumulative Impacts are addressed in Section 4.1.4.11 (Water Resources). As stated in the LEIS, "Of the 27 hydrographic basins associated with the NTTR, 10 are currently either fully allocated or overallocated. Although groundwater resources are likely sufficient to support other nonmilitary projects in the area, new groundwater rights and appropriation requests would require review and approval by the Nevada State Engineer's Office."
WA-5	Section 3.11.1.6 (Groundwater) details the baseline Hydrogeology, Recharge and Discharge, and Water Quality associated with Alternative 1 and 2, while groundwater withdrawal impacts associated with Alternatives 3A, 3A-1, 3B, and 3C are discussed in the following subsections. The impacts to groundwater withdrawal associated with Nye County are outlined in subsections 3A, 3A-1, and 3B. Information on the 27 basins associated with the NTTR is provided in Appendix J (Water Resources), Section J.4 (Hydrographic Basins within the Nevada Test and Training Range). The hydrographic basins are shown on Figure 3-36. In addition, details regarding quantities of groundwater usage can be found in the support document "Water Requirements Report of the Nevada Test and Training Range," May 2017.
WA-6	The referenced section by the commenter is about visual resources and not springs. Springs are discussed in Section 3.11 (Water Resources) and Appendix J. Additional survey data is provided in the supplemental documentation on the project website at www.NTTRLEIS.com. As stated in Section 3.11.1.4, the report (for the NTTR and the expansion areas) "identifies 135 total water features on the existing NTTR and potential expansion areas, including 46 perennial springs, 20 intermittent springs, 7 perennial seeps, 36 intermittent seeps, 1 surface water accumulation, 4 construction ponds, and 22 wildlife water developments." These are also shown in Figure 3-36. As such not all springs are mentioned by name unless there is a specific potential impact from the Proposed Action. Data for springs was provided by cooperating agencies and publicly available information. If data is incomplete it may be a result that the springs have not been recorded. The LEIS has been reviewed to ensure the indicated wildlife water developments and developed springs are shown on the water resources map (Figure 3-36) and included in the corresponding explanatory table, which includes all springs listed by Comment Letters #6008 and #6016, with the exception of Sheep Spring, Cabin Spring, Bootleg Spring, and Yellow Jacket Spring, which are all located outside of the proposed Alternative 3C expansion area boundary. Additionally, the LEIS is programmatic in nature and therefore does not include detailed discussion of management and maintenance activities for these features individually. Alternative 1 would involve continuation of the status quo and there would be no changes in access to wildlife water developments or developed springs for management or maintenance purposes. The following

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	text has been added: "Numerous wildlife water developments and developed springs occur within the existing NTTR boundary (see Figure 3-36, Water Resources on the Nevada Test and Training Range). These surface water features have been developed for utilization by wildlife such as the desert bighorn sheep, among other species. Under Alternative 1, there would be no change in access to these features for management and maintenance purposes compared to existing conditions." The following text has been revised under Alternative 2 as follows: "Numerous wildlife water developments and developed springs occur within the existing NTTR boundary (see Figure 3-36, Water Resources on the Nevada Test and Training Range). Increased numbers of activities and ready access in the South Range could potentially affect access to these features for management and maintenance purposes. Therefore, access protocols to the South Range for water quality and water development management and maintenance actions would be developed at the appropriate time. It is anticipated that the protocols would allow for continued management of wildlife, including desert bighorn sheep." Under Alternative 3, text has been revised , as follows: "Surface water features such as the unnamed spring and drainages of the upper Amargosa River in the Alternative 3A and 3A-1 areas are used by wildlife, potentially including desert bighorn sheep, although these features are not considered developed. A wildlife water development occurs in the Alternative 3B area. Access protocols for activities related to water quality for Alternatives 3A, 3A-1, and 3B and wildlife management for Alternative 3B would be developed. It is anticipated that the protocols would allow for continued wildlife management." and "Numerous springs, wildlife water developments, and developed springs occur in the Alternative 3C proposed expansion area (see Figure 3-36, Water Resources on the Nevada Test and Training Range. Under Alternative 3C, access to these surface water features for water quality and wildlife management actions would likely be more restricted, and access protocols would need to be developed. It is anticipated that the protocols would be developed in cooperation with the USFWS and other applicable agencies and organizations."
WA-7	As discussed in Section 3.11.2.2, DU rounds are used in a discreet area of the South Range and are not used at any other location nor would they be used in the potential expansion areas. Additionally, multiple studies have found little to no migration of DU particles or oxides to soil outside the target area and little to no radiation has been detected approximately 350 feet from the targets. There is no known contamination of water resources and previous sampling results suggest there has been little surface water transport and impacts to water resources are unlikely. A 100-year storm could result in transport up to 400 feet; however migration beyond the licensed target area is unlikely. Please refer to Section 3.11.2.2 for more information.
WA-8	The Air Force has an active program mandated by the DoD to study munitions constituents (MC)—Operational Range Assessment Program (ORAP). Initial sampling results have alluded to potential concerns that require further study and are currently being studied. However no potential routes of human exposure to MC have been identified. For example, the drinking water sources at Creech AFB and other locations on the range are not subject to the impact from MC. This is due to the extensive work on groundwater that has been done over several years by multiple parties, with the latest data obtained from the Desert Research Institute in Las Vegas.
WI-1	Ground disturbance for Alternative 2 "approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. The road improvements and maintenance would generally consist of leveling and grading activities; no road widening, paving, or hardening is anticipated at this time. Consequently, there would be a total of 11.5 acres of total ground disturbance." Additionally, "it is assumed that there will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. The road improvements would generally consist of leveling and grading activities; no road widening, paving, or hardening is anticipated at this time. Consequently, it is anticipated that there would be 24.5 acres of total ground disturbance for Alternative 3C, which was the upper limit used in analyses of the affected resources outlined in Chapter 3 (Affected Environment and Environmental Consequences)." Impacts to Wilderness and WSAs can be found in Section 3.5.
WI-2	Please note that designating any areas proposed for wilderness as Wilderness is a separate Congressional action outside of the scope of the withdrawal process.
WI-3	Based on potential utilization of the areas described in the LEIS that are outlined provided below, it is not anticipated that the areas would become industrial type development. The total potential ground disturbance would be 24.5 acres. As stated in Section 1.4.2, "Typical IW training includes ground training with the use of both air and vehicle

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	operations support. Ground training includes a number of activities, but is generally the movement of dismounted soldiers (on foot) through interstitial areas. Troop movements are typically stealthy as units transit from one objective to another undetected. Special Forces teams usually operate in groups of up to 12 troops. To increase the realism of the training events, some training ammunition (blank small arms), hand flares, smoke grenades, or other training munitions (such as paint balls) are expended during certain operations. In almost all cases, ground training on foot involves movement under covert, clandestine conditions without leaving any evidence of troop presence. Troop movement also generally occurs in single file movement of a small group, so that large troop movements over a large land mass do not occur. Land navigation training may occur during daytime or nighttime and usually involves the use of a compass, maps, and GPS. Troop movement on foot may also be used for training in search and rescue, personnel recovery, and reconnaissance. Personnel movement usually occurs on established roads, along mountainous terrain, and on rare occasions through riparian environments. These types of activities would occur with teams that are typically no more than 12 troops, and movements would occur in such limited frequency over the same area that the physical impact on the ground would be negligible. Typical troop movement activity includes the following: • Road march (done on existing roads for extended lengths of travel) • 6- to 12-man team insertion/extractions from varying methods (parachute, airplane insertion, and helicopter); insertions are clandestine activities and regardless of how an insertion is accomplished, personnel would most often walk out of the insertion area • Clandestine movement by foot to training objective sites (most often culminating at an Urban Operations Complex (UOC) • Foot movement to a UOC through the interstitial and on existing roads” Section 2.3.2 states: “For the purpose of analyzing the potential impacts associated with the increase in overall range utilization under Alternative 2, this LEIS uses a projected 30 percent increase in test and training activities to provide a reference point for analytical comparisons. Therefore, aircraft operations, munitions expenditures, and motorized vehicular activity were analyzed at operational tempos 30 percent greater than those levels stated in Alternative 1. The anticipated increase in aircraft operations stems from projected F-35 requirements (U.S. Air Force, 2015a) as well as UAS and other operations. It is presumed that munitions usage and other operational equipment would increase at a level consistent with aircraft operations. In addition, it is assumed that there will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. The road improvements and maintenance would generally consist of leveling and grading activities; no road widening, paving, or hardening is anticipated at this time. Consequently, there would be a total of 11.5 acres of total ground disturbance.” Finally, Section 2.3.3.4 states: “In addition, Alternative 3C implements IW capabilities that would involve developing potential insertion points as outlined in Section 2.2.2 (Enhance IW Test/Training Capability) and conceptualized in Figure 2-10 in that section. The insertion point would include one runway that would be a mockup location to provide special operations personnel a location to practice tactics, while a second runway would be an active runway, providing more realistic insertion training. Each runway would be 6,000 feet long and 90 feet wide. It is anticipated that ground disturbance activities associated with construction of the runways would be less than 13 acres. The mockup runway would not be used for aircraft operations. However, it is anticipated that the active runway would be a dirt runway and operational levels would occur at a tempo of 520 takeoffs and landings annually. Also, it is assumed that there will be approximately 7.5 acres of ground disturbance associated with the installation of threat emitters and repeaters as well as 4 acres of road improvements. The road improvements would generally consist of leveling and grading activities; no road widening, paving, or hardening is anticipated at this time. Consequently, it is anticipated that there would be 24.5 acres of total ground disturbance for Alternative 3C, which was the upper limit used in analyses of the affected resources outlined in Chapter 3 (Affected Environment and Environmental Consequences).”
WI-4	Refer to Section 3.5.1.2 for a description of wilderness qualities found in the ROI. The Air Force has not considered any of the land areas permanently removed at this time. Congress will make the final selection of which of the Alternatives will be implemented. As stated in Section 2.3.2, ready access could be implemented by a variety of methods. Furthermore, as stated in Section 3.5.2.3 for Alternative 2, “Potential

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	impacts to the land and other resources that occur within the withdrawal area, including areas that were proposed for wilderness in the South Range, are discussed in other sections of the LEIS. Refer to Sections 3.4.2 (Land Use, Recreation, and Visual Resources), 3.8.2 (Biological Resources), 3.10.2 (Earth Resources), and 3.11.2 (Water Resources)." Specific to wildlife and wildlife habitat, Section 3.8.2.3 discusses how impacts to these resources would be similar to but slightly greater than those described under Alternative 1 (Section 3.8.2.2). Section 3.8.2.2 for Alternative 1 describes potential impacts to all wildlife in more detail.
WI-5	The Air Force believes the analysis in Section 3.5.2 of the LEIS is accurate in considering wilderness impacts under ready access as the reduction of land areas that are managed as wilderness. The actual changes in management practices are preliminarily assumed to consist of authorizing previously prohibited activities, including ground disturbance, vehicle use, and a few site-specific construction activities, to be better determined and analyzed after this land withdrawal process is completed. However, if Congress selects Alternative 2 or any of the subalternatives under Alternative 3, ready access would be implemented by a variety of methods, as indicated in Section 2.3.2. While the Air Force cannot be certain of how or if Congress would authorize ready access in the South Range or proposed expansion areas, Section 3.8.2.3 of the LEIS states that the Air Force would still be required to comply with applicable laws and regulations to minimize impacts to vegetation, wildlife, aquatic and wetland habitats, and special status species that occur within Refuge lands that overlap with the NTTR boundaries. This would include considering impacts from fragmentation and preserving connectivity within the Refuge lands that overlap the NTTR boundaries to the maximum extent practicable, while meeting mission objectives. It is likely that a revised INRMP would be developed to consider new management objectives that would need to be established based on Congress's decision, in cooperation with partner agencies (USFWS, BLM).
WI-6	The LEIS does not state that these areas proposed for wilderness will be replaced but simply states that there are other lands in the area that provide the same wilderness qualities and are classified as either a study area or are defined as Wilderness.
WI-7	General/overarching guidance provided in Landres et al., 2015 says all wilderness qualities are of equal importance – except for those Wilderness areas where the land-managing agency has conducted a thorough wilderness character review and trend analysis and has applied weighting measures to each wilderness quality. This type of analysis has not been completed for areas proposed for wilderness or the surrounding Wilderness areas and WSAs managed by the BLM. Therefore, the LEIS identifies the land areas that would experience a change in management approaches under ready access and it describes the potential impacts to wilderness qualities of Wilderness areas, WSAs, and areas proposed for wilderness outside the varying NTTR land boundaries. The Air Force cannot speculate if or how management of the South Range would change since Congress is making this decision as part of the Land Withdrawal Renewal Process. Furthermore, the Air Force is not responsible for conducting trend assessments of overall wilderness character in a given Wilderness area, WSA, or area proposed for wilderness. The Air Force is only responsible for taking the information that is presently available and using it to describe the potential impacts to wilderness qualities from the Proposed Action and alternatives. For this specific action, without established or approved guidance on whether any weighting measures have been applied to wilderness qualities within the ROI, the Air Force has to assume all qualities are weighted equally in the analysis. See also response to WI-6.
WI-8	While managed as such, areas proposed for wilderness are not a designated Wilderness area. Only Congress has the authority to designate areas proposed for wilderness as a Wilderness area. Please see response to WI-2.
WI-9	The area of the DNWR that overlaps with the NTTR South Range is not included in the Congressionally designated Wilderness Preservation System as it is only proposed for wilderness. The Air Force's conclusions are based on the best available scientific information. If the Friends of Nevada Wilderness possess reports, papers, or other published findings that refute the Air Force's conclusions, please submit those for proper review, consideration and, if applicable, incorporation in the Final LEIS.
WI-10	The LEIS only considers Wilderness areas and WSAs that fall within the ROI for the Proposed Action. Section 3.5.1.3 (Wilderness and Wilderness Study Areas) presents these areas in Tables 3-27 and 3-28, and depicts them as well as areas proposed as wilderness in Figure 3-10. Wilderness areas and WSAs outside the ROI would be outside the scope of the analysis.
WI-11	As described in Section 3.5.1 of the LEIS, the legal definition of Wilderness area in P.L. 88-57 (16 USC 1131–1136) and guidance provided by Landres et al. (2005), Landres et al. (2008), and Landres et al. (2015) identifies and describes the qualities that must be present for an area to be considered wilderness.

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	Available guidance suggests all qualities are equally important and must be considered all together. The LEIS also states that assessment of wilderness character requires a quantitative and qualitative approach. The Roadless Areas Report only identifies contiguous land areas that are absent of roads or road networks – it does not address the remaining four qualities required for wilderness designation. A comparison of conditions in the North Range and the South Range is not appropriate for two reasons: 1) there is no designated Wilderness in the North Range, therefore wilderness qualities are either not present in the North Range and/or have not been managed on the same level as those in the South Range, and 2) if Congress selects Alternative 2 or any of the Alternative 3 subalternatives, an updated MOU/Memorandum of Agreement will likely need to be established between the Air Force and the USFWS to address the management of the South Range under the new withdrawal period. Therefore any claims made suggesting that South Range conditions would match North Range conditions under ready access for any of the alternatives are pre-decisional and unsubstantiated. This could be accomplished through the Intergovernmental Executive Committee described in Section 2.9 (Mitigation).
WI-12	The Air Force's conclusions, with respect to the lack of public access and presence of military sights and sounds, are these activities reduce or detract from the wilderness quality of solitude or primitive and unconfined recreation. The Air Force cannot and does not make determinations on whether areas proposed for wilderness within the NTTR should be designated Wilderness. Only Congress has the authority to make that decision.
WI-13	This statement is false based on the definition of Wilderness area in P.L. 88-57 (16 USC 1131–1136) and guidance provided by Landres et al. (2005), Landres et al. (2008), and Landres et al. (2015).
WI-14	Congress has also passed P.L. 108-447, Cumberland Island Wilderness Boundary Adjustment Act of 2004, to remove three roads and associated rights-of-way that traverse through the middle of Cumberland Island Wilderness from Wilderness designation. The statute also mandated the National Park Service to complete a management plan to address the change of use within the Wilderness area (e.g., increasing public access through designated Wilderness to other areas of Cumberland Island outside of designated Wilderness and vehicular use of the roads that run between the designated Wilderness area boundaries). Therefore, Congress has the flexibility to make decisions that meet the specific and unique needs of each Wilderness area, including the areas proposed for wilderness within the NTTR land boundaries. The Air Force anticipates Congress would mandate specific management requirements for the South Range as part of the Land Withdrawal Renewal Process.
WI-15	The Air Force makes no such claim in terms of viability of wilderness that are exposed to Air Force activities. The LEIS only indicates how Air Force activities may detract from certain wilderness qualities.
WI-16	The Air Force makes no such claim in terms of lack of public access and whether areas should be protected as Wilderness. The LEIS only states how Air Force activities may detract from certain wilderness qualities. Although the Air Force is requesting lands that are currently proposed for wilderness be withdrawn to meet mission needs as outlined in Section 2.3.2 (Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges), this should not diminish the Air Force's commitment to support other areas that have been designated as Wilderness areas or WSAs throughout Nevada.
WI-17	Within the state of Nevada, including the ROI and areas proposed for wilderness, there are over 5.3 million acres of land that contain wilderness qualities. Implementing Alternative 3C would reduce areas managed as wilderness in the region by 29 percent in the ROI and 15 percent in the state of Nevada. There would still be nearly 4.5 million acres of land containing wilderness qualities, and managed as such, remaining in the state. Therefore, Alternative 3C would not significantly reduce opportunities to experience wilderness in Nevada. As previously indicated, subalternatives proposed under Alternative 3 may be selected individually, or as a combination of one or more. Alternative 3A or 3A-1 would have no potential impacts to wilderness qualities within Wilderness areas, WSAs, and areas proposed for wilderness that occur outside the NTTR withdrawal boundary. Potential impacts associated with Alternative 3B and Alternative 3C would be similar regardless of which subalternative or combination thereof that is selected. However, the total acreage of areas proposed for wilderness potentially impacted by expanding the withdrawal boundary would vary depending on the subalternative that is selected. As previously stated, approximately 33,000 acres of areas proposed for wilderness occur in the Alternative 3B expansion area and approximately 227,000 acres of areas proposed for wilderness occur in the Alternative 3C expansion area. If both of these subalternatives are selected, the NTTR withdrawal expansion would impact 260,000 acres of areas proposed for wilderness.

Table A-5. Air Force Response to Comments on the Draft LEIS

Code	Response
	When combined with ready access for the entire South Range, approximately 850,000 acres (61 percent) of areas proposed as wilderness within the DNWR would no longer be managed as wilderness. Implementing Alternative 3B and 3C would reduce areas managed as wilderness by 30 percent in the ROI and by 16 percent in the state, leaving nearly 4.5 million acres of land within the state that contain wilderness qualities and are managed accordingly. Therefore, combining Alternatives 3B and 3C would not significantly reduce opportunities to experience wilderness in Nevada overall; however, within southern Nevada this could be considered a significant impact. Although the Air Force is requesting lands that are currently proposed for wilderness be withdrawn to meet mission needs as outlined in Section 2.3.2 (Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges), this should not diminish the Air Force's commitment to support other areas that have been designated as Wilderness areas or WSAs throughout Nevada. The Air Force also assumes that Spotted Range, Desert-Pintwater, Hole-in-the-Rock, Rug Mountain, and Sheep Range are included in areas proposed for wilderness as a whole. Section 3.5.2.3 of the LEIS states, "Potential impacts to the land and other resources that occur within the withdrawal area, including areas that were proposed for wilderness in the South Range, are discussed in other sections of the LEIS. Refer to Sections 3.4.2 (Land Use, Recreation, and Visual Resources), 3.8.2 (Biological Resources), 3.10.2 (Earth Resources), and 3.11.2 (Water Resources)." The Air Force believes the LEIS is accurate in considering wilderness impacts under ready access as the reduction in land areas that are managed as wilderness. Please see Figures 1-2 and 2-11, which have been updated with the Spotted Range and Desert-Pintwater Range.
WI-18	While the Air Force cannot speculate on how or if Congress would authorize ready access in the South Range or proposed expansion areas, Section 3.8.2.3 of the LEIS states that the Air Force would still be required to comply with applicable laws and regulations to minimize impacts to vegetation, wildlife, aquatic and wetland habitats, and special status species that occur within Refuge lands that overlap with the NTTR boundaries. This would include considering impacts from fragmentation and preserving connectivity within the Refuge lands that overlap the NTTR boundaries to the maximum extent practicable, while meeting mission objectives. It is likely that a revised INRMP would be developed to consider new management objectives that would need to be established based on Congress's decision, in cooperation with partner agencies (USFWS, BLM).
WI-19	The area of the DNWR that overlaps with the NTTR South Range is not included in the Congressionally designated Wilderness Preservation System as it is only proposed for wilderness. The Air Force does not consider any of the land areas to be permanently lost or removed at this time. Congress will make the final selection of which alternatives will be implemented.
WI-20	As stated in Section 3.5.2.3, "Even though preserving wilderness qualities would no longer be the primary objective, other resources would benefit from implementing the new land management practices because there would be less restriction on the land, providing better opportunities to manage the area. For example, managing areas proposed for wilderness as wilderness restricts some access by motorized vehicles, which affects the ability to conduct timely wildlife monitoring and surveys of key plant, animal, and other species by Nellis AFB biologists (Lachman et al., 2016). In addition, the protection of threatened and endangered species may require mechanical manipulation of the area, such as man-made water structures."
WI-21	Scenic diversity is not included in the criteria that defines a Wilderness area; therefore, this was not addressed. If the commenter is referencing the scenic condition of the land, this would be impacts created from man and those are addressed.
WI-22	As stated in Section 4.1.4.5, "Adverse impacts to the undeveloped quality of wilderness within the NTTR land boundary are anticipated under Alternatives 2 and 3, and adverse impacts to the solitude and/or primitive and unconfined recreation quality are expected under Alternatives 1, 2, and 3." The Air Force has not identified, nor have any of the cooperating agencies or members of the public identified, any activities in the ROI, including areas adjacent to designated and areas proposed for wilderness that may result in cumulative impacts to the area currently proposed as wilderness. Consequently, in the absence of any identified past, present, or foreseeable future action that would have a significant impact on wilderness qualities to Wilderness areas and WSAs in the region, combining these activities with any of the action alternatives associated with the Proposed Action would not result in associated cumulative or incremental impacts. Furthermore, none of the projects described in Sections 4.1.2 and 4.1.3 would result in a change of land management in the region. Therefore, changing the land

Table A-5. Air Force Response to Comments on the Draft LEIS

Code	Response
	use management under Alternatives 2 and/or 3 would not result in an associated cumulative or incremental impact.
WI-23	The Air Force evaluated wilderness based on those characteristics indicated in Section 3.5.1: "Based on this legal definition, five qualities of wilderness character have been identified and defined as: • Untrammeled – Wilderness is essentially unhindered and free from the actions of modern human control or manipulation. • Natural – Wilderness ecological systems are substantially free from the effects of modern civilization. • Undeveloped – Wilderness is essentially without permanent improvements or the sights and sounds of modern human occupation. • Solitude or primitive and unconfined recreation – Wilderness provides opportunities for people to experience natural sights and sounds, solitude, freedom, risk, and physical and emotional challenges of self-discovery and self-reliance. This quality focuses on the tangible aspects of the setting that affect the opportunity for people to directly experience wilderness. • Other features of value – This quality captures ecological, geological, or other features of scientific, educational, scenic, or historical value that are not covered by the other four qualities but may not occur in all Wilderness areas (Landres et al., 2015). All five of these qualities are equally important, and none is held in higher or lower regard than the others. Therefore, the following conditions that satisfy these quality criteria must be present for an area to be considered for wilderness designation: • The land is under federal ownership and management. • The area consists of at least 5,000 acres of land. • Human influence is substantially unnoticeable. • There are outstanding opportunities for solitude or a primitive and unconfined type of recreation. • The area may possess ecological, geological, or other features of scientific, educational, scenic, or historical value. Though these values are not required of any wilderness, if they are present they are considered part of that area's wilderness character and must be protected accordingly. Considering the range of factors identified above, the Wilderness Act lends to both a quantitative and qualitative assessment of wilderness characteristics of an area (Dawson and Hendee, 2009). The land area, human influence, and ecological, geological, or other features are features that can be quantified with field surveys and other data-gathering techniques. However, determining whether an area provides outstanding opportunities for solitude or primitive and unconfined recreation relies on a qualitative analysis. The Wilderness Act does not provide a definition of key terms, such as "outstanding opportunities" or "unconfined types of recreation," and agency policies do not provide clear guidance on what conditions are necessary to provide outstanding opportunities for wilderness experiences (Carlson et al., 2010). Therefore, the responsible agency must use its expertise to define criteria and assess these characteristics qualitatively." Thus, the impacts to areas proposed for wilderness described in Section 3.5.2.4 inherently contain these qualities.
WI-24	Please see Sections 3.8.1.6 (Special Status Species), 3.8.2.3 (Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges), and 3.8.2.4 (Alternative 3C – Alamo Withdrawal) regarding impacts to biological resources for specific impacts to the desert tortoise and bighorn sheep.
WI-25	The LEIS addresses impacts on wilderness characteristics of Alternative 2 in Section 3.5.2.3 and Table 3-31. Impacts of Alternative 3 are addressed in Section 3.5.2.4 and Tables 3-32 and 3-33.
WI-26	The LEIS summarizes losses of wilderness of wilderness characteristics that will occur on the 590,000 acres in Table 3-31. Information in this table is based on the discussion in Sections 3.5.2.3 and 3.5.2 as a whole.
WI-27	The status quo for the NTTR is that testing and training requirements, along with maintenance and stewardship as well as regulatory activities, demand more than 100 percent of existing capacity. Virtually 24 hours per day/seven days per week, multiple test and training missions along with other requirements compete for the same limited resources. As a result, on nearly any given day, an important national security testing or training mission gets delayed. As technologies continue to advance, the Air Force can no longer discount the need for additional land to support its operations. Additionally, it should be noted that in the 1999 Land Withdrawal LEIS, the Air Force had one alternative that was evaluated but not carried forward entitled "Withdraw Additional Land to Fully Meet the Mission

Table A-5. Air Force Response to Comments on the Draft LEIS

Code	Response
	Requirements." This alternative explained that, the "lands withdrawn by P.L. 99-606 as amended do not fully meet the land requirements of the Department of Defense (DoD) missions on NAFR. Examples of mission-derived land requirements are discussed in Section 1.5. To maximize its ability to perform the mission requirements while ensuring public safety and the preservation of national security, the Air Force limits its operations within the NRC and on NAFR to conform to the current capabilities and constraints of the land and airspace. Expansion of NAFR to fully meet the existing and projected military operations requirements was considered as an alternative but not carried forward since it was considered infeasible in light of the various environmental and sociopolitical concerns of other federal agencies, the State of Nevada, local governments, and the public." It should be noted that the Air Force did use those areas prior to them being proposed for wilderness.

APPENDIX B
AGENCY CONSULTATION AND COORDINATION

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AGENCY CONSULTATION AND COORDINATION

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B.1 BUREAU OF LAND MANAGEMENT

Letter from Air Force requesting formal participation as Cooperating Agency: January 29, 2016

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

JAN 29 2016

OFFICE OF THE ASSISTANT SECRETARY

SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

Mr. John Ruhs
Director
Nevada Bureau of Land Management
1340 Financial Blvd.
Reno, NV 89502

Dear Mr. Ruhs:

The Air Force is initiating its Land Withdrawal Renewal for the Nevada Test and Training Range (NTTR) and requests BLM formal participation as a Cooperating Agency in the preparation of a Legislative Environmental Impact Statement (LEIS), as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, Cooperating Agencies.

The Air Force asks for your participation as a Cooperating Agency in preparation of the LEIS as generally outlined in the steps below. To address the specific responsibilities of the Air Force as Lead Agency and BLM as Cooperating Agency, we also propose development of an Interagency Agreement, the context of which will be worked out between the Cooperating Agencies, subsequent to this request.

(1) Participating in the LEIS scoping, data gathering, analysis, and consultation processes;

(2) Assuming responsibility, upon request, for developing information and preparing analyses on issues for which USFWS has special expertise;

(3) Making USFWS staff support available to enhance interdisciplinary review capability, correspondence, and/or surveys; and

(4) Responding in writing to this request.

The Air Force requires the support of cooperating agencies be timely, to avoid unnecessary delays in the NEPA process. Should you or your staff have further questions regarding this memo, our point of contact is Mr. Jack Bush, HQ USAF/A4CI, at (703) 614-0237 or jack.bush@pentagon.af.mil.

Sincerely

Jennifer L Miller

JENNIFER MILLER
Deputy Assistant Secretary of the Air Force
(Installations)

cc:
AF/A30/A4C/TE
HQ ACC/AFMC/CV
Tim Smith, BLM District Manager Southern Nevada

Interagency Agreement between Air Force and Bureau of Land Management: June 29, 2016

INTERAGENCY AGREEMENT
BETWEEN
THE UNITED STATES AIR FORCE
AND
THE BUREAU OF LAND MANAGEMENT
GOVERNING PREPARATION OF THE
NEVADA TEST AND TRAINING RANGE LAND WITHDRAWAL RENEWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT AND SUPPORTING CASE
FILE STUDIES

I. PARTIES TO THE AGREEMENT

This Interagency Agreement (herein Agreement) is made by and between the United States Air Force (herein USAF) and the Bureau of Land Management (herein BLM).

II. PREAMBLE

WHEREAS, the Military Lands Withdrawal Act of 1999, Pub. L. No. 106-65, (MLWA) withdrew from the public domain certain lands known the Nevada Test and Training Range (NTTR) and reserved such lands for military use;

WHEREAS, the NTTR land withdrawal expires November 6, 2021;

WHEREAS, in accordance with the MLWA, USAF intends to: advise Congress and the Secretary of the Interior of a continuing military need for the NTTR withdrawal; consult with the Secretary of the Interior concerning modifications to be made to the boundaries of the NTTR land withdrawal; submit an application to the Secretary of the Interior to extend and potentially modify the withdrawal of the NTTR; and submit a legislative proposal for such extension to Congress no later than May 1, 2020;

WHEREAS, BLM is responsible for processing applications to renew and potentially expand the NTTR land withdrawal in accordance with the MLWA, Section 204 of the Federal Land Policy and Management Act (FLPMA) (43 U.S.C. § 1714) and 43 C.F.R. part 2300.

WHEREAS, USAF is the lead agency (40 C.F.R. § 1501.5) and BLM is a cooperating agency (40 C.F.R. § 1501.6) for preparation of a legislative environmental impact statement (LEIS) for the proposed NTTR land withdrawal renewal;

WHEREAS, BLM has special knowledge and expertise regarding public lands that will assist USAF in successfully completing the LEIS and preparing case file information, studies, analyses and reports (materials) required under 43 C.F.R. § 2310.3-2;

WHEREAS, USAF and BLM recognize the importance of government-to-government relations with Native Americans and the participation of Native Americans in the NTTR land withdrawal renewal;

NOW, THEREFORE, the parties agree to work cooperatively in the following manner:

III. AUTHORITY FOR ENTERING INTO THIS AGREEMENT

1

The parties enter into this Agreement in accordance with the MLWA, FLPMA, and the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4321-4347).

IV. PURPOSE

The purpose of this Agreement is to facilitate the preparation of an LEIS that meets the requirements of the NEPA; the preparation of other case file materials as required for the withdrawal application under 43 C.F.R. § 2310.3-2; and the development of proposed legislation and findings and recommendations to submit to the Secretary of the Interior and then to Congress on the renewal and potential expansion of the NTTR land withdrawal.

V. RESPONSIBILITIES

1. USAF and BLM together will:

   (a) Follow procedures necessary to renew and potentially add land to the NTTR land withdrawal in compliance with the MLWA, FLPMA, NEPA and other applicable laws.

   (b) Inform each other of the date, time, location and purpose of major meetings involving designated representatives and/or third parties to discuss the NTTR land withdrawal renewal.

   (c) Protect interagency deliberative communications and information exchanged pursuant to the agreement, consistent with the USAF serving as the release authority under Freedom of Information Act procedures.

2. USAF will:

   (a) Communicate the execution of this Agreement to those elements throughout its chain of command working to complete tasks associated with the renewal of the NTTR land withdrawal.

   (b) Serve as the designated Lead Federal Agency for purposes of compliance, respectively, with consultation requirements under Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108) and any consultation or conferencing responsibilities under Section 7 of the Endangered Species Act (16 U.S.C. § 1536), pursuant to 36 C.F.R. § 800.2(a)(2) and 50 C.F.R. § 402.07, respectively. Communications to consulted agencies for the NTTR land withdrawal action shall occur through the USAF as the lead agency for the action.

   (c) Designate points of contact for the LEIS and Cooperating Agency Coordinating Committee (CCC).

   (d) Chair an LEIS Technical Working Group that:

i. Meets as needed to monitor preparation of the LEIS;

ii. Provides representatives from the lead and cooperating agencies an opportunity to serve on the Technical Working Group;

iii. Invites representatives from other agencies or organizations to participate in the Technical Working Group, as appropriate;

iv. Reviews comments received during the scoping process for inclusion into the LEIS;

v. Makes recommendations to the project team (lead and cooperating agencies);

vi. Prepares and distributes minutes to Technical Working Group members;

vii. Contacts the BLM, the Nevada State Historic Preservation Officer, Nevada Department of Wildlife and other Federal and state agencies as appropriate before collecting baseline data necessary for preparation of the LEIS;

viii. Provides the BLM all of the information necessary to assist in developing the land withdrawal case file;

ix. Ensures that a cultural resources use permit is obtained before gathering information concerning cultural resources in the project area; and

x. Provides BLM a copy of all public comments received through the scoping process and on the draft LEIS.

3. In furtherance of Cooperating Agency responsibilities under 40 C.F.R. Part 1500, BLM will:

(a) Communicate execution of this Agreement to the appropriate BLM offices and the Department of the Interior;

(b) Designate lead points of contact for the NTTR land withdrawal renewal LEIS and case file review;

(c) Complete NTTR land withdrawal support activities necessary to adhere to the NTTR land withdrawal project schedule (see Enclosure 1);

(d) Review proposed methods and procedures for identifying natural and cultural resources in support of the LEIS before initiating field work;

(e) Grant reasonable access to USAF and its consultants to BLM administered lands within the project area in a timely manner to collect baseline data necessary for LEIS preparation;

(f) Review results of natural and cultural resources field work and any reports prepared as a result of field work before release of the information to the public;

(g) Review and provide comments on drafts of environmental planning studies in accordance with the project schedule;

(h) Review and provide comments on the draft and final LEIS, along with any requested supporting analysis, in accordance with the LEIS project schedule;

(i) Participate in LEIS scoping and public hearings; and

(j) Coordinate with USAF, as lead agency, to communicate issues and responses to consulting parties and other agency stakeholders.

VI. REIMBURSEMENT FOR SERVICES

1. USAF agrees to seek sufficient funding authority to reimburse BLM for the costs of providing the following services related to LEIS and case file preparation:

(a) Review proposed methods and procedures for identifying natural and cultural resources in support of the LEIS before initiating field work.

(b) Review results of natural and cultural resources field work and any reports prepared as a result of field work before release of the information to the public.

(c) Work with the USAF in the development of reasonable range of alternatives for the LEIS.

(d) Review and provide comments on drafts of environmental planning studies.

(e) Review and provide supporting analysis for drafts of draft and final LEIS in accordance with the project schedule.

(f) Participate in LEIS scoping and public hearings.

(g) Complete land survey work necessary to support required legal descriptions as part of the NTTR LEIS and land withdrawal case file.

(h) Assist in developing other case file materials necessary under FLMA to support the land withdrawal application.

(i) Other services as agreed to by the parties.

2. Reimbursement for services described in paragraph 1. will be accomplished under the authority of the Economy Act (31 U.S.C. §§ 1535-36) using the ordering procedures described in Federal Acquisition Regulation Subpart 17.5 and Department of Defense Federal Acquisition Regulation Supplement Subpart 217.5 and forms agreed to by the USAF contracting officer and BLM. The parties may enter into multiple Economy Act orders as necessary under this Agreement. BLM may, in writing, request advance payment for all or part of the estimated cost of furnishing requested services.

3. Reimbursement for services under this Agreement and associated Economy Act orders shall not exceed a total of $1,129,415.00 for fiscal years 2016, 2017 and 2018. USAF may approve an annual budget that exceeds one-third of the total services funds if BLM demonstrates the need for a higher percentage based on the scope of the work projected during the fiscal year.

4. Nothing in this Agreement shall be construed to provide for reimbursement for activities BLM is required by law to perform and for which it has received appropriations.

5. This Agreement is neither a fiscal nor a funds obligation document. Only an Economy Act order executed pursuant to this Agreement shall constitute an obligation of funds by USAF.

VII. DISPUTE RESOLUTION

1. Conflicting scientific evidence, if any, offered by the parties will be discussed in the NTTR land withdrawal renewal LEIS as long as such views are supported by credible scientific evidence.

2. Designated representatives on the Technical Working Group will make all reasonable efforts to informally resolve disputes related to the preparation of the LEIS.

3. If disputes cannot be resolved after 15 days following initiation of dispute resolution, either signatory of this Agreement may request elevation of the matter to their higher headquarters for resolution by issuing a written statement of dispute.

VIII. CONDITIONS

Both parties understand and mutually agree:

1. Implementation of this Agreement is of mutual benefit;

2. This Agreement may be modified or amended only by mutual agreement of the parties in writing and signed by each of the parties hereto;

3. Any documents or data exchange between the parties to the Agreement will not be released to a third party unless the designated representative of the party that generated the document or data approves the release;

4. Nothing herein contained shall be construed as limiting or affecting in any way the vested or delegated authority of the USAF and BLM; and

5. This agreement becomes effective when signed by all parties and shall remain in full force and effect until the submission of the case file and proposed legislation to the Secretary of the Interior or the project is canceled, but may be terminated by either party upon 45 days written notice to the other party.

JUN 2 3 2016

Jennifer L Miller

JENNIFER MILLER
Deputy Assistant Secretary of the Air Force
Installations

DATE

Ruh M Scruggs (Acting SD)

JOHN RUHS
Director, Nevada State Office
Bureau of Land Management

6/29/16

DATE

6

Enclosure 1: NTTR LEIS Project Schedule

- January - October 2016 – Complete Reviews of Biological and Cultural Survey Plans
- February 2016 - Mar 2017 – Air Force Conducts Biological Field Surveys
- July 2016 - Finalize Content of NTTR Land Withdrawal Application Packets, Property Legal Descriptions and the NTTR LEIS Notice of Intent
- August 2016 – Publish LEIS Notice of Intent
- September 2016 – Participate in LEIS Public Scoping Meetings
- September - December 2016 – Air Force Conducts Cultural Resource Field Surveys
- March 2017 – Draft Biological Assessment Delivered to the Government
- April 2017 – Preliminary Draft EIS Delivered to Government
- April - May 2017 – Complete Review of Preliminary Draft LEIS and Biological Assessment
- June 2017 – Participate in On-board Review of Preliminary Draft LEIS
- June – October 2017 – Endangered Species Act Section 7 Consultation
- July – August 2017 – Review Interim Draft LEIS
- November 2017 – Publish Draft LEIS
- December 2017 – Participate in Public Hearings on Draft LEIS
- May 2018 – Preliminary Final LEIS Delivered to the Government
- May – June 2018 – Government Review of Preliminary Final LEIS
- June 2018 – On-board Review of Preliminary Final LEIS
- July 2018 – Delivery of Interim Final LEIS
- September 2018 – Delivery of Final LEIS
- October 2018 – Publication of Final LEIS
- November 2018 – Delivery of the LEIS and Case file to BLM
- November 2018 to November 2019 – BLM Review and Processing of the Case file
- May 2020 – Secretary of the Interior Submits the Case file to Congress

7

Letter from Air Force to BLM, Land Withdrawal Extension Application: August 12, 2016

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

OFFICE OF THE ASSISTANT SECRETARY

SAF/IE
1665 Air Force Pentagon
Washington, DC 20330-1665

AUG 1 2 2016

Mr. John Ruhs, Nevada State Director
Department of the Interior, Bureau of Land Management
1340 Financial Boulevard
Reno, Nevada 89502

Dear Mr. Ruhs,

In accordance with 43 U.S. Code § 155, the National Defense Authorization Act for Fiscal Year 2000, Military Land Withdrawal Act of 1999 (Public Law 106-65), the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113-291), the Federal Land Policy and Management Act of 1976, as amended (FLPMA) 43 U.S.C. 1714, 43 part 2300 and, as implemented by BLM Instruction Memorandum No. 2001-030, the United States Department of the Air Force (Air Force) requests processing of this land withdrawal application for the withdrawal and reservation of public lands associated with the Nevada Test and Training Range (NTTR), formerly known as the Nellis Air Force Range (Nellis AFR), Nevada. The NTTR is required for military use as a national security test and training range by the Air Force. Priority processing of this application is in the interest of Homeland Defense and the War on Terrorism.

The NTTR consists of 2,949,603 acres of public lands withdrawn and reserved for Air Force use through Public Law 106-65 and Public Law 113-291; the withdrawal expires on November 5, 2021. This withdrawal and reservation overlaps 826,000 acres of public lands withdrawn and reserved for U.S. Fish and Wildlife Service (USFWS), Desert National Wildlife Refuge (DNWR) purposes. The DNWR is withdrawn and reserved by Executive Order No. 7373, Public Land Order (PLO) 4079, and PLO 7070. Public Law 106-65 requires the Air Force and USFWS' co-management of this overlapping withdrawal through a Memorandum of Understanding (MOU). The NTTR extension request pertains only to lands within the boundaries withdrawn and reserved by Public Law 106-65 and Public Law 113-291.

National defense requirements are rapidly evolving in response to changing world conditions, the Global War on Terrorism, developing technologies, and new emerging threats. The NTTR is a Major Range and Test Facility Base national asset and is used to accommodate two major national defense necessities: Test and Evaluation (T&E); and, large-scale training. The NTTR is sized, operated, and maintained to provide T&E information to Department of Defense (DoD) component users in support of DoD research, development, T&E, and the acquisition process. The NTTR is required to provide a broad base of T&E capabilities that are sufficient to support the full spectrum of DoD T&E requirements. The NTTR contributes to combat readiness

training, providing a venue for major training events, 5th-generation aircraft training, and training for other Federal agencies, state and local governments, allied foreign governments, and commercial entities. The NTTR is the Air Combat Command's range of preference for Tactics Development and Evaluations (TD&E) due to its focus on high-end combat training and operationally relevant testing. Extension of this land withdrawal is essential in order that the Air Force Warfare Center may maintain current test and training at NTTR and support military test and training objectives into the future.

The Air Force will promptly notify the Bureau of Land Management (BLM) if new developments change the purpose of this request that require a revised application for extension of the withdrawal and reservation. We will also notify the BLM if any acreage for extension is not required.

1. Name and Address of Applicant:

(a) Name and address of person delegated the authority to file the application.

Ms. Miranda A. Ballentine, Assistant Secretary of the Air Force for Installations, Environment, and Energy, Headquarters U.S. Air Force, 1670 Air Force Pentagon, Washington, DC 20330-1670, phone (703) 697-5023, email miranda.ballentine.civ@mail.mil.

Ms. Jennifer L. Miller, Deputy Assistant Secretary of the Air Force for Installations, Headquarters U.S. Air Force, 1665 Air Force Pentagon, Suite 4B941, Washington, DC 20330-1665, phone (703) 695-3592, email Jennifer.l.miller273.civ@mail.mil

Mr. James Sample, Office of the Deputy Assistant Secretary of the Air Force for Installations, Headquarters U.S. Air Force, 1665 Air Force Pentagon, Washington, DC 20330-1670, phone (703) 693-3349, email james.a.sample6.civ@mail.mil.

(b) Name and address of using agency.

Maj. Gen. Glen D. VanHerck, Commander, United States Air Force Warfare Center (Air Combat Command), 3770 Duffer Drive, Nellis AFB, NV 89191-7001, United States Air Force:

Mr. Roger Christensen, NTTR/XPN, 3770 Duffer Drive, Nellis AFB, NV 89191-7001, phone (702) 653-4650, email roger.christensen@us.af.mil.

(c) Name, address, and phone number of primary point of contact for all aspects in preparing and processing the application.

Mr. Mike Ackerman, NEPA Division (AFCEC/CZN), Bldg. 1650, 2261 Hughes Ave., Lackland AFB, TX 78236, phone (210) 925-2741, email michael.ackerman.2@us.af.mil.

2. Designation and Delegation of Authority:

The Secretary of the Air Force (SECAF) Mission Directive 1-18 (HAF MD 1-18) assigns responsibility for real property authorities, to include the acquisition, management, and disposal of real property, to the Assistant Secretary of the Air Force for Installation, Environment and Energy (SAF/IE). SAF/IE delegates authorities for real estate transactions, including responsibilities for the withdrawal of public lands, to the Deputy Assistant Secretary for Air Force Installations (SAF/IEI). Air Force Instruction 32-9001, Real Property Acquisition, identifies procedural guidance and requirements for real estate actions, including withdrawal application preparation and proposed legislation development. For this specific project, the SAF/IEI is delegated authority to accomplish real estate actions on behalf of the Air Force. As outlined in Air Force Instruction 32-9001, the Air Force Civil Engineer Center (AFCEC), will assist the Deputy Assistant Secretary of the Air Force for Installations (SAF/IEI) with staffing and review of the land withdrawal application.

3. Other Agency Consent:

The public lands subject to this application are currently withdrawn and reserved for Air Force use by Public Law 106-65 and Public Law 113-291. Portions of the withdrawal extension area are withdrawn and reserved from the public domain for use by the USFWS, DNWR. The Air Force letter inviting the USFWS to be a cooperating agency to the NTTR withdrawal renewal Legislative Environmental Impact Statement (LEIS) is enclosed with this application.

[redacted]

(c) The acreage of all non-federal lands are as follows and is in Enclosure (1):

(1) Private lands: 365 acres.

(d) The legal description of the private lands within the withdrawn extension area is provided in Enclosure (2).

7. Overlapping and Existing Withdrawals:

The withdrawal and reservation made by Public Law 106-65 and 113-291 overlaps a total of 826,000 acres of public lands withdrawn and reserved for USFWS, DNWR use by Executive Order Number 7373, dated, May 20, 1936, as amended by Public Land Order (PLO) 4079, dated, August 26, 1966, and PLO 7070, dated, August 4, 1994. As required by Public Law 106-65, the overlapping withdrawal is co-managed by the USFWS and the Air Force, the USFWS has primary jurisdiction over 714,000 acres, and the Air Force has primary jurisdiction over the remaining 112,000 acres that are used as target impact areas. The Secretary of the Interior maintains secondary jurisdiction over the 112,000 acres for wildlife conservation purposes.

8. Purpose of Statutory Program:

(a) Withdrawal extension is necessary to support national security objectives, provide for national security testing and training, and provide for public safety within the context of Homeland Defense and the War on Terrorism. The withdrawal extension will support the Air Force's need to accommodate long-term test capability for new and existing technologies and sufficient range capacity for large-scale, live-fire exercises and operational tactics development. The NTTR is a national asset with capabilities that cannot currently be replicated anywhere else in the world. The NTTR is critical for training various combat units of all branches of the U.S. Armed Services as well as U.S. allies that support or participate in certain aspects of tactical aviation and land combat missions. The NTTR land withdrawal extension is also critical to National Security and includes but is not limited to the activities of DoD, Department of Energy, and Homeland Security and must be extended to ensure that unique and enduring test and training range capabilities are available in the future.

(b) In accordance with Public Law 106-65, the lands are withdrawn and reserved for use by the Secretary of the Air Force.

(c) Specific purpose for which the lands are withdrawn and reserved are:

(1) as an armament and high-hazard testing area;
(2) for training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support;
(3) for equipment and tactics development and testing; and,
(4) for other defense-related purposes consistent with the purposes specified above.

9. Extent of Segregation:

The Air Force requests that the land in the extension application be withdrawal from all forms of appropriation under the public land laws, including the mining laws, mineral leasing laws, and geothermal leasing laws, and subject to valid existing rights, and reservation established by Public Law 106-65 be extended for an indefinite period.

10. Temporary Land Uses:

Under Public Law 106-65, the Secretary of the Interior may issue a lease, easement, right-of-way, or other authorization with respect to the non-military use of public lands and only with concurrence of the Air Force's delegated authorized officer.

11. Analysis of Alternatives:

The primary reasons for the withdrawal extension are national security testing and training conducted at the NTTR and public safety. Extending the land withdrawal would be the only authorization option that would satisfy the Air Force and NTTR requirements for national security testing and training, safety, and control of access to the lands. Military testing and training activities performed in the area cannot be statutorily accommodated under either a FLPMA right-of-way or a cooperative agreement. The Interior Board of Land Appeals has found that military training on public lands is appropriately authorized by a withdrawal in the case of contamination from military munitions, unexploded ordnance, munitions debris, and other range related debris and BLM policy reflects that finding. The withdrawal extension may only be authorized by Congress.

12. Duration of Withdrawal:

The Air Force is applying for an indefinite withdrawal of the area from the date enacted by Congress unless Congress deems it appropriate to withdraw the land for a shorter timeframe.

13. Alternative Sites:

No alternative sites are available for the use for the following reasons:

(a) The Air Force's need for the NTTR land withdrawal, is supported by the Report to Congressional Committees *2025 Air Test and Training Range Enhancement Plan (January 2014)* (2014 Congressional Report), which states "…a few select ranges which will become hubs for intermediate to advanced training. The first of these ranges is the Nevada Test and Training Range (NTTR)." The 2014 Congressional Report indicates that current test and training activities will continue and increase to support six priorities that are critical to ensuring the viability of major range infrastructure through 2025.

(b) The NTTR range infrastructure, described in the 2014 Congressional Report, has an approximate value of $4 billion. The approximate cost to decontaminate the NTTR varies from $1 to 4 billion.

(c) The NTTR is unique from an airspace perspective. Restricted airspace, where commercial and private air traffic operating under both visual and instrument flight rules are prohibited from overflight, remains a key operational element of the NTTR. These restrictions allow for national security testing and training activities to be conducted.

(d) The geographic proximity of the NTTR to Naval Air Weapons Station (NAWS) China Lake and the Utah Test and Training Range increases the DoD's capability for specialized test and training activities. For example, one annual tactics development exercise that supports new approaches to operations requires access to Military Operating Area and restricted airspace from NAWS China Lake in the southwest to the Utah Test and Training Range in the northeast. The NTTR geographically links the three ranges with its electronic warfare capability, and provides a crucial tactics mission environment.

The capabilities of the NTTR cannot be replicated anywhere else in the world without significant and unforeseeable commitment of financial and other organization resources. Because of the infrastructure investment, airspace attributes, geographic location, and encroachment concerns, the Air Force has filed this withdrawal extension application to renew the current NTTR land withdrawal.

14. Water Requirements:

All surface and groundwater rights currently being utilized by the Air Force within NTTR have been properly appropriated through the State of Nevada. On average, water use by the Air Force is directly associated with the number of personnel stationed at and the work being conducted on NTTR. In the 1998 water requirements study, a total of 947 acre-feet per year (AFY) of surface water on the Nellis AFR, now NTTR, was appropriated for stock, wildlife, domestic, and irrigation purposes, with 84 percent (797 AFY) owned by the Federal government and 16 percent privately held (149 AFY). With respect to groundwater, 1,852 AFY has been appropriated through the State of Nevada. The Federal government (Air Force and DOE) has appropriated 98 percent (1,826 AFY) and private domestic and stock users have appropriated 2 percent (25 AFY). In addition, the Air Force is entitled to federally reserved water rights for reserved lands within NTTR. The priority dates for the reserved water rights are senior to recent water rights applications by the Southern Nevada Water Authority in association with its Groundwater Development Project. The Air Force's federally reserved water rights have not been judicially quantified.

The Nellis Air Force Base Natural Resources Program has recently completed a project to identify all seeps and springs within the boundaries of NTTR. Some of the seeps and springs identified have no prior documentation. The Air Force may apply for surface water rights for the newly discovered springs.

15. Location of Application Records:
Records relating to this application are available for examination at the following locations:

Nellis Test and Training Range/XPN
3770 Duffer Drive
Nellis AFB, NV 89191-7001

BLM Nevada State Office
1340 Financial Blvd
Reno, NV 89502

BLM Southern Nevada District Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

16. Summary of Potential Mineral Activity in the Subject Area:

In accordance with Public Law 106-65, a Geology and Mineral Potential Report covering the withdrawal extension area will be provided.

17. Contamination of any or all Requested Withdrawn Lands:

The Air Force will analyze whether the current and/or proposed use has/will result in contamination of any or all of the requested withdrawal area, and if so, whether such contamination will be permanent or temporary.

If additional information is required, please contact Mr. Mike Ackerman at (210) 925-2741 or by email at michael.ackerman.2@us.af.mil.

Sincerely,

Jennifer L Miller

JENNIFER L. MILLER
Deputy Assistant Secretary of the Air Force
Installations

Enclosures: (1) Maps for Withdrawal Extension
(2) Legal Descriptions for Withdrawal Extension

7

Copy to:
SAF/IEI
SAF/GCN
HAF/A4C
NTTR/XP

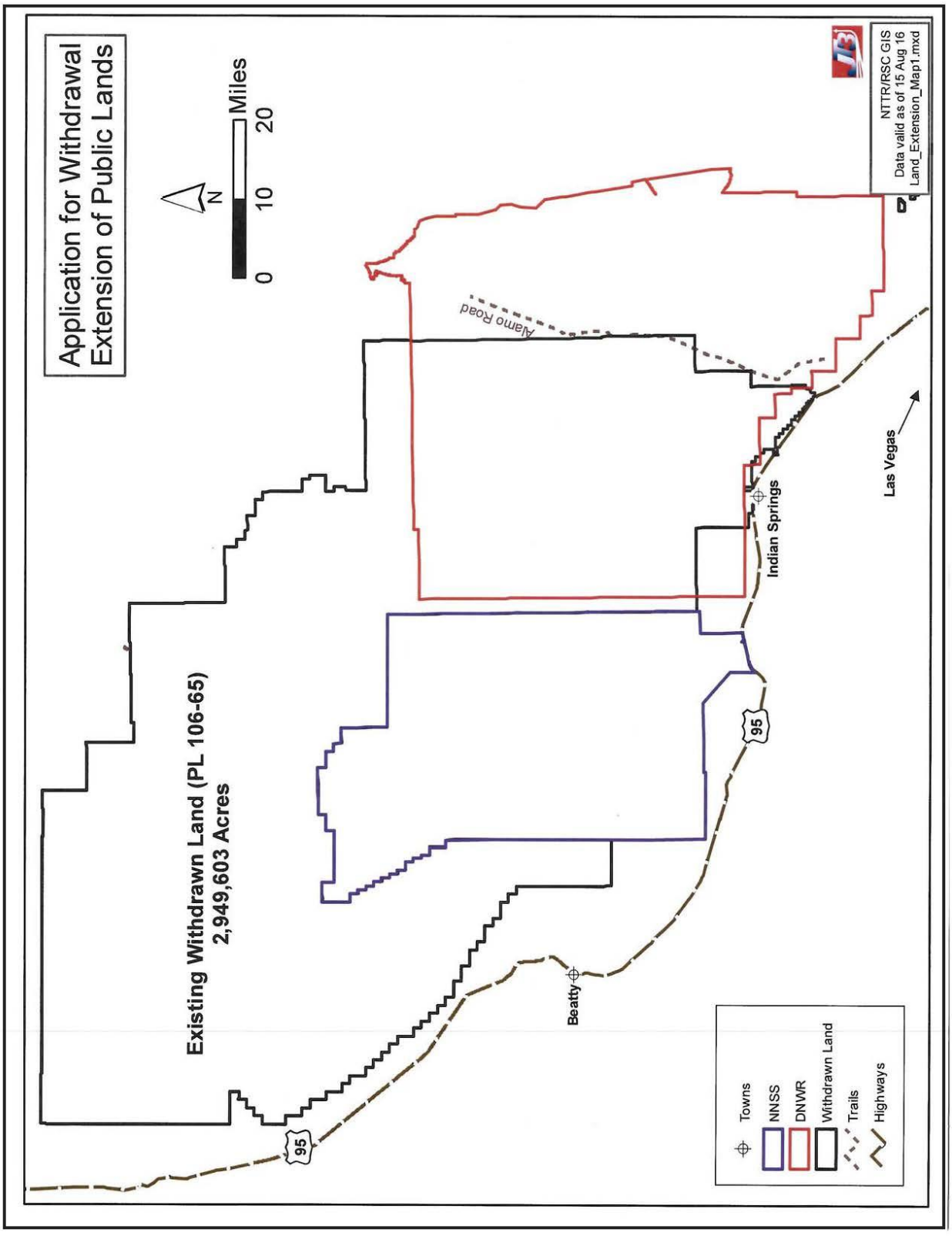
Department of the Interior, BLM, WO-350
Military Program Leads
Attn: Celeste Mitchell/Brenda Wilhight
1849 C. Street, NW, Room 2134LM
Washington, DC 20240

BLM Nevada State Director
Withdrawal Program
Attn: Edison Garcia
1340 Financial Blvd
Reno, NV 89502

BLM Southern Nevada District Office
Project Manager
Attn: Thomas Seley
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

8

Enclosure 1


Application for Withdrawal
Extension of Public Lands
N
0 10 20
Miles
NTTR/RSC GIS
Data valid as of 15 Aug 16
Land_Extension_Map1.mxd
Alamo Road
Las Vegas
Indian Springs
Beatty
95
95
Existing Withdrawn Land (PL 106-65)
2,949,603 Acres
Towns
NNSS
DNWR
Withdrawn Land
Trails
Highways

Enclosure 2

Renewal of the Existing Land Withdrawal

Nevada Test and Training Range Renewal

Legal Description

(added Nellis parcels)

EXISTING WITHDRAWN LANDS

Mount Diablo Meridian, Nevada

Tps. 1, 2, 3, and 4 S., R. 44 E.

T. 5 S., R. 44 E., partly unsurveyed,
secs. 1 and 2;
secs. 10 thru 16;
secs. 20 thru 36.

T. 6 S., R. 44 E., unsurveyed,
secs. 1 thru 6;
secs. 8 thru 17;
secs. 21 thru 27;
secs 34 thru 36.

T. 7 S., R. 44 E., partly unsurveyed,
secs. 1 and 2;
secs. 11 thru 13.

Tps. 1, 2, 3, and 4 S., R. 45 E.

Tps. 5 and 6 S., R. 45 E., unsurveyed.

T. 7 S., R 45 E., unsurveyed,
secs. 1 thru 30;
secs. 32 thru 36.

T. 8 S., R. 45 E., unsurveyed,
secs. 1 thru 4;
secs. 10 thru 14;
secs. 24 and 25.

1

Tps. 1 and 2 S., R. 46 E.

Tps. 3, 4, 5, 6, 7, and 8 S., R. 46 E., unsurveyed.

T. 9 S., R. 46 E., unsurveyed,
secs. 1 thru 5;
secs. 9 thru 15;
secs. 23 and 24.

Tps. 1 and 2 S., R. 47 E.

Tps. 3, 4, 5, 6, 7, and 8 S., R. 47 E., unsurveyed.

T. 9 S., R. 47 E., unsurveyed,
secs. 1 thru 30;
secs. 33 thru 36.

T. 10 S., R. 47 E., partly unsurveyed,
secs. 1, 2, and 12.

Tps. 1 and 2 S., R. 48 E.

Tps. 3, 4, and 5 S., R. 48 E., unsurveyed.

T. 6 S., R. 48 E., unsurveyed,
secs. 1 thru 34;
sec. 35, N1/2;
sec. 36. N1/2.

T. 7 S., R. 48 E., unsurveyed,
secs. 3 thru 10;
secs 15 thru 23;
sec 25, W1/2;
secs. 26 thru 36.

Tps. 8 and 9 S., R. 48 E., unsurveyed.

T. 10 S., R. 48 E., unsurveyed,
secs. 1 thru 17;
secs. 21 thru 26;
sec. 36.

Tps. 1 and 2 S., R. 49 E.

Tps. 3, 4, and 5 S., R. 49 E., unsurveyed.

T. 6 S., R. 49 E., unsurveyed,
secs. 1 thru 30;
sec. 31, N1/2 and SE1/4;
secs. 32 thru 36.

T. 7 S., R. 49 E., unsurveyed,
secs. 1 thru 5;
sec. 6, E1/2.

T. 8 S., R. 49 E., unsurveyed,
sec. 6, W1/2;
sec. 7;
sec. 17, W1/2;
secs. 18 thru 20;
secs. 28 thru 33;
sec. 34, W1/2.

T. 9 S., R. 49 E., unsurveyed,
secs. 3 thru 11;
secs. 14 thru 23;
secs. 24 and 25, excepting those portions withdrawn by Public Land Order 2568;
secs. 26 thru 35;
sec. 36, excepting those portions withdrawn by Public Land Order 2568.

T. 10 S., R. 49 E., unsurveyed,
sec. 1, excepting those portions withdrawn by Public Land Order 2568;
secs. 2 thru 11;
secs. 12 and 13, excepting those portions withdrawn by Public Land Order 2568;
secs. 14 thru 23;
secs. 24 and 25, excepting those portions withdrawn by Public Land Order 2568;
secs. 26 thru 35;
sec. 36, excepting those portions withdrawn by Public Land Order 2568.

T. 11 S., R. 49 E., unsurveyed,
sec. 1, excepting those portions withdrawn by Public Land Order 2568;
secs. 2 thru 11;
secs. 12 and 13, excepting those portions withdrawn by Public Land Order 2568;
secs. 14 thru 23;
secs. 24 and 25, excepting those portions withdrawn by Public Land Order 2568;
secs. 26 thru 35;
sec. 36, excepting those portions withdrawn by Public Land Order 2568.

T. 12 S., R. 49 E., unsurveyed,
sec. 1, excepting those portions withdrawn by Public Land Order 2568;
secs. 2 thru 11;
secs. 12 and 13, excepting those portions withdrawn by Public Land Order 2568;
secs 14 thru 23;
secs. 24 and 25, excepting those portions withdrawn by Public Land Order 2568;
secs. 26 thru 35;
sec. 36, excepting those portions withdrawn by Public Land Order 2568.

Tps. 1, 2, 3, 4, and 5 S., R. 50 E., unsurveyed.

T. 6 S., R. 50 E., unsurveyed,
secs. 1 thru 33.

T. 7 S., R. 50 E., unsurveyed,
sec. 6.

Tps. 2, 3, 4, and 5 S., R. 51 E., unsurveyed.

T. 6 S., R. 51 E., unsurveyed,
secs. 1 thru 30;
secs. 34 thru 36.

4

T. 7 S., R. 51 E., unsurveyed,
sec. 1.

Tps. 3 and 4 S., R. 51 1/2 E., unsurveyed.

Tps. 3, 4, 5, and 6 S., R. 52 E., unsurveyed.

T. 7 S., R. 52 E., unsurveyed,
secs. 1 thru 16;
secs. 21 thru 28;
secs. 33 thru 36.

T. 8 S., R. 52 E., unsurveyed,
secs. 1 thru 4;
secs. 9 thru 12, excepting those portions withdrawn by Public Land Order 805.

Tps. 3 and 4 S., R. 53 E.

Tps. 5, 6, and 7 S., R 53 E., unsurveyed.

T. 8 S., R. 53 E., unsurveyed,
secs. 1 thru 6;
secs. 7 thru 12, excepting those portions withdrawn by Public Land Order 805.

T. 3 S., R. 54 E.,
secs. 4 thru 9;
secs. 16 thru 21;
secs. 28 thru 33.

T. 4 S., R. 54 E.,
secs. 4 thru 9;
secs. 16 thru 21;
secs. 28 thru 33.

Tps. 5, 6, and 7 S., R 54 E., unsurveyed.

5

T. 8 S., R. 54 E., unsurveyed,
secs. 1 thru 6;
secs. 7 thru 11, excepting those portions withdrawn by Public Land Order 805;
secs. 12 and 13;
secs. 14 and 23, excepting those portions withdrawn by Public Land Order 805;
secs. 24 and 25;
secs. 26 and 35, excepting those portions withdrawn by Public Land Order 805;
sec. 36.

T. 9 S., R. 54 E., unsurveyed,
sec. 1;
secs. 2 and 11, excepting those portions withdrawn by Public Land Order 805;
secs. 12 and 13;
secs. 14 and 23, excepting those portions withdrawn by Public Land Order 805;
secs. 24 and 25;
secs. 26 and 35, excepting those portions withdrawn by Public Land Order 805;
sec. 36.

T. 10 S., R. 54 E., unsurveyed,
sec. 1;
secs. 2 and 11, excepting those portions withdrawn by Public Land Order 805;
secs. 12 and 13;
secs. 14 and 23, excepting those portions withdrawn by Public Land Order 805;
secs. 24 and 25;
secs. 26 and 35, excepting those portions withdrawn by Public Land Order 805;
sec. 36.

T. 11 S., R. 54 E., unsurveyed,
sec. 1;
secs. 2 and 11, excepting those portions withdrawn by Public Land Order 805;
secs. 12 and 13;
secs. 14 and 23, excepting those portions withdrawn by Public Land Order 805;
secs. 24 and 25;
secs. 26 and 35, excepting those portions withdrawn by Public Land Order 805;
sec. 36.

6

T. 12 S., R. 54 E., unsurveyed,
sec. 1;
secs. 2 and 11, excepting those portions withdrawn by Public Land Order 805;
secs. 12 and 13;
secs. 14 and 23, excepting those portions withdrawn by Public Land Order 805;
secs. 24 and 25;
secs. 26 and 35, excepting those portions withdrawn by Public Land Order 805;
sec. 36.

T. 13 S., R. 54 E., unsurveyed,
sec. 9, excepting those portions withdrawn by Public Land Order 805;
secs. 10 thru 15;
secs. 16 and 21, excepting those portions withdrawn by Public Land Order 805;
secs. 22 thru 27;
secs. 28 and 33, excepting those portions withdrawn by Public Land Order 805;
secs. 34 thru 36.

T. 14 S., R. 54 E., unsurveyed,
secs. 1 thru 3;
secs. 4 and 9, excepting those portions withdrawn by Public Land Order 805;
secs. 10 thru 15;
secs. 16 and 21, excepting those portions withdrawn by Public Land Order 805;
secs. 22 thru 27;
secs. 28 and 33, excepting those portions withdrawn by Public Land Order 805;
secs. 34 thru 36.

Tps. 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14 S., R. 55 E., unsurveyed.

T. 5 S., R. 55 1/2 E., unsurveyed,
secs. 6 thru 8;
secs. 16 thru 21;
secs. 28 thru 33.

Tps. 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15 S., R. 55 1/2 E., unsurveyed.

T. 16 S., R. 55 1/2 E.,
sec. 1, N1/2;
sec 2, lots 1 and 2; NE1/4.

7

T. 5 S., R. 56 E., unsurveyed,
secs. 19 and 20;
secs 27 thru 35.

T. 6 S., R. 56 E., partly unsurveyed,
secs. 2 thru 11;
secs. 14 thru 23;
secs. 25 thru 36.

T. 7 S., R. 56 E., partly unsurveyed,
secs. 1 thru 11;
sec 13, W1/2;
secs. 14 thru 23;
sec. 24, NW1/4;
secs. 26 thru 35.

Tps. 8, 9, 10, 11, 12, 13, and 14 S., R. 56 E., unsurveyed.

T. 15 S., R. 56 E.

T. 16 S., R. 56 E.,
secs. 1 thru 6;
sec. 8, lot 1;
sec. 9, lot 1;
Tracts 38, 39, 40, 41;
Tract 42, lots A, B and C.

T. 6 S., R. 57 E.,
sec. 30, lots 1 thru 4, E1/2NW1/4, E1/2SW1/4;
sec. 31.

T. 7 S., R. 57 E.,
sec. 6.

Tps. 8, 9, 10, 11, 12, 13, 14, and 15 S., R. 57 E., unsurveyed.

8

T. 16 S., R. 57 E., partly unsurveyed,
secs. 1 thru 6;
sec. 7, NE1/4;
secs. 8 thru 16;
sec. 17, NE1/4;
sec. 20, SE1/4SW1/4, S1/2SE1/4;
secs. 21 thru 26;
sec. 27, NE1/4;
sec. 28, NW1/4NW1/4;
sec. 29, N1/2NE1/4, NE1/4NW1/4;
sec. 35, NE1/4;
sec. 36.

Tps. 8, 9, 10, 11, 12, 13, 14, and 15 S., R. 58 E., unsurveyed.

T. 16 S., R. 58 E., unsurveyed,
secs. 1 thru 10;
secs. 15 thru 22;
secs. 27 thru 34.

T. 17 S., R. 58 E.,
secs. 1 thru 4;
sec. 5, NE1/4;
sec. 9, NE1/4;
sec. 10, N1/2, N1/2SW1/4, SE1/4SW1/4, SE1/4;
secs. 11 and 12;
sec. 13, NW1/4;
sec. 14, N1/2, NE1/4SW1/4, SE1/4;
sec.15, NE1/4NE1/4.

Tps. 8, 9, 10, 11, 12, 13, and 14 S., R. 59 E., unsurveyed.

9

LAND ADDED TO EXISTING WITHDRAWAL

2015 National Defense Authorization Act (Public Law 113-291)

Mount Diablo Meridian, Nevada

T. 19 S., R. 62 E.,
sec. 13, lots 2, 4 and 5, excepting those portions lying within the right-of-way of the Union Pacific Railroad;
sec. 14, lots 1, 2, 5, 6, and 8, N1/2NE1/4, NW1/4, excepting those portions lying within the right-of-way of the Union Pacific Railroad;
sec. 24, SE1/4, excepting those portions lying within the right-of-way of Nevada State Route 604 (Las Vegas Blvd.);
sec. 25, lot 2.

T. 19 S., R. 63 E.;
sec. 19, lot 4, SE1/4SW1/4, and SW1/4SE1/4, excepting those portions lying within the right-of-way of Nevada State Route 604 (Las Vegas Blvd.);
sec. 27, S1/2NW1/4 and SE1/4SE1/4;
sec. 28, S1/2NE1/4 and SE1/4NW1/4;
sec. 30, lots 1 and 2, W1/2NE1/4 and E1/2NW1/4.

10

Letter from Air Force to BLM, Land Withdrawal Expansion Application: August 12, 2016

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

OFFICE OF THE ASSISTANT SECRETARY

SAF/IE
1665 Air Force Pentagon
Washington, DC 20330-1665

AUG 1 2 2016

Mr. John Ruhs, Nevada State Director
Department of the Interior, Bureau of Land Management
1340 Financial Boulevard
Reno, Nevada 89502

Dear Mr. Ruhs,

In accordance with 43 U.S.C. § 155 -158, the Federal Land Policy and Management Act of 1976, as amended, (FLPMA) 43 U.S.C. 1714, 43 CFR Part 2300 and, as implemented by BLM Instruction Memorandum No. 2001-030, the United States Department of the Air Force (Air Force) requests processing of this land withdrawal application for the withdrawal and reservation of 301,507 additional acres of public lands located near the Nevada Test and Training Range (NTTR), Nevada. The NTTR, formerly known as the Nellis Air Force Range (Nellis AFR) is required for military use as a national security testing and training range by the Air Force. Priority processing of this application is in the interest of Homeland Defense and the War on Terrorism.

The current NTTR land withdrawal and reservation consists of 2,949,603 acres of public lands authorized by the National Defense Authorization Act for Fiscal Year 2000, Military Land Withdrawal Act of 1999 (Public Law 106-65), and the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113-291). The Air Force requests to expand the NTTR by 301,507 acres of public lands known as the EC South, 64C/D and 65D, South Range Administrative Incorporation, and Alamo for use as a national security testing and training range to meet NTTR requirements. The acres of the withdrawal expansion and the lands withdrawn and reserved by Public Law 106-65 and Public Law 113-291 would total 3,251,110 acres. A separate application requesting the extension (renewal) of the withdrawal and reservation under Public Law 106-65 and Public Law 113-291 is in process.

National defense requirements are rapidly evolving in response to changing world conditions, the Global War on Terrorism, developing technologies, and new emerging threats. The NTTR is a Major Range and Test Facility Base national asset and is used to accommodate two major national defense necessities: Test and Evaluation (T&E); and large-scale training. The NTTR is sized, operated, and maintained to provide T&E information to Department of Defense (DoD) component users in support of DoD research, development, T&E, and the acquisition process. The NTTR is required to provide a broad base of T&E capabilities that are sufficient to support the full spectrum of DoD T&E requirements. The NTTR also contributes to combat readiness

training, providing a venue for major training events, 5th-generation aircraft training, and training for other Federal agencies, state and local governments, allied foreign governments, and commercial entities. The NTTR is the Air Combat Command's range of preference for Tactics Development and Evaluations (TD&E) due to its focus on high-end combat training and operationally relevant testing.

The requested withdrawal is essential to the Air Force to enhance large-scale training at the NTTR by increasing Major Combat Operations (MCO) test and training capabilities to meet the demands of strategic guidance, alleviating the competition for critical MCO assets, providing a two-access battle space for Irregular Warfare (IW) test and training, and increasing NTTR operational security and safety to prevent encroachment and sustain the NTTR mission into the future while providing for public safety.

The Air Force will promptly notify the BLM if new developments change the purpose or acreage associated with this request.

In addition, the Air Force has requested the Bureau of Land Management (BLM) to petition or apply to the Secretary of the Interior, pursuant to section 204 of FLPMA for a 7-year administrative withdrawal of the public lands within the exterior boundaries of the lands described in paragraph 6 of this withdrawal application for the purpose of maintaining the *status quo* of the lands so that the Air Force and the BLM may conduct a land management analysis in support of a possible future transfer of lands to Air Force jurisdiction. The BLM has separately filed such petition/application.

1. Name and Address of Applicant:

(a) Name and address of person delegated the authority to file the application.

Ms. Miranda A. Ballentine, Assistant Secretary of the Air Force for Installations, Environment, and Energy, Headquarters U.S. Air Force, 1670 Air Force Pentagon, Washington, DC 20330-1670, phone (703) 697-5023, email miranda.ballentine.civ@mail.mil.

Ms. Jennifer L. Miller, Deputy Assistant Secretary of the Air Force for Installations, Headquarters U.S. Air Force, 1665 Air Force Pentagon, Suite 4B941, Washington, DC 20330-1665, phone (703) 695-3592, email Jennifer.l.miller273.civ@mail.mil.

Mr. James Sample, Office of the Deputy Assistant Secretary of the Air Force for Installations, Environment, and Energy, Headquarters U.S. Air Force, 1665 Air Force Pentagon, Suite 4B941, Washington, DC 20330-1670, phone (703) 693-3349, email james.a.sample6.civ@mail.mil.

(b) Name and address of using agency.

Maj. Gen. Glen D. VanHerck, Commander, United States Air Force Warfare Center (Air Combat Command), 3770 Duffer Drive, Nellis AFB, NV 89191-7001, phone (702) 652-2201, email glen.vanherck@us.af.mil.

Mr. Roger Christensen, NTTR/XPN, 3770 Duffer Drive, Nellis AFB, NV 89191-7001, phone (702) 653-4650, email roger.christensen@us.af.mil.

(c) Name, address, and phone number of primary point of contact for all aspects in preparing and processing the application.

Mr. Mike Ackerman, NEPA Division (AFCEC/CZN), Bldg 1650, 2261 Hughes Ave., Lackland AFB, TX 78236, phone (210) 925-2741, email michael.ackerman.2@us.af.mil.

2. Designation and Delegation of Authority:

The Secretary of the Air Force (SECAF) Mission Directive 1-18 (HAF MD 1-18) assigns responsibility for real property authorities, to include the acquisition, management, and disposal of real property, to the Assistant Secretary of the Air Force for Installation, Environment and Energy (SAF/IE). SAF/IE delegates authorities for real estate transactions, including responsibilities for the withdrawal of public lands, to the Deputy Assistant Secretary for Air Force Installations (SAF/IEI). Air Force Instruction 32-9001, Real Property Acquisition, identifies procedural guidance and requirements for real estate actions, including withdrawal application preparation and proposed legislation development. For this specific project, the SAF/IEI is delegated authority to accomplish real estate actions on behalf of the Air Force. As outlined in Air Force Instruction 32-9001, the Air Force Civil Engineer Center (AFCEC), will assist the Deputy Assistant Secretary of the Air Force for Installations (SAF/IEI) with staffing and review of the land withdrawal application.

3. Other Agency Consent:

The public lands subject to this application are under the administration of the Department of the Interior. Portions of the requested withdrawal expansion area are withdrawn and reserved from the public domain for use by the U.S. Fish and Wildlife Service (USFWS), Desert National Wildlife Refuge (DNWR). The Air Force letter inviting the USFWS to be a cooperating agency to the NTTR withdrawal renewal Legislative Environmental Impact Statement (LEIS) is enclosed with this application.

4. Type of Withdrawal Action:

The Air Force requests the withdrawal of public lands known as the EC South, 64C/D and 65D, South Range Administrative Incorporation, and Alamo from all forms of appropriation under the public land laws, including the mining laws, mineral leasing laws, and geothermal leasing laws; and reservation for Air Force purposes. In addition, the Air Force requests jurisdictional transfer of the lands.

5. Legal Description:

The withdrawal expansion area is located in Clark, Lincoln, and Nye Counties, Nevada. Enclosure (1) contains maps of the withdrawal expansion area, and Enclosure (2) delineated legal description.

6. Legal Description of Overlapping Withdrawals:

Gross Land and Water Acreage within the Exterior Boundaries:

(a) The gross land area within the withdrawal expansion area contains 301,507 acres of land. A map of the withdrawal expansion area is provided in Enclosure (1).

(b) The legal description for the entire withdrawal expansion area is provided in Enclosure (2).

(1) BLM-managed lands – 35,361 acres
(2) USFWS- managed lands – 266,146 acres

(c) There are no private or state lands within the withdrawal expansion area.

(d) The Air Force is conducting a study to determine whether any surface water areas exist within the withdrawal expansion area. The results of the study will be provided in the related NTTR LEIS.

7. Overlapping and Existing Withdrawals:

This requested withdrawal expansion would overlap portions of the DNWR. The DNWR is withdrawn and reserved for USFWS use by Executive Order 7373, dated May 20, 1936, as amended by Public Land Order (PLO) 4079, dated August 26, 1966, and PLO 7070, dated August 4, 1994.

8. Purpose of Statutory Program:

(a) The withdrawal expansion is necessary to support national security objectives and to provide for public safety within the context of Homeland Defense and the War on Terrorism. This withdrawal expansion will support: the Air Force Warfare Center's mission; ongoing military test and training; and is required to develop enhancement of the Air Force's capability to conduct such test and training into the future.

(1) Increase MCO test/training capability to meet the demands of strategic guidance. MCO test and training operations at NTTR are artificially constrained into the North Range. Expanding the South Range would provide a two-axis battle space that is relevant to current operational plans and strategic guidance.

(2) Alleviate competition for critical MCO assets. Currently, test and training operations compete for time and space on the North Range. Increasing the size and flexibility of the South Range will create two MCO environments and allow for additional testing and improved training.

(3) Enhance IW test/training capability, which is critical to current combat missions. IW operations on the South Range are artificially constrained by current management practices. Indefinite primary jurisdiction over the South Range will allow realistic IW training.

(4) Increase NTTR operational security and safety. Operations on NTTR are sensitive and additional buffer areas to prevent encroachment will sustain the NTTR mission into the future.

(b) Specific purposes for which the lands will be withdrawn are for use:

(1) as an armament and high-hazard testing area;

(2) for training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support;

(3) for equipment and tactics development and testing; and,

(4) for other defense-related purposes consistent with the purposes specified above.

9. Extent of Segregation:

The Air Force requests that the lands identified in this withdrawal expansion application be withheld from location and entry under the public land laws, including the mining laws, mineral leasing laws, and geothermal leasing laws, and subject to valid existing rights. The Air Force requests the maximum segregation period of 2 years.

10. Temporary Land Uses:

Licenses, permits, cooperating agreements, and discretionary land use authorizations, may be allowed during the segregative period with the approval of the BLM Authorized Officer and/or USFWS Authorized Officer, as appropriate, and with the concurrence of the Commander of the Nevada Test and Training Range, Nellis Air Force Base, Nevada. Points of contact are shown in paragraph 1 of this application.

11. Analysis of Alternatives:

The primary reasons for the NTTR withdrawal expansion request are the unique nature of national security testing and training conducted at NTTR and public safety. Expanding the land

withdrawal would be the only authorization option that would satisfy the Air Force and NTTR requirements for national security testing and training, safety, and control of access to the lands. Military test and training activities performed in the area cannot be statutorily accommodated under either a FLPMA right-of-way or a cooperative agreement. The Interior Board of Land Appeals has found that military training on public lands is appropriately authorized by a withdrawal in the case of contamination from military munitions, unexploded ordnance, munitions debris, and other range related debris and BLM policy reflects that finding. The withdrawal expansion may only be authorized by Congress.

12. Duration of Withdrawal:

The Air Force is applying for an indefinite withdrawal of the area from the date enacted by Congress unless Congress deems it appropriate to withdraw the land for a shorter timeframe.

13. Alternative Sites:

No alternative sites are available for the proposed use for the following reasons:

(a) The Air Force considered expansion of the NTTR in various directions. However, there are external encroachment issues that limit the Air Force's ability to expand the NTTR in a configuration that provides for public safety and necessary test and training. The existing external encroachment issues include, but are not limited to, major state and interstate highways, interrelated population centers, and local roadway infrastructure. Furthermore, existing wilderness areas limit the Air Force's ability to expand the NTTR. Wilderness areas to the north include the Toiyabi National Forest, with Table Mountain, Arc Dome, and Alto Toquima Wilderness areas. To the northeast are the Humboldt National Forest (with Quinn Canyon and Grant Range Wilderness areas) and the Worthington Mountain, and Weepah Springs Wilderness areas. The Big Rocks, Mount Irish, and South Paroc, Delamar Mountains, Meadow Valley Range, Mormon Mountains, Muddy Mountain, and Arrow Canyon Wilderness areas are to the east, and the Mount Charleston Wilderness area is to the southwest.

(b) The withdrawal expansion area must be located adjacent to the current NTTR land withdrawal area to support the current use of the lands by the Secretary of the Air Force: as an armament and high-hazard testing area; for training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support; for equipment and tactics development and testing; and for other defense-related purposes consistent with the uses specified above. In addition, the withdrawal expansion area is required to sufficiently accommodate and support the Air Force Warfare Center's mission.

14. Water Requirements:

The Air Force will need to control, appropriate, distribute and/or use water where current, valid existing rights have been acquired by the United States or other entities in conformity with State laws and procedures. The acquisition of rights to the use of water will be in conformity with

State laws and procedures relating to the control, appropriation, use and distribution of water insofar as such laws and procedures are applicable to the United States.

The Air Force is conducting a study to determine whether any surface water areas exist within the withdrawal expansion area. The results of the study will be provided in the related NTTR LEIS.

Based on a preliminary review of the Nevada Division of Water Rights (NDWR) Water Rights Database, the water rights in the withdrawal expansion area include several underground water rights certificates for stock watering in Oasis Valley and protested water rights applications by the Southern Nevada Water Authority in Three Lakes Valley. In addition, the USFWS has water rights certificates for springs, water rights certificates for stock watering, and underground water permits and protested applications by the Southern Nevada Water Authority in the southern part of Tikapoo Valley.

15. Location of Application Records:

Records relating to this application are available for examination at the following locations:

Nellis Test and Training Range/XPN
3770 Duffer Drive
Nellis AFB, NV 89191-7001

BLM Nevada State Office
1340 Financial Blvd
Reno, NV 89502

BLM Southern Nevada District Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

16. Summary of Potential Mineral Activity in the Subject Area:

In accordance with the Engle Act, a comprehensive Geology and Mineral Potential Report covering the withdrawal expansion area will be prepared.

17. Contamination of any or all Requested Withdrawn Lands:

The Air Force will analyze whether the proposed use will result in contamination of any or all of the requested withdrawal expansion area, and if so, whether such contamination will be permanent or temporary [Engle Act Section 3 (5)].

If additional information is required, please contact Mr. Mike Ackerman at (210) 925-2741 or by email at michael.ackerman.2@us.af.mil.

Sincerely,

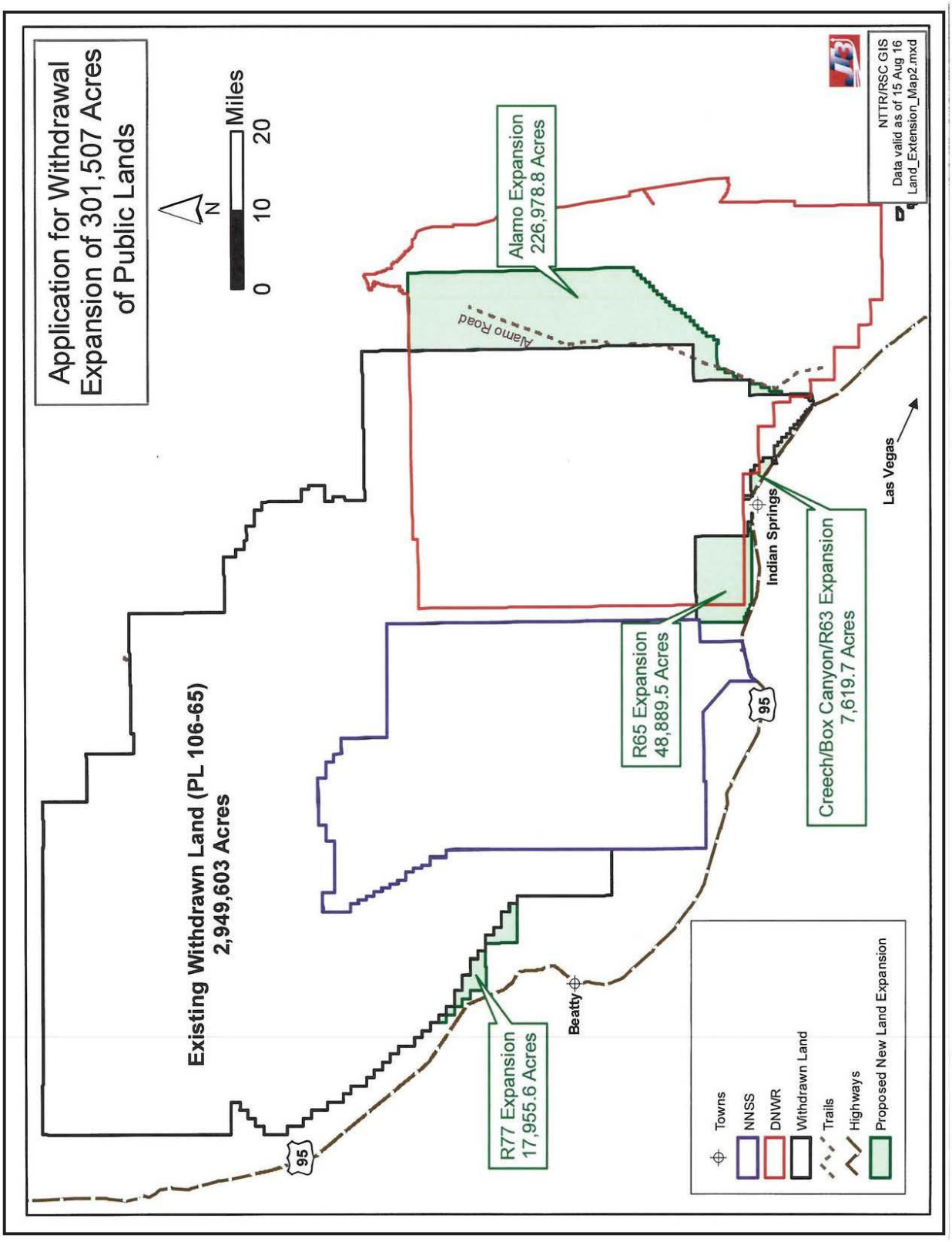
Jennifer L Miller

JENNIFER L. MILLER

[redacted]

BLM Nevada Southern Nevada District Office
Project Manager
Attn: Thomas Seley
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

Enclosure 1


Application for Withdrawal
Expansion of 301,507 Acres
of Public Lands
N
0 10 20 Miles
Alamo Expansion
226,978.8 Acres
Alamo Road
NTTR/RSC GIS
Data valid as of 15 Aug 16
Land_Extension_Map2.mxd
Las Vegas
Indian Springs
Creech/Box Canyon/R63 Expansion
7,619.7 Acres
R65 Expansion
48,889.5 Acres
95
Existing Withdrawn Land (PL 106-65)
2,949,603 Acres
Beatty
R77 Expansion
17,955.6 Acres
Towns
NNSS
DNVR
Withdrawn Land
Trails
Highways
Proposed New Land Expansion

Enclosure 2

Withdrawal of Federal Lands

Nevada Test and Training Range Expansion

Legal Description

EC South/Range 77:

Mount Diablo Meridian, Nevada

T. 9 S., R. 46 E., unsurveyed,
secs. 16, 22, 25, 26, and 36.

T. 9 S., R. 47 E., unsurveyed,
secs. 31 and 32.

T. 10 S., R. 47 E., partly unsurveyed,
secs. 3 thru 11.

T. 10 S., R. 48 E., unsurveyed,
secs. 18 thru 20;
secs. 27 thru 35.

Range 65D:

Mount Diablo Meridian, Nevada

T. 15 S., R. 54 E., unsurveyed,
secs. 1 thru 3;
sec. 4, excepting those portions withdrawn by Public Land Order 805;
secs. 9 thru 16;
secs. 21 thru 28;
secs. 33 thru 36.

T. 16 S., R. 54 E.,
secs. 1 and 2;
sec. 3, lots 1 thru 4, S1/2NE1/4, S1/2NW1/4, N1/2SW1/4, and SE1/4;
sec. 4, lots 1 thru 4, and S1/2NE1/4.

T. 15 S., R. 55 E., unsurveyed.

1

T. 16 S., R. 55 E.,
secs. 1 thru 6.

T. 16 S., R. 55 1/2 E.,
sec. 1, lot 1, E1/2SW1/4, NW1/4SW1/4, and SE1/4;
sec. 2, lots 3 thru 5, NE1/4SE1/4, and W1/2SE1/4.

Ranges 63/64:

Mount Diablo Meridian, Nevada

T. 16 S., R. 56 E.,
sec. 7, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
sec. 9, lot 2, that portion lying northerly of the northerly right-of-way line of U.S. Highway 95;
secs. 10 and 11, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
sec. 12;
secs. 13 and 14, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
Tract 37.

T. 16 S., R. 57 E., partly unsurveyed,
sec. 7, W1/2 and SE1/4;
sec. 17, W1/2 and SE1/4;
secs. 18 and 19, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
sec. 20, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95, excepting those portions withdrawn by Public Law 106-65;
sec. 27, W1/2 and SE1/4;
sec. 28, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95, excepting those portions withdrawn by Public Law 106-65;
secs. 33 and 34, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
sec. 35, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95, excepting those portions withdrawn by Public Law 106-65.

T. 17 S., R. 58 E.,
sec. 5, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95, excepting those portions withdrawn by Public Law 106-65;
sec. 6, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
sec. 8, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
secs. 9 and 10, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95, excepting those portions withdrawn by Public Law 106-65;
sec. 13, NE1/4 and S1/2;
secs. 14 and 15, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95, excepting those portions withdrawn by Public Law 106-65;

Alamos:

Mount Diablo Meridian, Nevada

T. 16 S., R. 58 E., unsurveyed,
sec. 11;
sec. 12, W1/2;
sec. 13, NW1/4, that portion lying westerly of the westerly boundary of Alamo Road;
sec. 14;
sec. 23, NE1/4 and W1/2;
sec. 26, W1/2.

T. 15 S., R. 59 E., unsurveyed,
secs. 2 thru 11;
secs. 14 thru 19;
sec. 20, W1/2, that portion lying westerly of the westerly boundary of Alamo Road;
sec. 30, that portion lying westerly of the westerly boundary of Alamo Road;
sec. 31, NW1/4.

Tps. 9, 10, 11, 12, 12 1/2, and 13 S., R. 60 E., unsurveyed.

3

T. 14 S., R 60 E., unsurveyed,
secs. 1 thru 11;
sec. 12, NE1/4 and W1/2;
sec. 14, NE1/4 and W1/2;
secs. 15 thru 22;
sec. 23, NW1/4;
sec. 27, NW1/4;
secs. 28 thru 32;
sec. 33, NW1/4.

T. 15 S., R. 60 E., unsurveyed,
sec. 5, NW1/4;
sec. 6;
sec. 7, NE1/4 and W1/2.

T. 9 S., R. 61 E., unsurveyed,
secs. 3 thru 10;
secs. 15 thru 22;
secs. 27 thru 34.

T. 10 S., R. 61 E., unsurveyed,
secs. 3 thru 10;
secs. 15 thru 22;
secs. 27 thru 34.

T. 11 S., R. 61 E., unsurveyed,
secs. 3 thru 10;
secs. 15 thru 22;
secs. 27 thru 34.

T. 12 S., R. 61 E., unsurveyed,
secs. 3 thru 10;
secs. 15 thru 22;
secs. 27 thru 34.

T. 12 1/2 S., R. 61 E., unsurveyed,
secs. 31 thru 34.

4

T. 13 S., R 61 E., unsurveyed,
secs. 3 thru 10;
secs. 15 thru 21;
sec. 22, NE1/4 and W1/2;
sec. 28, NE1/4 and W1/2;
secs. 29 thru 31;
sec. 32, NE1/4 and W1/2.

T. 14 S., R. 61 E., unsurveyed,
sec. 6, NE1/4 and W1/2.

5

B.2 DEPARTMENT OF ENERGY, NATIONAL NUCLEAR SECURITY ADMINISTRATION

Letter from Air Force requesting formal participation as Cooperating Agency: January 29, 2016

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

JAN 2 9 2016

OFFICE OF THE ASSISTANT SECRETARY

SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

Lt Gen Frank G. Klotz
Administrator
National Nuclear Security Administration
U.S. Department of Energy
1000 Independence Ave., S.W.
Washington, DC 20585

Dear Mr. Klotz:

The Air Force is initiating its Land Withdrawal Renewal for the Nevada Test and Training Range (NTTR) and requests NNSA formal participation as a Cooperating Agency in the preparation of a Legislative Environmental Impact Statement (LEIS), as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, Cooperating Agencies.

The Air Force asks for your participation as a cooperating agency in preparation of the LEIS as generally outlined in the steps below. To address the specific responsibilities of the Air Force as Lead Agency and NNSA as Cooperating Agency, we also propose development of an Interagency Agreement, the context of which will be worked out between the Cooperating Agencies, subsequent to this request.

(1) Participating in the LEIS scoping, data gathering, analysis, and consultation processes;

(2) Assuming responsibility, upon request, for developing information and preparing analyses on issues for which NNSA has special expertise;

(3) Making NNSA staff support available to enhance interdisciplinary review capability, correspondence, and/or surveys; and

(4) Responding in writing to this request.

The Air Force requires the support of cooperating agencies be timely, to avoid unnecssary delays in the NEPA process. Should you or your staff have further questions regarding this memo, our point of contact is Mr. Jack Bush, HQ USAF/A4CI, at (703) 614-0237 or jack.bush@pentagon.af.mil.

Sincerely,

Jennifer L Miller

JENNIFER MILLER
Deputy Assistant Secretary of the Air Force
(Installations)

cc:
AF/A30/A4C/TE
HQ ACC/AFMC/CV

Cooperating Agency acceptance letter from the National Nuclear Security Administration: June 6, 2016

Department of Energy
Under Secretary for Nuclear Security
Administrator, National Nuclear Security Administration
Washington, DC 20585

June 6, 2016

Ms. Jennifer Miller
Deputy Assistant Secretary of the Air Force
1665 Air Force Pentagon
Washington, DC 20330-1665

Dear Ms. Miller:

Thank you for your January 29 letter inviting the National Nuclear Security Administration (NNSA) to participate as a Cooperating Agency in the preparation of a Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR). NNSA accepts and understands it will be expected to participate in various portions of the LEIS development and, to the extent practicable, NNSA will:

- Participate in the LEIS scoping, data gathering, analysis, and consultation process;
- Assume responsibility, upon request, for developing information and preparing analyses on issues which NNSA has special expertise; and
- Make NNSA staff support available to enhance interdisciplinary review capability, correspondence, and/or surveys.

Should you or your staff have further questions, the NNSA point of contact for this action as related to the Nevada National Security Site is Mr. Brian Wedl, Attorney for the Nevada Field Office at (702) 295-1347 or brian.wedl@nnsa.doe.gov, and the NNSA point of contact as related to the Tonopah Test Range is Ms. Susan Lacy at (505) 845-5542 or susan.lacy@nnsa.doe.gov.

Sincerely,

Frank G. Klotz

B.3 U.S. FISH AND WILDLIFE SERVICE

Letter from Air Force requesting formal participation as Cooperating Agency: January 29, 2016

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

JAN 2 9 2016

OFFICE OF THE ASSISTANT SECRETARY

SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

Mr. Ren Lohoefener
Director, Region 8
US Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825

Dear Mr. Lohoefener:

The Air Force is initiating its Land Withdrawal for the Nevada Test and Training Range (NTTR) and requests USFWS formal participation as a Cooperating Agency in the preparation of a Legislative Environmental Impact Statement (LEIS), as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, Cooperating Agencies.

The Air Force asks for your participation as a cooperating agency in preparation of the LEIS as generally outlined in the steps below. To address the specific responsibilities of the Air Force as Lead Agency and USFWS as Cooperating Agency, we also propose development of an Interagency Agreement, the context of which will be worked out between the Cooperating Agencies, subsequent to this request.

(1) Participating in the LEIS

Interagency Assistance Agreement between the U.S. Fish and Wildlife Service and the U.S. Air Force for the Conservation of Natural Resources on Air Force Controlled Lands: June, 7, 2012

INTERAGENCY ASSISTANCE AGREEMENT
between the

UNITED STATES FISH AND WILDLIFE Service,
and the

THE UNITED STATES AIR FORCE
for the

CONSERVATION OF NATURAL RESOURCES
ON AIR FORCE CONTROLLED LANDS

I. PURPOSE

This interagency assistance agreement (IAA) establishes a cooperative conservation program between the United States Fish and Wildlife Service (Service) and the United States Air Force (USAF) to support the management of natural resources on USAF controlled lands. This IAA will help the USAF meet Federal stewardship requirements and ensure the continued availability of installation lands to support military readiness. Implementation of

on Federal lands, but will facilitate landscape linkages contributing to regional biodiversity. This cooperation benefits Service in its mission to protect lands and waters that are essential for Service trust resource conservation, and helps the USAF implement an environmental program that will enhance the ecosystems under its stewardship while sustaining the use of the land for military purposes. Ultimately, this agreement will benefit the public purpose by identifying, restoring and maintaining natural resources through compliance with Federal laws, regulations and statutes.

III. AUTHORITY

This IAA is enacted under the following authorities:

A. The Fish and Wildlife Coordination Act.

The Fish and Wildlife Coordination Act, as amended, authorizes the Service to provide assistance to, and cooperate with, other Federal agencies to prepare and implement plans to protect wildlife resources. The Act, as codified in Title 16, United States Code, Subchapter I, Section 661 – *Declaration of purpose; cooperation of agencies; surveys and investigations; donations,* subparagraphs (1)-(3), authorizes the Secretary of Interior…

> ***(1)*** *to provide assistance to, and cooperate with, Federal, State, and public or private agencies and organizations in the development, protection, rearing, and stocking of all species of wildlife, resources thereof, and their habitat, in controlling losses of the same from disease or other causes, in minimizing damages from overabundant species, in providing public shooting and fishing areas, including easements across public lands for access thereto, and in carrying out other measures necessary to effectuate the purposes of said sections;*
>
> ***(2)*** *to make surveys and investigations of the wildlife of the public domain, including lands and waters or interests therein acquired or controlled by any agency of the United States; and*
>
> ***(3)*** *to accept donations of land and contributions of funds in furtherance of the purposes of said sections.*

B. The Sikes Act.

This IAA supports and is supported by the Sikes Act, as codified in Title 16, United States Code, Section *670 et seq.*, Subchapter I – *Conservation Programs on Military Installations*. The Sikes Act authorizes programs for conservation and rehabilitation of natural resources on military installations, to include the cooperative development by the USAF, Service, and State fish and wildlife agency of an Integrated Natural Resources Management Plan (INRMP). Sections of the Sikes Act (16 U.S.C. § 670 *et seq.*) that provide specific authorities to support this interagency cooperative assistance agreement are provided below.

- 16 U.S.C. § 670a(a)(2) *Cooperative preparation*, states:

"The Secretary of a military department shall prepare each integrated natural resources management plan for which the Secretary is responsible in cooperation with the Secretary of the Interior, acting through the Director of the United States Fish and Wildlife Service, and the head of each appropriate State fish and wildlife agency for the State in which the military installation is located.

- 16 U.S.C. § 670a(d)(2) states:

  "priority shall be given to the entering into of contracts for the procurement of such implementation and enforcement Services with Federal and State agencies having responsibility for conservation and management of fish and wildlife."

- 16 U.S.C. § 670c-1 – *Cooperative agreements for land management on Department of Defense installations*, subparagraph (b) *Multiyear agreements* provides the following in regards to the obligation of funds for cooperative assistance provided under the terms of this IAA:

  "Funds appropriated to the Department of Defense for a fiscal year may be obligated to cover the cost of goods and Services provided under a cooperative agreement entered into under subsection (a) or through an agency agreement under section 1535 of title 31, United States Code, during any 18 month period beginning in that fiscal year, without regard to whether the agreement crosses fiscal years.

C. The Economy Act.

This Economy Act, as codified in Title 31 United States Code, Section 1535, provides authority for interagency transactions between agencies of the Federal government. The Federal Acquisition Regulation (FAR), Subpart 17.5 – *Interagency Acquisitions Under the Economy Act*, prescribes the policies and procedures applicable to interagency acquisitions under the Economy Act (31 U.S.C. § 1535). Defense regulation DFARS 217.5 and Air Force regulation AFFARS 5317.5 supplement the FAR.

D. Executive Order 13352, Facilitation of Cooperative Conservation.

On August 26, 2004, the President enacted Executive Order 13352 to encourage collaboration among Federal, State, local, and tribal governments, private for-profit and nonprofit institutions, other nongovernmental entities and individuals to facilitate actions related to the enhancement and enjoyment of natural resources and protection of the environment. The President states the purpose of the Executive Order as follows:

"The purpose of this order is to ensure that the Departments of the Interior, Agriculture, Commerce, and Defense and the Environmental Protection Agency implement laws relating to the environment and natural resources in a manner that promotes cooperative conservation, with an emphasis on appropriate inclusion of local participation in Federal decision making, in accordance with their respective agency missions, policies, and regulations.

E. Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

On January 10, 2001, the President signed Executive Order 13186, "*Responsibilities of Federal Agencies to Protect Migratory Birds*", (66 FR 3853, January 17, 2001). The Executive Order directs agencies to take certain actions to further comply with the migratory bird conventions, the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA), and other pertinent statutes through development of an Memorandum of Understanding (MOU) with the Service. On July 31, 2006, the Department of Defense (DoD) and the Service entered into a *Memorandum of Understanding (MOU) to Promote the Conservation of Migratory Birds*. The purpose of the MOU is to strengthen migratory bird conservation by identifying and implementing strategies that promote conservation and avoid or minimize adverse impacts on migratory birds through enhanced collaboration between the Service and DoD. The MOU describes how the Service and DoD will work together cooperatively to achieve these ends.

F. Air Force Instruction 32-7064.

Air Force Instruction (AFI) 32-7064, *Integrated Natural Resources Management* directs the USAF to manage vegetation, wildlife, water, and outdoor recreation resources in accordance with applicable laws. The regulation supports USAF operations by facilitating the stewardship of natural resources within and around airfields, ranges, and other training areas while simultaneously supporting the Sikes Act objective to sustain "*no net loss in the capability of military installation lands to support the military mission of the installation.*" In regards to the authority of AFCEE to enter into cooperative agreements on behalf of the Air Force, AFI 32-7064 states:

> *"AFCEE Director is delegated authority to sign cooperative agreements entered into pursuant to the Sikes Act, Title 16, United States Code, Section 670c-1."*

G. Other Authority.

In addition to the authorities listed above, this IAA supports and is supported by the following statutes and guidances:

- Anadromous Fish Conservation Act, as amended (16 U.S.C 757a-757g).
- Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668-668d).
- Cave Resources Protection Act (*16 U.S.C. 4301 et seq.*)
- Comprehensive Environmental Response Compensation and Liability Act of 1980 (26 U.S.C. 4611-4682), as amended 1983 (42 U.S.C. 9601-9657) and 1986 (P.L. 99-499).
- Department of Defense Instruction (DODI) 4715.03, *Natural Resources Conservation Program.*
- Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543).
- Executive Order 11988, *Flood plain Management*, May 24, 1977.
- Executive Order 11990, *Protection of Wetlands*, May 24, 1977.

- Executive Order 12962, *Recreational Fisheries*, June 7, 1995.
- Executive Order 13112, *Invasive Species*, February 3, 1999.
- Estuaries and Clean Waters Act of 2000 (P.L. 106-457).
- Estuary Protection Act (16 U.S.C. 1221-1226).
- Federal Grant and Cooperative Agreement Act of 1977 (P.L. 95-114).
- Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701).
- Federal Noxious Weed Act of 1976 (7 U.S.C. 2801).
- Federal Water Pollution Control Act of 1977 (Clean Water Act), as amended (33 U.S.C. 1251-1376).
- Fish and Wildlife Conservation Act of 1980 (16 U.S.C. 2901).
- Hunting, Fishing and Trapping on Military Lands [An update of the Military Construction Authorization Act] (10 U.S.C. 2671).
- Lacey Act of 1900 (16 U.S.C. 701, 702).
- *Memorandum of Understanding Between the U.S. Department of Defense and U.S. Fish and Wildlife Service and the International Association of Fish and Wildlife Agencies for a Cooperative Integrated Natural Resource Management Program on Military Lands*, January 31, 2006.
- Migratory Bird Treaty Act, as amended (16 U.S.C. 701 *et. seq.*).
- National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321-4347).
- Resource Conservation and Recovery Act (RCRA) , P.L. 94-580 (42 U.S.C. 6901-6992; 90 Stat. 2795), as amended by P.L. 95-609 (92 Stat. 3081), P.L. 96-463 (94 Stat. 2055), P.L. 96-482 (94 Stat. 2334), P.L. 98-616 (98 Stat. 3224), P.L. 99-339 (100 Stat. 654), P.L. 99-499 (100 Stat. 1696), P.L. 100-556 (102 Stat. 2779)
- Rivers and Harbors Act of 1899 (33 U.S.C. 401 *et. seq.*).
- Soil and Water Conservation Act (16 U.S.C. 2001).

IV. SCOPE

A. Mutual Responsibilities.

1. The parties will collaborate on matters relating to the conservation and management of natural resources on or affecting the lands administered by the USAF, such as fish and wildlife management projects, research activities, law enforcement, education and outreach programs, and other matters as may be relevant to natural resources conservation. An interdisciplinary, united approach shall be promoted by the parties to resolve problems relating to multiple use management of natural resources.

2. The parties shall cooperate in preparing and implementing Integrated Natural Resources Management Plans (INRMPs) in accordance with the Sikes Act, and in conducting natural resources conservation studies on lands under USAF control in support of the Endangered Species Act or to comply with the National Environmental Policy Act.

3. The USAF and Service agree that the involvement of each agency in this IAA shall not be used in any way by either agency to imply an endorsement of the other agency's actions. All advertising or other publicity regarding activities undertaken as part of this agreement, which mentions the participation of the other agency, shall first be approved for release by both agencies, and approval may be withheld for any reason sufficient to either agency. If either agency should appear to have violated this clause, the aggrieved agency may request the immediate cessation of those actions plus further action to effectively counteract any mistaken impressions in the public mind. If the violating agency fails to comply fully with the request, the aggrieved agency may unilaterally take any action it considers necessary to correct the mistaken impression and bill the other agency for the reasonable costs of that action. Failure to promptly pay those reasonable costs shall be treated as a dispute under the terms of this agreement.

4. Nothing in this IAA is intended to modify in any manner currently ongoing cooperative programs with other public agencies, conservation groups, or educational institutions, or modify any rights granted by treaty or otherwise to any Indian tribe or member thereof.

5. All data collected or generated as a result of this agreement will be shared between all parties involved and will remain the property of the United States of America.

6. The USAF and Service will conduct a joint annual review of this agreement.

B. United States Fish and Wildlife Service Responsibilities.

The Service shall, consistent with Service policy and within limitations of available funding provided by the USAF:

1. Establish a point of contact for this agreement in the Service Washington Office.

Chief, Division of Habitat and Resource Conservation
U.S. Fish and Wildlife Service
4401 N. Fairfax Drive
Arlington, VA 22203

2. Assign one or more Service employees to the AFCEE as liaison to the USAF. Duties for a Service liaison position will be as specified in a position description approved by the Service. Goals and objectives for Service employees supported by USAF shall be established in a statement of work approved jointly by the Service and AFCEE, and amended periodically by mutual agreement of both parties. Service liaison support may include, but is not limited to:

a. Support Air Force compliance with the Endangered Species Act, as specified in Title 16 U.S.C. § 1531-1544, by providing technical assistance for the conservation, protection and management of Service trust species. The Service liaison will work with the USAF to create a consolidated source of information on

Service trust species on USAF controlled properties. The incumbent will help disseminate information to USAF installations on upcoming proposed threatened and endangered species listings and critical habitat designations.

b. Support Air Force and Service compliance with the Sikes Act, as specified in Title 16 U.S.C. § 670a(a)(2), and in accordance with DoD and Service Sikes Act guidelines. The Service liaison shall provide technical and advisory assistance for the development and implementation of Integrated Natural Resources Management Plans (INRMPs) as required by the Sikes Act, and will help insure the synchronization of INRMPs with existing Service and State Wildlife Action Plans. The incumbent will help facilitate and track the required coordination and review of INRMPs with the appropriate Service Field Office and Regional Office Sikes Act Coordinator.

c. Advise Air Force installations of opportunities for cooperative conservation and natural resources management assistance available from Service offices. The Service liaison shall facilitate cooperative conservation partnerships between USAF installations and Service Regions, Ecological Services Field Offices, Fisheries Field Offices, and National Wildlife Refuges as appropriate. The incumbent may also assist with the implementation of INRMPs by coordinating the assistance of qualified Service experts in the fields of endangered species conservation, fish and wildlife management, and other natural resource management disciplines. Upon acceptance of USAF funds, the Service may facilitate reimbursable assistance to USAF from Service offices nationwide.

C. United States Air Force Responsibilities.

The USAF will, consistent with Department of Defense policy and within limitations of appropriations:

1. Provide a POC to administer and facilitate Service assistance for USAF natural resource program needs at the Air Force Center for Engineering and the Environment

Natural Resources Subject Matter Expert
AFCEE/TDN
2261 Hughes Avenue, Suite 155
Lackland AFB, TX 78236-9853

2. Reimburse the appropriate Service organization for costs incurred by the Service for support provided to USAF for the conservation and management of fish and wildlife resources. The USAF will reimburse the Service for the salary, employee benefits, travel, transfer of station, administrative overhead and other support costs for liaison positions with a duty station at the AFCEE. Funding for reimbursement of Service assistance will be provided by the USAF to the Service office providing the Services by means of a DD Form 448 *Military Interdepartmental Purchase Request* (MIPR). Each MIPR will reference the specific support provided and will reimburse the Service for the total cost of assistance.

Funds will be considered obligated upon the Service acceptance of the MIPR as Category I – Reimbursement.

3. Provide workspace, computer support, clerical support, security clearance and appropriate access privileges for Service employees permanently assigned or detailed to Air Force offices.

V. FINANCIAL ADMINISTRATION

A. Funding.

1. The USAF agrees to seek sufficient funds to support Service activities as identified in the agreed upon statement of work. The USAF will submit an annual request for funds through the Air Force budgetary process. Any requirement for payment or obligation of funds shall be subject to the availability of appropriated funds.

2. The USAF organization requesting assistance and the supporting Service office will review and approve a project budget prior to any Services being rendered. The Air Force will issue a MIPR to the supporting Service office for the estimated cost of assistance to be provided for a period not to exceed 18 months.

3. In accordance with 16 U.S.C. § 670c-1(b), funds obligated by the USAF and transmitted to the Service by MIPR, may be obligated to cover the cost of goods and Services specified in the associated program of work during an 18 month period, beginning in that fiscal year, without regard to whether the agreement crosses fiscal years. Funds for specific tasks that Service is unable to execute during the allowable period will be returned to the USAF.

B. Payments.

1. The Service office accepting a MIPR for reimbursable Services shall bill the USAF by means of an SF 1080 or, if available, via Intra-Governmental Payment and Collection system (IPAC), for any effort completed during the previous 90 days or less. Each billing statement will include the project title, project number and the applicable MIPR number. Payment requests will be submitted through the Defense Finance and Accounting Service (DFAS) office designated on the MIPR (Block 13).

2. Allowable costs under this IAA will include all direct and indirect costs incurred by the Service for work to be completed within the scope of this IAA. The Service will maintain a record of costs incurred.

a. The Service office performing reimbursable Services for USAF shall provide the USAF with cost documentation, as requested, which will reflect an annual reconciliation of costs and expenditures incurred by the Service for each task.

b. The Service indirect cost rate for this agreement will be the current and applicable Service overhead cost rate.

c. If there are any discrepancies regarding the reimbursable costs associated with this agreement, the Service and USAF will resolve any issues.

VI. MODIFICATIONS

Modifications to this IAA will be made in writing and signed by the parties prior to being incorporated. Correspondence between the parties may be considered part of this IAA when appropriate and countersigned by the receiver and returned to the sending party.

VII. TERMINATION

Each party may terminate its participation in this IAA at the end of any fiscal year, (1 October to 30 September), providing that written Notice of Termination is given by the terminating party to the non-terminating party. The Service will return any unused funds to USAF upon termination. The USAF will notify the Service at least 90 days in advance if funding to support salary and benefits of Service personnel will be terminated.

VIII. EFFECTIVE DATE

This inter-agency agreement becomes effective upon its execution by signature of authorized representatives from each cooperating agency. This IAA shall be valid until terminated in accordance with Section VII. This IAA may be modified, revised or renewed at any time, as agreed upon by the effected parties.

DANIEL M. ASHE (DATE)
Director 6-7-2012
U.S. Fish and Wildlife Service

TERRY G. EDWARDS, P.E., SES (DATE)
Director, Air Force Center for Engineering and the Environment

National Historic Preservation Act Consultation request from Air Force to U.S. Fish and Wildlife Service, Region 8: October 18, 2016

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA

OCT 18 2016

Lieutenant Colonel Michael A. Freeman
Commander
4430 Grissom Ave., Ste. 101
Nellis AFB NV 89191-6520

Mr. Paul Souza
U.S. Fish and Wildlife Service
Regional Director – Pacific Southwest (Region 8)
2800 Cottage Way
Sacramento, CA 95825

Subject: National Historic Preservation Act (NHPA) Section 106 Consultation Request; Nevada Test and Training Range (NTTR) Land Withdrawal at Nellis Air Force Base, Nevada

Dear: Mr. Souza,

The United States Air Force (USAF) is now preparing a Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Military Land Withdrawal. The Military Lands Withdrawal Act of 1999 (Public Law 106-65) withdrew 2,919,890 acres from the Department of Interior for use by the Department of Defense. The current withdrawal will expire in 2021. As a result, the USAF is working with the Department of the Interior (DoI) to support Congressional legislation to extend and possibly expand the current footprint of the NTTR to support military training and testing requirements.

In addition to extending the current existing land withdrawal, USAF alternatives being evaluated in the LEIS include 3 sub-alternatives that involve NTTR expansion by up to 301,507 acres. Options include withdrawing ~18,000 additional acres on the South side of the North Range, withdrawal of an additional ~57,000 acres on the South side of the NTTR South range, and withdrawal of ~227,000 acres of land overlapping the Desert National Wildlife Refuge (DNWR) to the East of the NTTR.

In furtherance of meeting requirements of Section 106 and other provisions of the National Historic Preservation Act (NHPA), the USAF has identified the USFWS as an appropriate NHPA consulting party to this action due to the nature of the proposal and the ownership/management of identified land areas. The USAF has also identified lands within Attachment 1 as the Area of Potential Effect, or APE, for the NTTR land withdrawal proposal.

The types of activities that are now taking place on existing withdrawn lands will not change under the withdrawal extension. The USAF has identified the general types of activities that may take place in the proposed withdrawal expansion area. New activities in proposed withdrawal expansion areas would include establishment of electronic emitter and radar sites, overland movement by small tactical teams of 10-12 military personnel, establishment of an airstrip, limited road and trail construction, fencing, and establishment of controlled access to ensure public safety during military operations. Specific locations for

these activities cannot be defined until after enactment of any withdrawal legislation. The USAF is not proposing any site-specific activities that would involve ground-disturbance at this time. Accordingly, the USAF is preparing a programmatic LEIS that will identify cultural resources within proposed withdrawal areas, and to the extent possible address impacts to those resources based on the types of activities that may occur in the future in these areas. Specific future activities on any withdrawn lands would be subject to the appropriate level of future NEPA review and associated supporting consultations at the time they are proposed. The Air Force anticipates completing a Programmatic Agreement (PA) to meet its Section 106 consultation requirements and, with this letter, invites the USFWS to participate as a consulting party in the formulation of the PA.

In accordance with Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR 800.1(c), the USAF initiated consultation with the Nevada State Historic Preservation Office (NVSHPO) in July 2016 for the NTTR military land withdrawal proposal. Nellis Air Force Base (NAFB) also initiated discussions with affiliated Native American tribes early in the planning process in order to take into account tribal concerns. With this letter, the USAF is also formally requesting the initiation of NHPA consultation with the US Fish and Wildlife Service for the NTTR military land withdrawal proposal given that the APE under consideration may impact your agency and cultural resource management programs.

Sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, that have an interest in the NTTR Land Withdrawal LEIS have been contacted and offered an opportunity to partner in cultural resource studies and participate as consulting parties. Tribes affiliated with NAFB include: the Benton Paiute Tribe, Fort Independence Paiute Tribe, Duckwater Shoshone Tribe, Timbisha Shoshone Tribe, Yomba Shoshone Tribe, Ely Shoshone Tribe, Big Pine Paiute Tribe, Lone Pine Paiute-Shoshone Tribe, Bishop Paiute Tribe, Fort Mojave Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Kaibab Band of Southern Paiutes, Las Vegas Paiute Tribe, Moapa Band of Paiutes, Pahrump Paiute Tribe, Paiute Indian Tribe of Utah (Tribes). The Air Force initiated discussions with these Tribes by visiting tribal offices and informally discussing the NTTR land withdrawal project in February/ March of 2015.

In November of 2015, the Air Force held a second informational meeting on NAFB, where the tribes were invited to comment on the project and provide feedback on issues important to them. As a result of this meeting, the tribes requested that four additional meetings be held at locations around Nevada and California that were more conveniently located for tribal members to attend. These meetings were held from April 25-29 at the Bishop Paiute Tribe Reservation, the Ely Shoshone Tribal Reservation, the Mojave Tribal Reservation, and at the Las Vegas Paiute Tribal Reservation. A government-to-government letter initiating formal consultations was sent to all sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, on June 22, 2016. In addition to these interactions, the tribes are providing input on special studies associated with the LEIS. The attached Cultural and Paleontological Survey Plan (Duke, 2016) was submitted to the NAFB affiliated tribes for review and input in March 2016. So far, the Tribes have not requested any modifications to the survey strategy.

As discussed, on 18 July 2016 the USAF initiated NHPA Section 106 consultation with the NVSHPO regarding this proposed action (copy of letter provided as Attachment 2); the Air Force held a discussion with the NVSHPO on 5 August 2016 to provide additional background information on the proposed project.

The Air Force plans to initiate a Cultural Resources Study within the proposed withdrawal expansion areas to identify and characterize resources that may be present. The Air Force has coordinated the survey plan with USFWS, and has updated the plan to include USFWS recommendations for Phase I cultural surveys in these areas. The USAF coordinated this plan with Mr. Anan Raymond (Regional Historic Preservation Officer for Regions 1 and 8) and Mr. Spencer Lodge Staff Archaeologist) in August 2016. USFWS input has been incorporated into the updated plan which has been provided back to these POCs and is available upon request. The plan will be supplemented by any previous studies in these areas and any available data

from the NVSHPO and partner agencies. All identified cultural resources 50 years or older will be recorded as part of the survey (including historical structures).

In support of NHPA consultation efforts for this undertaking the USAF seeks information from the USFWS on historic property sites and concerns within the area of potential effect, input on methods for data gathering, as well the USFWS' perceived historic property identification needs. The USAF also invites your comments regarding:

- Any outstanding cultural and/or tribal resources.
- The potential for irresolvable management conflicts, such as areas where it would be difficult or impossible to avoid, minimize, or mitigate impacts from future actions.
- Any other issues or concerns you request be considered during preparation of consultation documentation or the LEIS.

As the USAF develops the LEIS and works through the NHPA Section 106 consultation process with the NVSHPO, tribes, and other consulting parties, we look forward to the USFWS' contributions as we work collaboratively for the preservation of the historic resources entrusted to the stewardship of the USAF on the withdrawn NTTR lands.

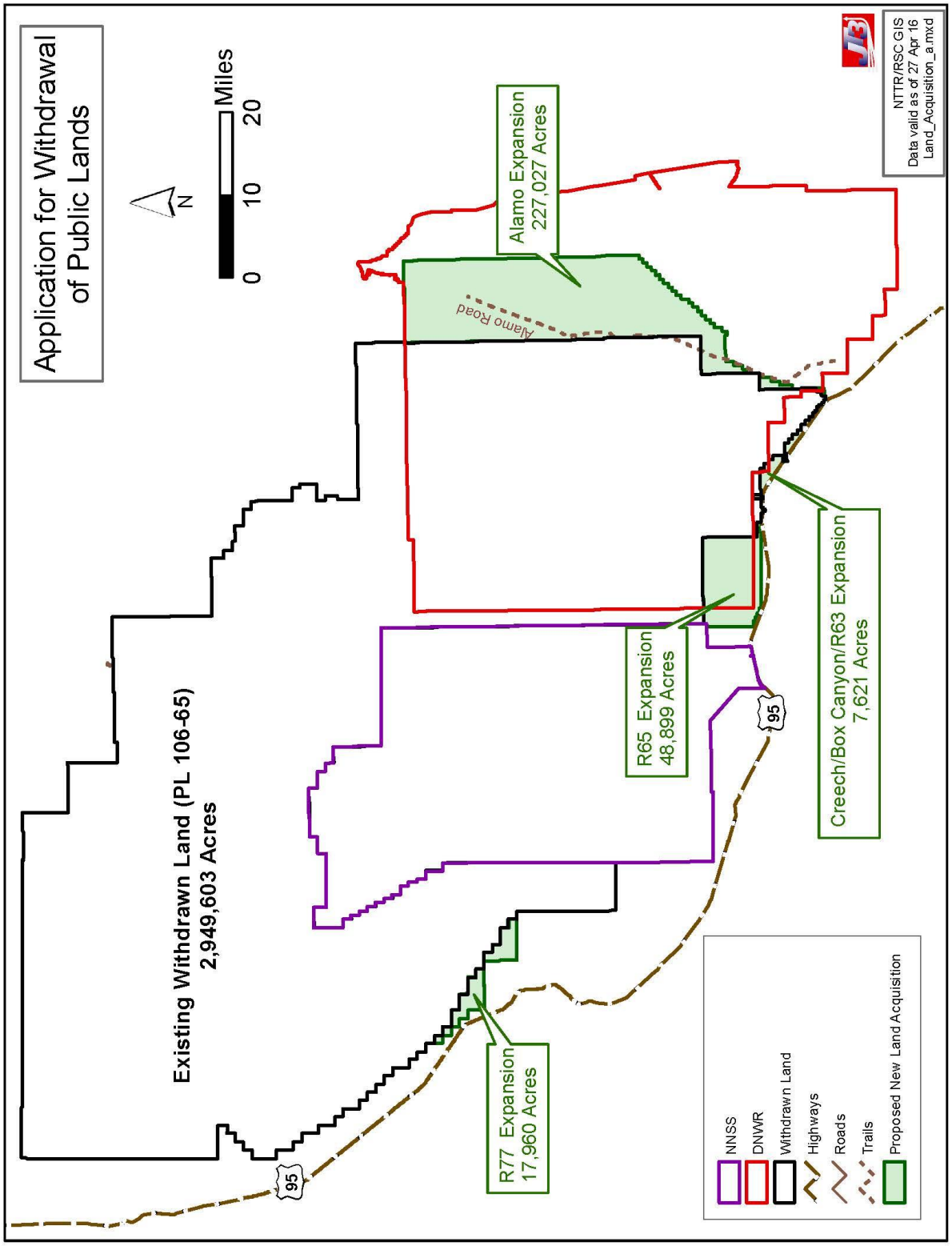
If you have any questions or comments regarding the information presented in this letter, please direct them to Ms. Kish Lapierre by e-mail at kish.lapierre@us.af.mil or by phone at (702) 652-5813. Thank you for your attention to this matter.

Sincerely,

Michael A. Freeman
Lieutenant Colonel, USAF
Commander

Cc:

Polly Wheeler, Assistant Regional Director for Refuges, Pacific SW Region
Christy Smith, Desert National Wildlife Refuge Complex
Anan Raymond, USFWS Cultural Resources Management
Spencer Lodge, USFWS Cultural Resources Management
Rebecca Palmer, NV State Historic Preservation Office



Enclosure 1 - Withdrawal Map

Enclosure 2

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

Lieutenant Colonel Michael A. Freeman
Commander
6020 Beale Ave.
Nellis AFB NV 89191

JUL 18 2016

Ms. Rebecca Palmer
State Historic Preservation Officer
State Historic Preservation Office
Department of Conservation and Natural Resources
901 South Stewart Street, Ste. 5004
Carson City NV 89701-5248

Dear Ms Palmer

The United States Air Force (USAF) is now preparing a *Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Land Withdrawal* extension and proposed expansion. Because the current NTTR land withdrawal (Attachment 1) will expire in 2021, the USAF seeks Congressional action to extend the currently withdrawn lands for the purpose of continuing the existing test and training activities. The USAF is also considering a proposal for Congress to expand lands withdrawn for the NTTR (Attachment 2) to provide additional security and safety while enhancing the functionality and capacity of the NTTR. The additional features associated with the proposed expansion are critical to meet increasing demands on the NTTR to satisfy national security requirements. Under this concept, the USAF proposes to expand the withdrawn lands associated with EC South on the west side of the range, 64C/D and 65D on the south side of the range and east of 62A/B, for a total of approximately 310,000 acres.

While Congress and the President ultimately make the decision with respect to legislative withdrawals such as this one, the USAF anticipates engaging in undertakings in the future, should the withdrawal be enacted. In addition, the proposed expansion would change the accessibility of these lands depending upon the alternative means of implementing these features as determined by Congress. Therefore, in accordance with Section 106 of the National Historic Preservation Act (NHPA) and 36 C.F.R. §800.1(c), the USAF seeks to consult with you early in the planning process in order to take into account any historic preservation concerns you may have as it formulates these undertakings.

The types of activities that are now taking place on existing withdrawn lands will not change under the withdrawal extension. While the USAF has identified the general types of activities that will take place in the proposed withdrawal expansion area, specific activities and their locations cannot be defined until after enactment of any withdrawal legislation. As a result, the USAF is preparing an LEIS which is programmatic in nature. The LEIS will identify cultural resources within proposed withdrawal areas, and to the extent possible address impacts to those

Enable Success Through Innovative Base Support

resources based on the types of activities that may occur in the future in these areas. Specific future activities would be subject to additional and appropriate NEPA analysis and NHPA consultation.

To develop the LEIS and meet NHPA obligations, the USAF would use existing cultural resource information for the current NTTR lands. It plans to initiate a Cultural Resources Study of 15,000 acres of land within the proposed withdrawal expansion areas to identify and characterize resources that may be present. Because the proposed expansion areas consist of over 300,000 acres and the results of the land withdrawal process may not be known until 2021, the Air Force has developed a draft plan to characterize cultural resources through a random-sample survey strategy in these areas. The plan will be supplemented by any previous studies in these areas and associated available data; all identified cultural resources 50 years or older will be recorded as part of the survey (including historical structures). This survey will also serve to supplement and test a successful probabilistic model developed for work conducted previously on the adjacent NTTR property. The USAF has included the proposed plan to address characterization of historic properties as Attachment 3 to this letter.

Sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, that have an interest in the NTTR Land Withdrawal LEIS have been contacted and offered an opportunity to partner in cultural resource studies and participate as consulting parties. Tribes affiliated with Nellis AFB (NAFB) include: the Benton Paiute Tribe, Fort Independence Paiute Tribe, Duckwater Shoshone Tribe, Timbisha Shoshone Tribe, Yomba Shoshone Tribe, Ely Shoshone Tribe, Big Pine Paiute Tribe, Lone Pine Paiute-Shoshone Tribe, Bishop Paiute Tribe, Fort Mojave Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Kaibab Band of Southern Paiutes, Las Vegas Paiute Tribe, Moapa Band of Paiutes, Pahrump Paiute Tribe, Paiute Indian Tribe of Utah (Tribes). The USAF initiated discussions with these Tribes by visiting tribal offices and informally discussing the NTTR land withdrawal project in February/March of 2015.

In November of 2015, the USAF held a second informational meeting on NAFB, where the tribes were invited to comment on the project and provide feedback on issues important to them. As a result of this meeting, the tribes requested that four additional meetings be held at locations around Nevada and California that were more conveniently located for tribal members to attend. These meetings were held from April 25-29 at the Bishop Paiute Tribe Reservation, the Ely Shoshone Tribal Reservation, the Mojave Tribal Reservation, and at the Las Vegas Paiute Tribal Reservation. A government-to-government letter initiating formal consultations to all seventeen federally recognized tribes was sent to all tribes on June 22, 2016. In addition to these interactions, the tribes are providing input on special studies associated with the LEIS. The attached Cultural and Paleontological Survey Plan (Duke, 2016) was submitted to the NAFB affiliated tribes for review and input in March 2016. So far, the Tribes have not requested any modifications to the survey strategy.

For consultation with your office, the USAF identifies the Area of Potential Effect as the extended and potentially expanded withdrawn NTTR lands. The USAF invites your comments regarding the following:

- Outstanding cultural and/or tribal resources.
- The potential for irresolvable management conflicts, such as areas where it would be difficult or impossible to avoid, minimize, or mitigate impacts from future actions.
- Any other issues or concerns you request be considered during preparation of the LEIS.

As the USAF develops the LEIS, it will continue consulting with you under Section 106 and provide the necessary information and determinations for established procedures under NHPA. We look forward to the NV SHPO's valuable contributions as we work collaboratively for the preservation of the historic resources entrusted to the stewardship of the USAF on the withdrawn NTTR lands.

If you have any questions or comments regarding the information presented in this letter, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

MICHAEL A. FREEMAN, Lt Col, USAF
Commander

Attachments:
1. Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas
2. Alternative 3A, 3B, and 3C Locations and Acreages
3. Cultural and Paleontological Survey Plan (Duke, 2016)

cc:
Mr. Michael Ackerman (AFCEC/CZN)
Mr. Skip Canfield (Nevada State Clearinghouse)

Cooperating Agency acceptance letter from the U.S. Fish and Wildlife Service: August 5, 2016

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Southwest Region
2800 Cottage Way, Suite W-2606
Sacramento, California 95825

In Response Reply To:
FWS/R8/

AUG 5 2016

Ms. Jennifer Miller
SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

Dear Ms. Miller:

The U.S. Fish and Wildlife Service (USFWS) will formally participate as a Cooperating Agency in the preparation of a Legislative Environmental Impact Statement (LEIS), as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) regulations, 40 CFR Part 1501.6.

The Air Force is the lead Agency in the preparation of the LEIS, and the USFWS as a Cooperating Agency agrees to:

1) Participate in the LEIS scoping, data gathering, analysis, and consultation processes;
2) Assuming responsibility, upon request, for developing information and preparing analyses on issues for which USFWS has special expertise; and
3) Provide staff support to enhance interdisciplinary review capability, correspondence, and/or surveys.

In addition, the USFWS names Christy Smith, Project Leader for the Desert National Wildlife Refuge Complex, to be the representative for the LEIS process described above.

Polly Wheeler
Assistant Regional Director
US Fish and Wildlife Service
Pacific Southwest Region

cc:
Jack Bush
Michael Ackerman

B.4 NEVADA DEPARTMENT OF WILDLIFE

Letter from Air Force requesting formal participation as Cooperating Agency: January 29, 2016

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

JAN 2 9 2016

OFFICE OF THE ASSISTANT SECRETARY

SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

Mr. Anthony Wasley
Director
Nevada Department of Wildlife
6980 Sierra Center Pkwy #120
Reno, NV 89511

Dear Mr. Wasley:

The Air Force is initiating its Land Withdrawal Renewal for the Nevada Test and Training Range (NTTR) and requests NDOW formal participation as a Cooperating Agency in the preparation of a Legislative Environmental Impact Statement (LEIS), as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, *Cooperating Agencies*.

The Air Force asks for your participation as a cooperating agency in preparation of the LEIS as generally outlined in the steps below. To address the specific responsibilities of the Air Force as Lead Agency and NDOW as Cooperating Agency, we also propose development of an Interagency Agreement, the context of which will be worked out between the Cooperating Agencies, subsequent to this request.

(1) Participating in the LEIS scoping, data gathering, analysis, and consultation processes;

(2) Assuming responsibility, upon request, for developing information and preparing analyses on issues for which NDOW has special expertise;

(3) Making NDOW staff support available to enhance interdisciplinary review capability, correspondence, and/or surveys; and

(4) Responding in writing to this request.

The Air Force requires the support of cooperating agencies be timely, to avoid unnecessary delays in the NEPA process. Should you or your staff have further questions regarding this memo, our point of contact is Mr. Jack Bush, HQ USAF/A4CI, at (703) 614-0237 or jack.bush@pentagon.af.mil.

Sincerely,

Jennifer L Miller

JENNIFER MILLER
Deputy Assistant Secretary of the Air Force
(Installations)

cc:
AF/A30/A4C/TE
HQ ACC/AFMC/CV
Brad Hardenbrook, NDOW Southern Region

Cooperating Agency acceptance letter: March 17, 2016

BRIAN SANDOVAL
Governor

STATE OF NEVADA
DEPARTMENT OF WILDLIFE
6980 Sierra Center Parkway, Suite 120
Reno, Nevada 89511
Phone (775) 688-1500 • Fax (775) 688-1495

TONY WASLEY
Director
LIZ O'BRIEN
Deputy Director
JACK ROBB
Deputy Director

Thursday, March 17, 2016

Mr. Jack Bush
HQ USAF/A4CI
1665 Air Force Pentagon
Washington, DC 20330-1665

Dear Mr. Bush:

The Nevada Department of Wildlife (NDOW) received a formal request from the United States Air Force to participate as a Cooperating Agency on the Nevada Test and Training Range (NTTR) Legislative Environmental Impact Statement (LEIS). This letter is a brief response to that request to inform you that we would like to be a Cooperator.

As you may know, NDOW staff have been participating in meetings since late last year to assist in identifying wildlife resource issues and related recommendations that might be incorporated into the NTTR LEIS. Our staff will continue to participate as needed and available to assure that important wildlife resources are managed in ways that, hopefully, are compatible for both NDOW and NTTR missions.

Sincerely,

For Tony Wasley

cc:
John Tull, NDOW Wildlife Staff Specialist

B.5 NYE COUNTY BOARD OF COMMISSIONERS

Letter to Air Force requesting Cooperating Agency status: December 20, 2016

Pahrump Office
Nye County Government Center
2100 E. Walt Williams Drive
Suite 100
Pahrump, NV 89048
Phone (775) 751-7075
Fax (775) 751-7093

Board of County Commissioners
Nye County, Nevada

Tonopah Office
Nye County Courthouse
William P. Beko Justice Facility
PO Box 153
Tonopah, NV 89049
Phone (775) 482-8191
Fax (775) 482-8198

December 20, 2016

99th Air Base Wing Public Affairs, 4430
Grissom Ave., Ste. 107, Nellis AFB, NV
89191 or by email at
99ABW.PAOutreach@us.af.mil.

John Ruhs
Nevada State Director, Bureau of Land Management
BLM Nevada State Office
1340 Financial Blvd.,
Reno, NV 89502
E-mail: Jruhs@blm.gov

Tom Seley
Project Manager, BLM Southern
Nevada District Office, 4701 North
Torrey Pines Drive, Las Vegas, NV,
89130–2301
email: tseley@blm.gov

Subject: Request to become Cooperating Agency for the Nevada Test and Training Range Military Land Withdrawal at Nellis Air Force Base, Nevada (August 25, 2016). 81 Fed. Reg. 60727; 81 Fed. Reg. 58496.

To Whom It May Concern:

Nye County formally requests participation as a Cooperating Agency in the Nellis Air Force Base Military Land Withdrawal process. Nye County is a local government that may serve as a Cooperating Agency either under jurisdiction by law or special expertise. 40 CFR 1508.5 (CEQ); 40 CFR 1501.6 and 1508.5; 40 CFR 1508.26.

A County has jurisdiction by law over any land within the County's borders. 40 CFR 1508.15. Counties also have "special expertise" with respect to the several environmental impacts that will result from a land withdrawal. 40 CFR 1508.26. Special expertise means statutory responsibility, agency mission, or related program experience, which emphasizes the "relevant capabilities or knowledge" that a local government entity has with respect to reasonable alternatives or any significant environmental, social, or economic impacts associated with a proposed action. 40 CFR 1501.6.

16-0221FC Nye County is an Equal Opportunity Employer and Provider

Counties possess special expertise for policies or programs affecting the condition and use of public lands, or on the environmental, social, or economic impacts of a proposal and specialized local data and information. 43 CFR 1610.3-1, 3-2; BLM Desk Guide at 9.

Nye County qualifies as government possessing expertise (1) relevant to Withdrawing from Mineral Entry areas designated as SFAs; and (2) contains program focus and staff capabilities to help raise concerns, collaborate, and provide relevant analyses.

Nye County understands the importance of our potential role to: Arrange for the collection and/or assembly of necessary resource, environmental, social, economic, and institutional data; Analyze data; Develop alternatives; or carry out other tasks necessary for the development of the environmental analysis and documentation. 40 CFR 1501.6; 43 CFR 46.230.

Should you decide to grant this request, Nye County is happy to help assist entering into a Memorandum of Understanding to establish Cooperating Agency status in the planning and NEPA processes so that we may work together under the terms of the agreement. 43 CFR 46.225(d),(e). As part of its MOU, Nye County requests to designate the Nevada Association of Counties ("NACO") as its representative. Other Agencies, such as the Bureau of Land Management, have recognized that as an intergovernmental organization, the Nevada Association of Counties may be offered as a representative of a County in the Cooperating Agency MOU. BLM Desk Guide at 23-24; BLM Desk Guide at 9; 40 CFR 1508.2. The BLM's opinion is "An intergovernmental organization may represent one or more CAs, provided that all agencies to be represented are members of that organization and all have formally authorized it to act on their behalf. Such authorizations should be identified in the MOU."

If you find it is inappropriate to extend an invitation, we look forward to hearing your response and reasons in the EIS. 40 CFR 1501.6(c).

Sincerely,

Frank Carbone, Chairman

FC/

16-0221FC Nye County is an Equal Opportunity Employer and Provider

E-mail response from Air Force: January 4, 2017

From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN
To: jreeves@co.nye.nv.us
Cc: GREENE, LEA M GS-12 USAF ACC 99 ABW/PA; 99 ABW/PA (Outreach)
Subject: FW: NTTR//Nye County Request to Become Cooperating Agency
Date: Wednesday, January 04, 2017 1:21:39 PM
Attachments: 16-0221FC.pdf

Hello Ms. Reeves,
We received Nye Counties request to become a cooperating agency sent on 20 Dec (see attached letter). On 8 December the Air Force spoke with the NV State clearinghouse and other members of the State, County, and local NV planning community. Shortly following that meeting we discussed making the NV Association of Counties (NV NACO) a Cooperating Agency on the Nevada Test and Training Range (NTTR) Military Land Withdrawal and its associated Legislative Environmental Impact Statement (LEIS) to represent NV County planning concerns through the planning process. We are working the request at this time to set up an effective structure to engage with Nye County and other potentially effected Counties, as we move forward with planning.

Thank you for your letter and please feel free to share any information or planning concerns with us as we move the LEIS process forward.

Sincerely,

Mike Ackerman

Air Force Civil Engineer Center
NEPA Division (AFCEC/CZN)
(210) 925-2741, DSN 945-2741

-----Original Message-----
From: Jaynee Reeves [mailto:jreeves@co.nye.nv.us]
Sent: Wednesday, December 21, 2016 11:26 AM
To: 99 ABW/PA (Outreach) <99ABW.PAOutreach@us.af.mil>
Subject: FW: Nye County Request to Become Cooperating Agency

Hello,

Please see attached letter from Nye County Chairman Frank Carbone, Board of County Commissioners. Should you have any questions please feel free to contact me. Thank you.

Jaynee Reeves

Administrative Secretary

Letter from Air Force to Nye County Board of Commissioners: March 31, 2017

DEPARTMENT OF THE AIR FORCE
AIR FORCE CIVIL ENGINEER CENTER
JOINT BASE SAN ANTONIO LACKLAND TEXAS

AFCEC/CZN
2261 Hughes Ave., Ste. 155
JBSA Lackland, TX 78236-9853

31 March, 2017

Mr. Frank Carbone
Chairman, Nye County Board of County Commissioners
2100 E. Walt Williams Drive
Suite 100
Pahrump, NV 89048

Re: Nevada Test and Training Range (NTTR) Legislative Environmental Impact Statement (LEI) Public Scoping Letter – Request for Cooperating Agency Status.

Dear Mr. Carbone,

The U.S. Air Force (USAF) appreciates the input provided by the Nye County Board of Commissioners on 9 December 2016 regarding the NTTR LEIS. Although the USAF does not typically respond directly to public scoping comments, we believe a response is merited regarding your request for cooperating agency status.

After your 9 December 2016 letter was submitted, the USAF met with Nye County representatives, held discussions with other effected Counties, and participated in a teleconference with the Nevada Association of Counties (NVNACO). Through these interactions, the USAF has agreed to establish a cooperating agency relationship with NVNACO, as a central focal point for interaction with Counties potentially affected by the NTTR land withdrawal proposal as opposed to becoming a cooperating agency with each individual County. This will provide an equal opportunity for information sharing across all potentially affected Counties and ensure that the USAF receives the collective benefit of County planning expertise in the development of the NTTR LEIS. The Air Force looks forward to working with Nye County and NVNACO in sharing information and getting early feedback on the USAF NTTR land withdrawal proposal.

With respect to requests to extend the public scoping period, the Air Force did not extend the public scoping period, but does welcome any new information or comments from Nye County that may assist in the preparation and development of the NTTR LEIS.

As previously mentioned, we appreciate your comments and felt it was important to reply to your request regarding cooperating agency status. We welcome any input or information that you wish to share with us on the NTTR land withdrawal proposal.

If you have any questions, please do not hesitate to contact me at (210) 925-2741; michael.ackerman.2@us.af.mil

Sincerely,

Michael Ackerman
Program Manager
NEPA Division (AFCEC/CZN)

B.6 NEVADA ASSOCIATION OF COUNTIES

Cooperating Agency acceptance letter: June 2, 2017

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

OFFICE OF THE ASSISTANT SECRETARY

SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

JUN 0 2 2017

Mr. Jeffrey Fontaine
Executive Director
Nevada Association of Counties
304 S. Minnesota Street
Carson City, NV 89703

Dear Mr. Fontaine,

The Air Force accepts the Nevada Association of Counties's (NACO) request to become a Cooperating Agency (CA) in the continuing planning efforts for the Nevada Test and Training Range military land withdrawal and its preparation of a Legislative Environmental Impact Statement (LEIS), as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, *Cooperating Agencies*.

In accepting the NACO's request, the Air Force asks that NACO participate in preparation of the LEIS, as generally outlined below:

(1) Participate in the LEIS data gathering, analysis, and consultation processes;
(2) Assume responsibility, upon request, for developing information and preparing analyses on issues for which NACO has special expertise;
(3) Make NACO staff support available to enhance interdisciplinary review capability, correspondence, and/or surveys; and
(4) Protect "deliberative process" information from public dissemination and recognize that Air Force retains sole authority for authorizing public release of LEIS information.
(5) Respond in writing to this letter with name(s) and contact information for NACO's CA representative(s).

The Air Force requires the support of cooperating agencies be timely, to avoid unnecssary delays in the NEPA process. Should you or your staff have further questions regarding this response, our point of contact is Mr. Jack Bush, HQ USAF/A4CI, at (703) 614-0237 or jack.bush@pentagon.af.mil.

Sincerely,

Jennifer L Miller

JENNIFER L. MILLER
Deputy Assistant Secretary of the Air Force
(Installations)

BREAKING BARRIERS...SINCE 1947

Letter from Nevada Association of Counties to Air Force: June 7, 2017

Nevada Association of Counties
304 South Minnesota Street
Carson, City, NV 89703
775-883-7863
www.nvnaco.org

June 7, 2017

SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

Re: Nevada Association of Counties acceptance as a Cooperating Agency for the planning efforts of the Nevada Test and Training Range military land withdrawal and LEIS project.

Dear Jennifer Miller,

In accord with the Air Force's acceptance of the Nevada Association of Counties (NACO) to become a Cooperating Agency (CA) in the planning efforts for the Nevada Test and Training Range military withdrawal and preparation of the Legislative Environmental Impact Statement (LEIS), NACO hereby accepts the responsibilities and obligations previously outlined and requested by the Air Force in preparation of the LEIS.

As a Cooperating Agency assisting with the LEIS for the President's Council on Environmental Quality (CEQ) and the National Environmental Policy Act (NEPA), NACO agrees to the following LEIS preparation measures:

- Participation efforts in gathering data, necessary analysis, and consultation processes that are essential to the LEIS preparation.
- NACO will assume responsibility, upon request, for the development and preparation of information on issues that NACO has special expertise.
- NACO support staff will be available for processes to enhance interdisciplinary review capabilities, correspondence, and surveys.
- NACO will protect "deliberative Process" information from public dissemination and recognizes that the Air Force will retain sole authority for authorizing public release of LEIS information and materials.

NACO fully understands the importance of timely communication and is committed to assisting effectively and efficiently. To this end, NACO's CA representatives that will be assisting in

LEIS preparation and planning are to include: Tori Sundheim, Public Lands and Natural Resources Coordinator, at tsundheim@nvnaco.org; Jeff Fontaine, Executive Director, at jfontaine@nvnaco.org; and Amanda Evans, Office Manager, at www.nvnaco.org. All contacts may be reached by their email addresses or by telephone at (775) 883-7863.

Thank you for accepting NACO's request to become a Cooperating Agency. NACO looks forward to continued support and cooperation with the Air Force throughout the processes needed to see through planning efforts and the LEIS preparation.

Respectfully,

Jeffrey Fontaine
Executive Director

Jf/ja
Cc: file

B.7 NEVADA STATE HISTORIC PRESERVATION OFFICE

Letter from Air Force to SHPO notification of random sample surveys: April 14, 2016

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

Lt Col Michael A. Freeman
Commander
99 Civil Engineer Squadron
6020 Beale Ave.
Nellis AFB NV 89191

APR 14 2016

Ms. Rebecca Palmer
State Historic Preservation Officer
State Historic Preservation Office
Department of Conservation and Natural Resources
901 South Stewart Street, Ste. 5004
Carson City NV 89701-5248

Subject: Cultural & Paleontological Resources Survey Plan (Draft) (#02-2016-NTTR)

Dear Ms. Palmer

Nellis Air Force Base (NAFB) is forwarding this letter in compliance with 36CFR800. This letter is to notify the State Historic Preservation Office (SHPO) of NAFB plans to conduct random sample surveys of 14,000 acres plus 1,000 non-random surveys on proposed expansion lands that total approximately 300,000 acres. These lands under consideration are currently managed by US Fish & Wildlife Service (USFWS) and Bureau of Land Management (BLM) and could become part of the Nevada Test and Training Range (NTTR) footprint. Descriptions of this proposal and methods for study are further outlined in the attached Draft Cultural & Paleontological Resources Survey Plan dated 5 Apr 2016.

We ask your office to review the survey plan and provide comment. Tribal notification has consisted of forwarding copies of this letter and the attachment to NAFB affiliated Tribal offices. A consultation introduction with the Tribes took place in November 2015 at the Annual Leadership Meeting in Las Vegas, Nevada.

Should you or your staff have any questions about the project, please contact our tribal liaison/archaeologist, Ms. Kish La Pierre, 99 CES/CEIEA, at (702) 682-5813 or at kish.lapierre@us.af.mil.

Sincerely

MICHAEL A. FREEMAN, Lt. Col., USAF
Commander

Attachment:
Cultural & Paleontological Resources Survey Plan (Draft) (#02-2016-NTTR)) (1 hardcopy & 1 DVD)

Enable Success Through Innovative Base Support

cc:
Katherine R. Kerr Advisory Council on Historic Preservation (ACHP)
Danelle Gutierrez, Tribal Historic Preservation Officer, Big Pine Paiute Tribe
Raymond Andrews, Tribal Historic Preservation Officer, Bishop Paiute-Shoshone Tribe
Billie G. Saulque, Chairperson, Benton Utu Utu Gwaitu Paiute Tribe
Stephanie Arman, Tribal Historic Preservation Officer, Fort Independence Paiute Tribe
Barbara Durham, Tribal Historic Preservation Officer, Timbisha Shoshone Tribe
Janice Aten, Environmental Director, Lone Pine Paiute-Shoshone Reservation
Perline Thompson, Chairperson, Duckwater Shoshone Tribe
Wayne Dyer, Chairperson, Yomba Shoshone Tribe
Alvin Marques, Chairperson, Ely Shoshone Tribe
Charles Wood, Chairperson, Chemehuevi Indian Tribe
Roland Maldonado, Chairperson, Kaibab Band of Southern Paiutes
Benny Tso, Chairperson, Las Vegas Paiute Tribe
Robert Tom, Chairperson, Moapa Band of Paiutes
Richard Arnold, Native American Coordinator NAFB, Pahrump Paiute Tribe
Corrina Bow, Chairperson, Paiute Indian Tribes of Utah
Dennis Patch, Chairperson, Colorado River Indian Tribes
Timothy Williams, Chairperson, Ft. Mojave Tribe

Letter from Air Force to SHPO regarding project notification: July 18, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

Lieutenant Colonel Michael A. Freeman
Commander
6020 Beale Ave.
Nellis AFB NV 89191

JUL 18 2016

Ms. Rebecca Palmer
State Historic Preservation Officer
State Historic Preservation Office
Department of Conservation and Natural Resources
901 South Stewart Street, Ste. 5004
Carson City NV 89701-5248

Dear Ms Palmer

The United States Air Force (USAF) is now preparing a *Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Land Withdrawal* extension and proposed expansion. Because the current NTTR land withdrawal (Attachment 1) will expire in 2021, the USAF seeks Congressional action to extend the currently withdrawn lands for the purpose of continuing the existing test and training activities. The USAF is also considering a proposal for Congress to expand lands withdrawn for the NTTR (Attachment 2) to provide additional security and safety while enhancing the functionality and capacity of the NTTR. The additional features associated with the proposed expansion are critical to meet increasing demands on the NTTR to satisfy national security requirements. Under this concept, the USAF proposes to expand the withdrawn lands associated with EC South on the west side of the range, 64C/D and 65D on the south side of the range and east of 62A/B, for a total of approximately 310,000 acres.

While Congress and the President ultimately make the decision with respect to legislative withdrawals such as this one, the USAF anticipates engaging in undertakings in the future, should the withdrawal be enacted. In addition, the proposed expansion would change the accessibility of these lands depending upon the alternative means of implementing these features as determined by Congress. Therefore, in accordance with Section 106 of the National Historic Preservation Act (NHPA) and 36 C.F.R. §800.1(c), the USAF seeks to consult with you early in the planning process in order to take into account any historic preservation concerns you may have as it formulates these undertakings.

The types of activities that are now taking place on existing withdrawn lands will not change under the withdrawal extension. While the USAF has identified the general types of activities that will take place in the proposed withdrawal expansion area, specific activities and their locations cannot be defined until after enactment of any withdrawal legislation. As a result, the USAF is preparing an LEIS which is programmatic in nature. The LEIS will identify cultural resources within proposed withdrawal areas, and to the extent possible address impacts to those

Enable Success Through Innovative Base Support

resources based on the types of activities that may occur in the future in these areas. Specific future activities would be subject to additional and appropriate NEPA analysis and NHPA consultation.

To develop the LEIS and meet NHPA obligations, the USAF would use existing cultural resource information for the current NTTR lands. It plans to initiate a Cultural Resources Study of 15,000 acres of land within the proposed withdrawal expansion areas to identify and characterize resources that may be present. Because the proposed expansion areas consist of over 300,000 acres and the results of the land withdrawal process may not be known until 2021, the Air Force has developed a draft plan to characterize cultural resources through a random-sample survey strategy in these areas. The plan will be supplemented by any previous studies in these areas and associated available data; all identified cultural resources 50 years or older will be recorded as part of the survey (including historical structures). This survey will also serve to supplement and test a successful probabilistic model developed for work conducted previously on the adjacent NTTR property. The USAF has included the proposed plan to address characterization of historic properties as Attachment 3 to this letter.

Sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, that have an interest in the NTTR Land Withdrawal LEIS have been contacted and offered an opportunity to partner in cultural resource studies and participate as consulting parties. Tribes affiliated with Nellis AFB (NAFB) include: the Benton Paiute Tribe, Fort Independence Paiute Tribe, Duckwater Shoshone Tribe, Timbisha Shoshone Tribe, Yomba Shoshone Tribe, Ely Shoshone Tribe, Big Pine Paiute Tribe, Lone Pine Paiute-Shoshone Tribe, Bishop Paiute Tribe, Fort Mojave Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Kaibab Band of Southern Paiutes, Las Vegas Paiute Tribe, Moapa Band of Paiutes, Pahrump Paiute Tribe, Paiute Indian Tribe of Utah (Tribes). The USAF initiated discussions with these Tribes by visiting tribal offices and informally discussing the NTTR land withdrawal project in February/March of 2015.

In November of 2015, the USAF held a second informational meeting on NAFB, where the tribes were invited to comment on the project and provide feedback on issues important to them. As a result of this meeting, the tribes requested that four additional meetings be held at locations around Nevada and California that were more conveniently located for tribal members to attend. These meetings were held from April 25-29 at the Bishop Paiute Tribe Reservation, the Ely Shoshone Tribal Reservation, the Mojave Tribal Reservation, and at the Las Vegas Paiute Tribal Reservation. A government-to-government letter initiating formal consultations to all seventeen federally recognized tribes was sent to all tribes on June 22, 2016. In addition to these interactions, the tribes are providing input on special studies associated with the LEIS. The attached Cultural and Paleontological Survey Plan (Duke, 2016) was submitted to the NAFB affiliated tribes for review and input in March 2016. So far, the Tribes have not requested any modifications to the survey strategy.

For consultation with your office, the USAF identifies the Area of Potential Effect as the extended and potentially expanded withdrawn NTTR lands. The USAF invites your comments regarding the following:

- Outstanding cultural and/or tribal resources.
- The potential for irresolvable management conflicts, such as areas where it would be difficult or impossible to avoid, minimize, or mitigate impacts from future actions.
- Any other issues or concerns you request be considered during preparation of the LEIS.

As the USAF develops the LEIS, it will continue consulting with you under Section 106 and provide the necessary information and determinations for established procedures under NHPA. We look forward to the NV SHPO's valuable contributions as we work collaboratively for the preservation of the historic resources entrusted to the stewardship of the USAF on the withdrawn NTTR lands.

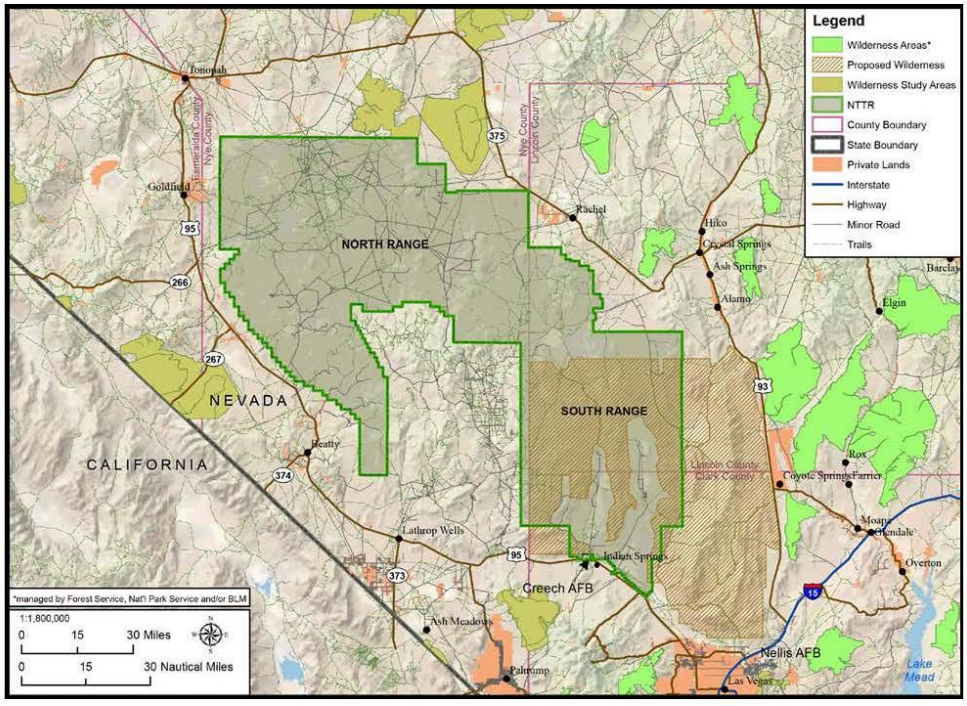
If you have any questions or comments regarding the information presented in this letter, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

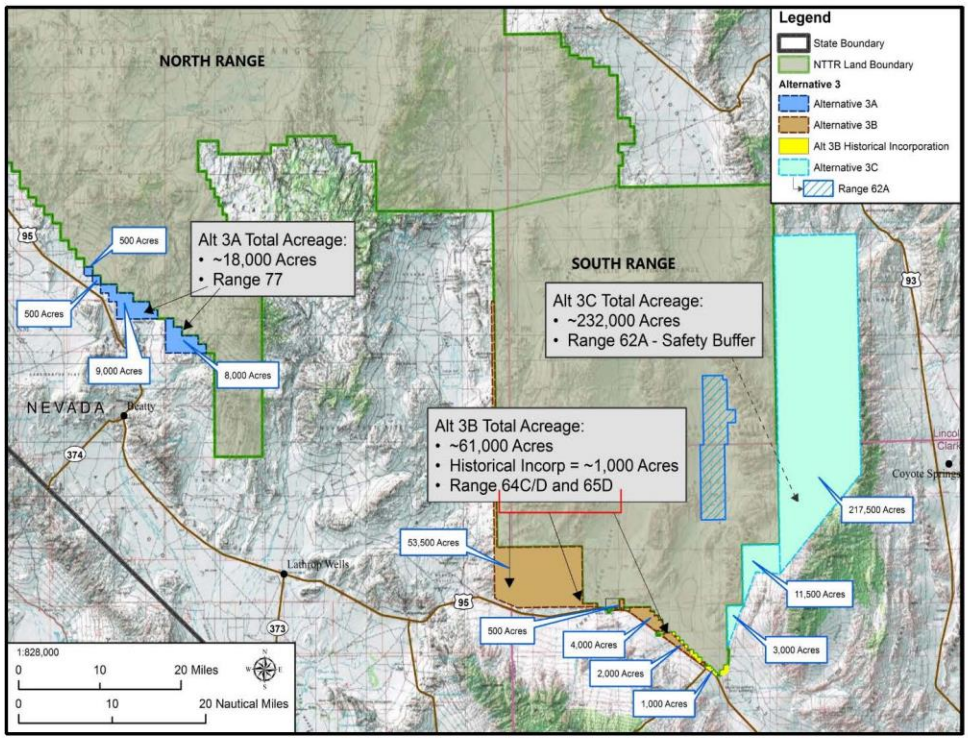
MICHAEL A. FREEMAN, Lt Col, USAF
Commander

Attachments:
1. Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas
2. Alternative 3A, 3B, and 3C Locations and Acreages
3. Cultural and Paleontological Survey Plan (Duke, 2016)

cc:
Mr. Michael Ackerman (AFCEC/CZN)
Mr. Skip Canfield (Nevada State Clearinghouse)



Attachment 1 - Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas



Attachment 2 - Alternative 3A, 3B, and 3C Locations and Acreages

Letter from Advisory Council on Historic Preservation to Air Force and SHPO regarding project notification: August 17, 2016

Preserving America's Heritage

August 17, 2016

Lieutenant Colonel Michael A. Freeman
Commander
99th Civil Engineer Squadron
6020 Beale Avenue
Nellis Air Force Base, NV 89191

Ms. Rebecca Palmer
State Historic Preservation Officer
Historic Preservation Office
901 S. Stewart Street
Suite 5004
Carson City, NV 89701-4285

REF: Nevada Test and Training Area Land Withdrawal by Nellis Air Force Base
Clark, Lincoln, and Nye County, Nevada
ACHPConnect Log Number: 010399

Dear Lt Col Freeman and Ms. Palmer:

The Advisory Council on Historic Preservation (ACHP) understands that the Military Lands Withdrawal Act of 1999 (Public Law 106-65) withdrew 2,919,890 acres from the Department of Interior (DOI) for military use in the State of Nevada, primarily for use within the Nevada Test and Training Range (NTTR). The Department of the Air Force intends to submit, in accordance with the Federal Land Policy Management Act (FLPMA), a Land Withdrawal Case File renewal request to continue the withdrawal, and a separate Land Withdrawal Case File for a request to withdraw 300,000 additional acres by November 2018. We have been asked whether the act of land withdrawal itself constitutes an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA). The ACHP has been consistent in stating that the transfer of property from one federal agency to another federal agency is not an undertaking subject to Section 106, because a federal agency still has responsibilities under Sections 106 and 110 of the NHPA for the land it controls. However, how a federal agency plans to utilize the land once transferred may be subject to Section 106 review.

We are aware that the 99th Civil Engineer Squadron (99CES), with support from the Air Force Civil Engineer Center's National Environmental Policy Act Center (AFCEC/NEPA Center), is preparing a Legislative Environmental Impact Statement (LEIS) to be included in the recommendation to Congress on the withdrawal proposal. A LEIS does not require a Record of Decision, as the decision on whether or not to approve the Land Withdrawal Case Files is made by Congress. However, we believe it is in the best interest of the 99CES to be considering effects to historic properties for the proposed use of the land proposed for withdrawal as early is possible in the process.

ADVISORY COUNCIL ON HISTORIC PRESERVATION
401 F Street NW, Suite 308 • Washington, DC 20001-2637
Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov

On July 26, 2016, the ACHP received a copy of the correspondence the 99CES sent to the Nevada State Historic Preservation Office (SHPO) for the extension and proposed expansion of the withdrawal, and the initiation of the Section 106 process. We applaud this proactive outreach to the SHPO, even though they do not have a regulatory role in the development of the LEIS. As the ACHP is assisting both the SHPO and the 99CES in improving its working relationship under Section 106, we wish to provide both parties with the following initial suggestions and recommendations as this discussion continues:

- The undertaking should be clearly defined as the *consideration* of the use of acquired withdrawal land for the purposes of meeting the mission of the NTTR. This means that the 99CES focuses consultation on the mission of the NTTR, how the newly acquired land could assist that mission, and how historic properties may be affected by mission activities on the land.

- The Section 106 regulations do not require a federal agency to identify every single historic property within an Area of Potential Effects (APE), but to make a "reasonable and good faith effort" to identify historic properties. A strategy to survey a sample of the proposed withdrawal land should be developed in consultation with the SHPO, federally recognized Indian tribes, and other applicable federal agencies (it is our understanding this includes the Bureau of Land Management (BLM) and the United States Fish and Wildlife Service (USFWS) currently managing the land) to identify historic properties. It is recommended that the 99CES should first complete a grey literature search of survey work completed by the BLM and the USFWS for the proposed withdrawal land and using that as a base line for a new survey.

- The 99CES has presented a draft Cultural Resources Study (CRS) to the SHPO for review and comment. The current draft CRS is intended to characterize cultural resources through a random-sample survey strategy.

    - After completing the grey literature search, the 99CES should update the CRS accordingly to meet the goal of a phased approach to the identification of historic properties within the proposed withdrawal land.

    - This phased approach should include a model for the initial survey and define a process for continuing the identification effort within areas of the proposed withdrawal land once designated for NTTR mission use.

    - The CRS should include a time frame for when the survey work will be completed and when consulting parties will be given the opportunity to review the findings.

- Once the 99CES and the SHPO have a working knowledge of the range of potential historic properties within the proposed withdrawal land, and before you begin to assess effects of the proposed undertaking, we would appreciate an update on the status of the consultation and survey results.

Should you have any questions regarding our recommendations or require additional assistance, please contact Ms. Katharine R. Kerr at (202) 517-0216 or by e-mail at kkerr@achp.gov and reference the ACHPConnect Log Number.

Sincerely,

Brian Lusher for

Tom McCulloch, Ph.D., R.P.A.
Assistant Director
Office of Federal Agency Programs
Federal Property Management Section

B.8 NEVADA STATE CLEARINGHOUSE

Notification of preparation of LEIS from State Clearinghouse to State Agencies: July 25, 2016

From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN
To: McLaurine, Henry C.; Akstulewicz, Kevin D.
Cc: Sands, Amy L.
Subject: FW: Nevada State Clearinghouse Notice E2017-006 (LEIS - NTTR Land Withdrawal Extension and Expansion)
Date: Tuesday, July 26, 2016 1:55:21 PM

Gentlemen,
FYSA for the project record. The state clearinghouse notified state agencies on the NTTR proposal.

See below.

-Mike

Mike Ackerman
Air Force Civil Engineer Center
NEPA Division (AFCEC/CZN)
(210) 925-2741, DSN 945-2741

-----Original Message-----
From: HOPPER, ELOISA V CIV USAF ACC 99 CES/CEI
Sent: Tuesday, July 26, 2016 11:03 AM
To: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN [redacted]
Cc: LAPIERRE, KISH D GS-12 USAF ACC 99 CES/CEIEA <[redacted]>; KIRKWOOD, JEFFREY L GS-12 USAF ACC 99 CES/CEIEA [redacted]
Subject: FW: Nevada State Clearinghouse Notice E2017-006 (LEIS - NTTR Land Withdrawal Extension and Expansion)

Mike,

FYSA.

VR, Loi

-----Original Message-----
From: [redacted]
Sent: Monday, July 25, 2016 2:31 PM
To: [redacted]

[redacted]

Subject: Nevada State Clearinghouse Notice E2017-006 (LEIS - NTTR Land Withdrawal Extension and Expansion)

<http://lands.nv.gov/graphic/state_seal.jpg> NEVADA STATE CLEARINGHOUSE
Department of Conservation and Natural Resources, Division of State Lands
901 S. Stewart St., Ste. 5003, Carson City, Nevada 89701-5246
(775) 684-2723 Fax (775) 684-2721

TRANSMISSION DATE: 07/25/2016

U.S. Air Force

Nevada State Clearinghouse Notice E2017-006
Project: LEIS - NTTR Land Withdrawal Extension and Expansion

Follow the link below to find information concerning the above-mentioned project
for your review and comment.
E2017-006 <http://clearinghouse.nv.gov/public/Notice/2017/E2017-006.pdf> -
http://clearinghouse.nv.gov/public/Notice/2017/E2017-006.pdf

* Please evaluate this project's effects on your agency's plans and programs and any other issues that you are aware of that might be pertinent to applicable laws and regulations.

* Please reply directly from this e-mail and attach your comments.

* Please submit your comments no later than Thursday August 25th, 2016.

Clearinghouse project archive <http://clearinghouse.nv.gov>

Questions? Skip Canfield, Program Manager, (775) 684-2723 or nevadaclearinghouse@lands.nv.gov
<mailto:nevadaclearinghouse@lands.nv.gov>

____No comment on this project ____Proposal supported as written

AGENCY COMMENTS:

Signature:

Date:

_____

Requested By:

_____

Distribution:
- 99ABW Nellis
- Division of Emergency Management
- Intermountain Range
Adele M. Basham - NDEP
Alan Jenne - Department of Wildlife, Elko Alisa Huckle - UNR Library Alisanne Maffei - Department of Administration Alysa Keller - Legislative Counsel Bureau Angela Dykema - Nevada State Energy Office Anna Higgins - Nevada Division of Forestry Bert Bedeau - Comstock Historic District Commission Bette Hartnett - State Energy Office Bill Thompson - Department of Transportation, Aviation Birgit Henson - NDEP Bob Turner - Nellis AFB Cayenne Engel - Nevada Division of Forestry Chris Anderson - Washoe County Health Department Chuck King - Hawthorne Army Depot Claudia Vecchio - Nevada Commission on Tourism Connie Lee - NDOW Connie Lucido - Department of Administration Cory Lytle - Lincoln County Craig Mortimore - Wild Nevada D. Bradford Hardenbrook - Department of Wildlife, Las Vegas Dagny Stapleton - NACO David David - UNR Bureau of Mines David Mouat - Desert Research Institute Deborah Stockdale - Nellis Air Force Base Denesa Johnston - Fire Marshal Ed Ryan - Smith and Mason Valleys Conservation District Ed Rybold - NAS Fallon Eddy Quaglieri - Division of Water Resources Elizabeth A. Harrison - Tahoe Resource Team - Division of State Lands Eloisa Hopper - Nellis Air Force Base Elyse Randles - State Land Office Gary Reese - Nevada Division of Forestry Ian Kono - Nevada Division of Water Resources J Crandell - Colorado River Commission of Nevada James D. Morefield - Natural Heritage Program Jane Freeman - US Forest Service Jennifer Celio - Sagebrush Ecosystem Technical Team Jennifer Newmark - NDOW - Wildlife Diversity Jered McDonald - Legislative Counsel Bureau Jim Balderson - NDEP Jim English - Washoe County Jim Olson - Lander County Jim Souba - City of Fallon Public Works Joe Freeland - Nevada Division of Forestry John Christopherson - Nevada Division of Forestry John Muntean - UNR Bureau of Mines John Tull - NDOW Jon Price - UNR Bureau of Mines Kacey KC - Nevada Division of Forestry Karen Beckley - State Health Division Kevin Hill - Nevada State Energy Office Kevin Verre - NDOT Kim Borgzinner - NDEP Kristin Szabo - Nevada Natural Heritage Program Kurt Haukohl - NDOT Larry Cruz - Hawthorne Army Depot Lee Bonner - NDOT Levi Kryder - Nye County Linda Cohn - National Nuclear Security Administration Lindsey Lesmeister - NDOW Lori M. Story - Attorney General Louis Groffman - Nevada Department of Transportation Lowell Price - Commission on Minerals Lynn Haarklau - Nellis Air Force Base Major Doug McEldowney - Nevada National Guard Mark Costa - NDOT Mark Enders - NDOW Mark Freese - Department of Wildlife Mark Harris, PE - Public Utilities Commission Marta Adams - Attorney General Matt Maples - NDOW Meghan Brown - Dept of Agriculture Michael J. Stewart - Legislative Counsel Bureau Michael Visher - Division of Minerals Mike Dang - Governor's Office on Economic Development Mitch Ison - NDOT Miteshell Lanham - Lander County Moira Kolada - NDOW Nancy Boland - Esmeralda County Rebecca Palmer - State Historic Preservation Office Rich Perry - Nevada Division of Minerals Richard Arnold - Nevada Indian Commission Rick Martin - Division of Emergency Management Robert Halstead - Nevada Agency for Nuclear Project Robert Rule - NAS Fallon Sandy Quilici - Department of Conservation & Natural Resources Sheila Anderson - Governor's Office Sherry Rupert - Indian Commission Shimi Mathew - Nellis AFB Shirley DeCrona - Nevada Division of State Parks Skip Canfield - State Land Use Planning Agency Stephen Foree - NDOW Steve Endacott - City of Fallon Susan Scholley - Legislative Counsel Bureau Tim Mueller - Department of Transportation Tim Rubald - Conservation

Districts Tod Oppenborn - Nellis Air Force Base Tori Sundheim - NACO Tracy Kipke - NDOW Valerie King - NDEP Warren Turkett - Colorado River Commission of Nevada Wes Henderson - Nevada League of Cities Zip Upham - NAS Fallon

Notice of LEIS preparation and scoping meetings from Air Force to Nevada State Clearinghouse: August 19, 2016

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA

19 August 2016

Lieutenant Colonel Michael A. Freeman
Commander
4430 Grissom Ave., Ste. 101
Nellis AFB NV 89191-6520

Skip Canfield
Nevada State Clearinghouse
Nevada Division of State Lands
901 S. Stewart St, Ste 5003
Carson City, NV 89701-5246

Dear Mr. Canfield

The United States Air Force (USAF) is issuing this notice to notify state and local agencies of its intent to prepare a Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) military land withdrawal at Nellis Air Force Base, Nevada. The LEIS is being prepared in accordance with National Environmental Policy Act (NEPA) of 1969; 40 Code of Federal Regulations (CFR), Parts 1500–1508, the Council on Environmental Quality (CEQ) regulations for implementing NEPA; and the Air Force Environmental Impact Analysis Process (EIAP) [32 CFR Part 989].

This notice also serves to invite early public and agency participation in determining the scope of environmental issues and alternatives to be analyzed in the LEIS and to identify and eliminate from detailed study the issues which are not significant. To effectively define the full range of issues and concerns to be evaluated in the LEIS, the Air Force is soliciting scoping comments from interested local, state and federal agencies, interested American Indian tribes, and interested members of the public. This notice also serves to provide early notice of compliance with Executive Order (EO) 11990, "Protection of Wetlands," and EO 11988, "Floodplain Management." State and federal regulatory agencies with special expertise in wetlands and floodplains have been contacted to request comment.

The current NTTR land withdrawal expires in November 2021. In accordance with the Military Lands Withdrawal Act of 1999, the Air Force has notified Congress of a continuing military need for the NTTR withdrawal. Military land withdrawal applications have been

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prepared and submitted to Bureau of Land Management (BLM). The segregation of lands proposed for military withdrawal are addressed in a separate BLM Federal Register notice.

The Air Force LEIS supports Congressional decision-making for the proposed military land withdrawal and will be programmatic in nature, adding value by setting out a broad view of environmental impacts and alternatives for Congress to consider. Following Congressional action on the NTTR land withdrawal proposals, site specific proposals based on particular DoD or Air Force defined needs for the range would be evaluated with the appropriate level of tiered or supplemental NEPA.

In particular, the LEIS will analyze alternatives for military land withdrawal of the NTTR to improve the range capacity and capability to support military test and training requirements now and into the future. The LEIS will assess the potential environmental consequences of the proposal to extend the existing NTTR military land withdrawal beyond the current withdrawal expiration date. As part of the withdrawal extension, the Air Force proposes to continue military operations on the NTTR's existing 2,949,603 acres of land. In addition to extending the existing land withdrawal, the Air Force is also proposing to withdraw up to an additional 301,507 acres to improve the range's capacity to support military testing and training.

The alternatives being evaluated in the LEIS include: 1) extending the existing land withdrawal and management of the NTTR (Status Quo); 2) extending the existing land withdrawal and providing the Air Force with increased access for military activities in the South Range of the NTTR; 3) Alternative 1 or 2 and expanding the existing withdrawal by including up to 301,507 additional acres, via three sub-alternatives; 4) establishing the time period of the withdrawal as either 20 years, 50 years, or as an indefinite military withdrawal; and 5) the No Action alternative, which includes returning NTTR lands to the public domain, through the Department of the Interior.

The alternatives structure allows for combining elements of alternatives in an additive fashion. For example, Alternative 2 could be selected along with sub-alternatives of Alternatives 3 (an option for expansion) and 4 (option for duration) as part of the Air Force's recommendation to Congress for the future military withdrawal. Within the framework of these alternatives, the LEIS will support Congressional action by identifying and evaluating potential impacts to land use, airspace, safety, noise, hazardous materials and solid waste, earth resources, water resources, air quality, transportation, wilderness and wilderness study areas, cultural resources, biological resources, socioeconomics, and environmental justice.

The Air Force will be holding public open house scoping meetings in areas potentially impacted by the proposal. The purpose of the meetings and the scoping period is to further solicit input regarding the scope of issues to be addressed and identify environmental issues to be

analyzed in depth. The Air Force's notice of intent (NOI) to prepare a LEIS and hold scoping meetings will be published in the Federal Register the week of August 26, 2016, and local notices announcing scheduled dates, locations, and addresses for each meeting will be published fifteen (15) days prior to each meeting.

During scoping meetings, the Air Force will provide additional information about the NTTR Land Withdrawal. Public and agency comments presented at the meetings, as well as written comments received by the Air Force during the scoping period and throughout the environmental process, will be considered in the preparation of the Draft LEIS. Scoping comments may be submitted to the Air Force at the planned public scoping meetings and/or in writing. Comments will be accepted at any time during the Environmental Impact Analysis Process (EIAP). However, to ensure the Air Force has sufficient time to consider public input in the preparation of the Draft LEIS, scoping comments must be submitted no later than December 10, 2016.

DATES: The Air Force plans to hold five public scoping meetings from 5 p.m. to 9 p.m., on the dates and at the locations listed below.

- Wednesday, October 12, 2016: Beatty Community Center, 100 A Avenue South, Beatty, NV 89003
- Thursday, October 13, 2016: Tonopah Convention Center, 301 Brougher Avenue, Tonopah, NV 89049
- Tuesday, October 18, 2016: Caliente Elementary School, 289 Lincoln Street, Caliente, NV 89008
- Wednesday, October 19, 2016: Pahranagat Valley High School, 151 S. Main Street, Alamo, NV 89001
- Thursday, October 20, 2016: Aliante Hotel, 7300 Aliante Parkway, North Las Vegas, NV 89084

The agenda for each scoping meeting is as follows:

- 5:00 p.m. to 6:30 p.m. – Open House and comment submission
- 6:30 p.m. to 7:00 p.m. – Air Force Presentation
- 7:00 p.m. to 9:00 p.m. – Open House and comment submission resumes

During the meetings, the Air Force will provide information on the potential environmental impacts associated with the proposed action and solicit public comments on alternative development. If state or local agencies have specific questions or comments about the proposal, please direct any written comments or requests for information to 99th Air Base Wing Public Affairs, 99ABW.PAOutreach@us.af.mil.

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Information on the NTTR Military Land Withdrawal and LEIS process can be accessed at the project website at www.nttrleis.com. The project website can be used to submit scoping comments to the Air Force or comments and inquiries may also be submitted by mail to the 99th Air Base Wing Public Affairs, 4430 Grissom Ave., Ste. 107, Nellis AFB, NV 89191 or by e-mail at 99ABW.PAOutreach@us.af.mil.

Sincerely

Michael A. Freeman
Lieutenant Colonel, USAF
Commander

Enclosures

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Figure 1. Current Nevada Test and Training Range Land and Airspace Boundary

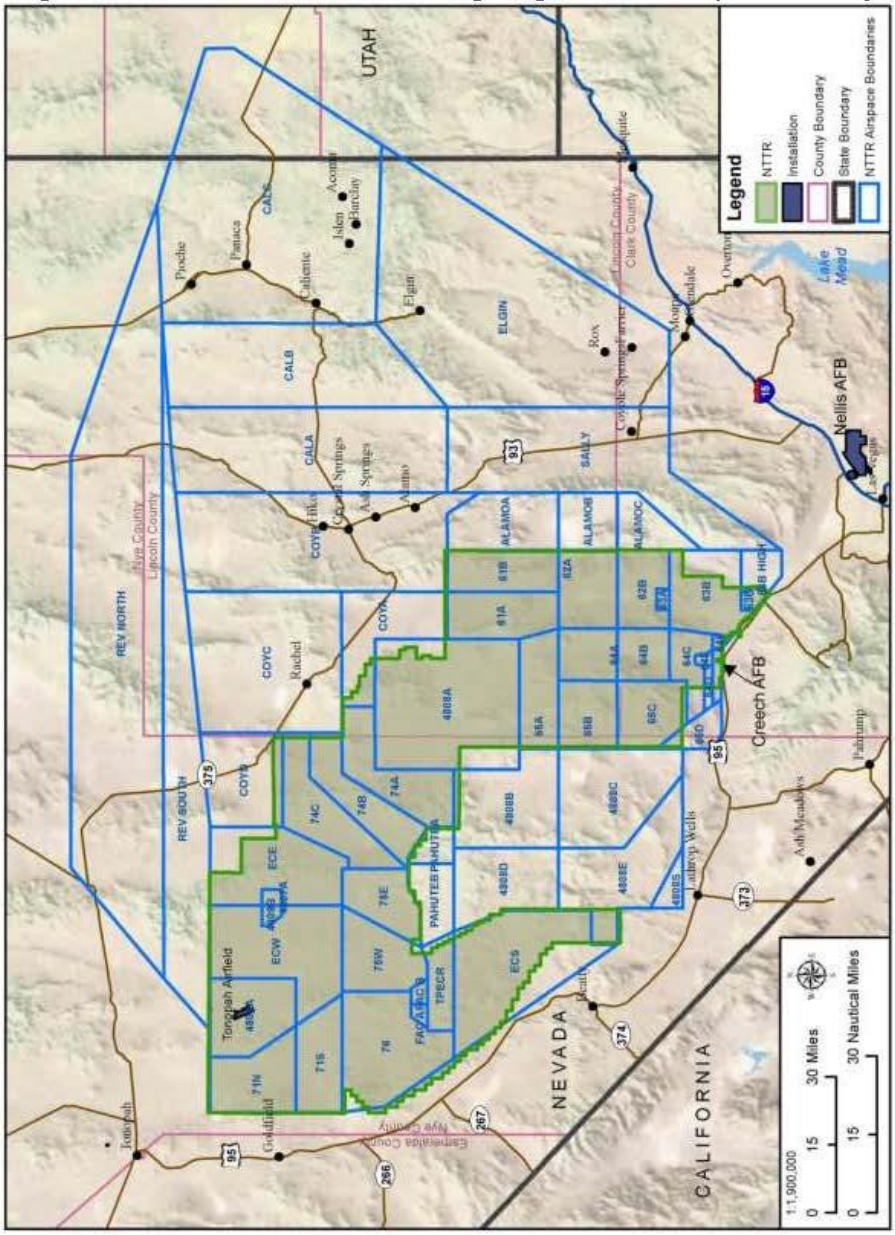

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Figure 2. Current Primary Jurisdiction Designation of the DNWR

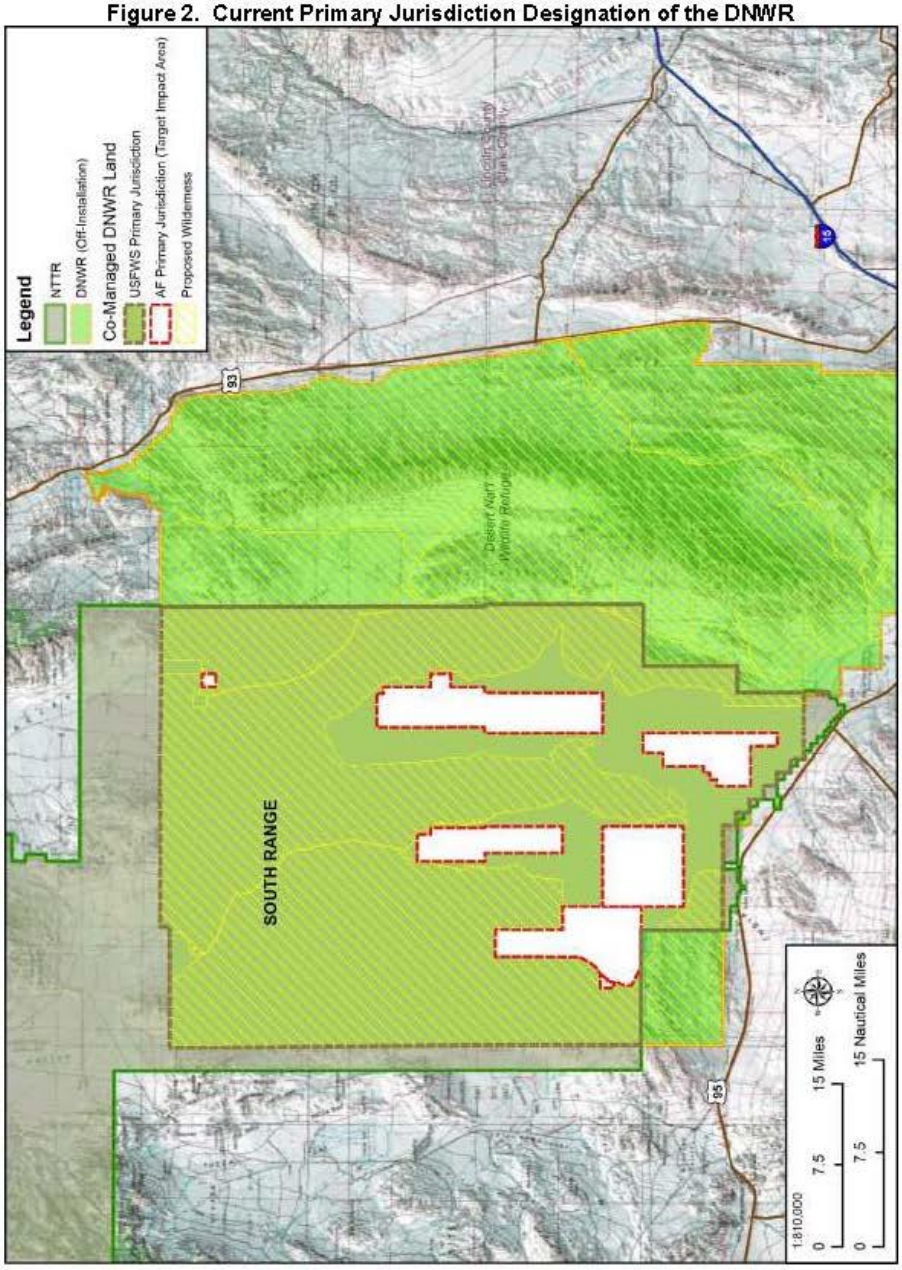

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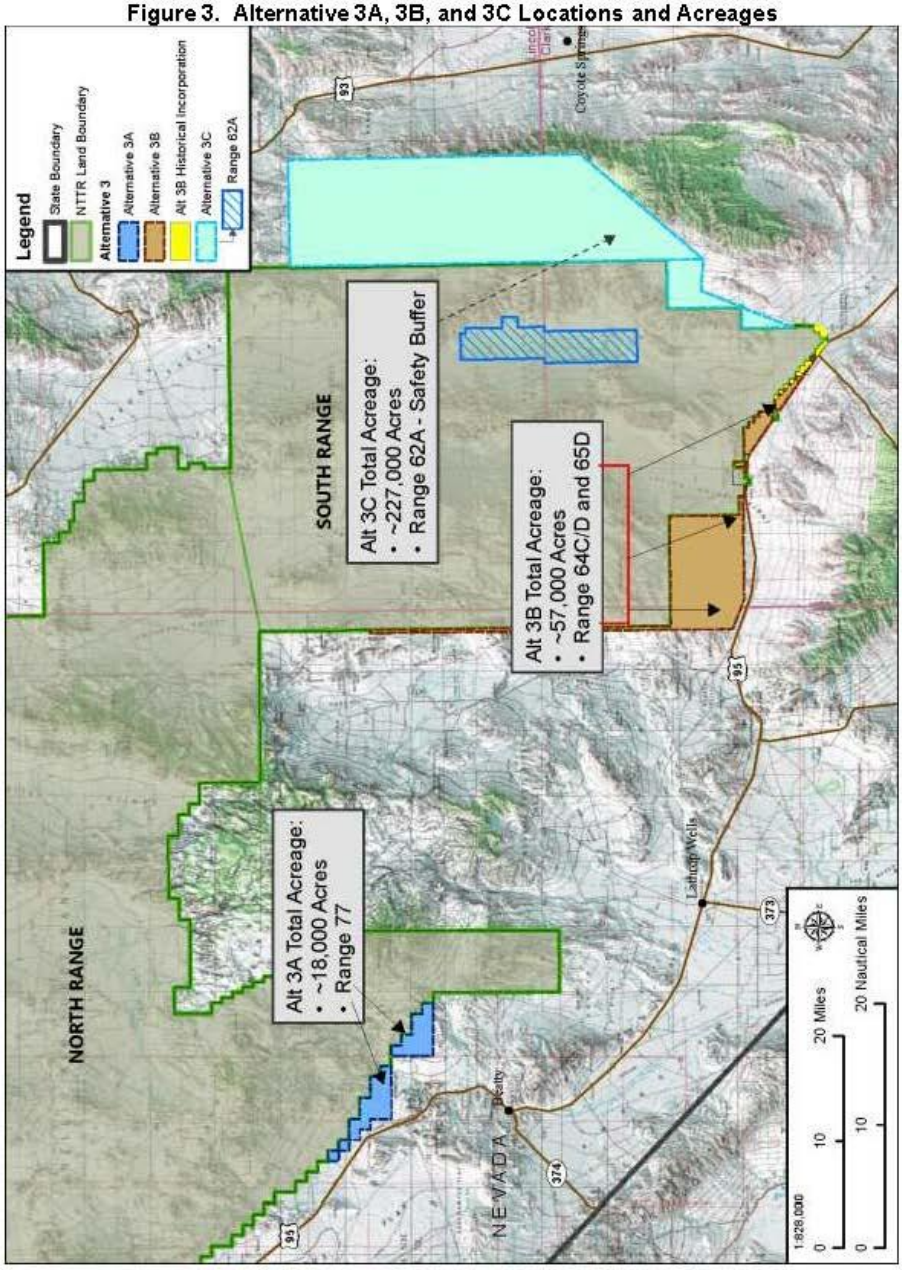
Figure 3. Alternative 3A, 3B, and 3C Locations and Acreages



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Notification of scoping meetings from State Clearinghouse to State Agencies: August 23, 2016

From: Nevada Joint Military Affairs Committee on behalf of Skip Canfield
To: JMAC@LISTSERV.STATE.NV.US
Subject: Nevada State Clearinghouse Notice E2017-023 (Scoping - LEIS - NTTR Military Land Withdrawal at Nellis AFB)
Date: Tuesday, August 23, 2016 11:51:29 AM

NEVADA STATE CLEARINGHOUSE
Department of Conservation and Natural Resources, Division of State Lands
901 S. Stewart St., Ste. 5003, Carson City, Nevada 89701-5246
(775) 684-2723 Fax (775) 684-2721

TRANSMISSION DATE: 08/23/2016

U.S. Air Force

Nevada State Clearinghouse Notice E2017-023
Project: Scoping - LEIS - NTTR Military Land Withdrawal at Nellis AFB

Follow the link below to find information concerning the above-mentioned project for your review and comment.
E2017-023 - http://clearinghouse.nv.gov/public/Notice/2017/E2017-023.pdf

- **Please evaluate this project's effects on your agency's plans and programs and any other issues that you are aware of that might be pertinent to applicable laws and regulations.**
- **Please reply directly from this e-mail and attach your comments.**
- **Please submit your comments no later than Thursday December 8th, 2016.**

Clearinghouse project archive

Questions? Skip Canfield, Program Manager, (775) 684-2723 or nevadaclearinghouse@lands.nv.gov

____No comment on this project ____Proposal supported as written
AGENCY COMMENTS:

Signature:

Date:

Requested By:

Distribution:
- 99ABW Nellis
- Division of Emergency Management
- Intermountain Range
Adam Roney - Public Utilities Commission
Alan Jenne - Department of Wildlife, Elko
Alisa Huckle - UNR Library
Alisanne Maffei - Department of Administration
Alysa Keller - Legislative Counsel Bureau
Angela Dykema - Nevada State Energy Office
Anna Higgins - Nevada Division of Forestry
Bert Bedeau - Comstock Historic District Commission
Bette Hartnett - State Energy Office
Bill Thompson - Department of Transportation, Aviation
Birgit Henson - NDEP
Bob Turner - Nellis AFB
Brenda Hunt - CWSD
Cayenne Engel - Nevada Division of Forestry
Chris Anderson - Washoe County Health Department
Chuck King - Hawthorne Army Depot
Claudia Vecchio - Nevada Commission on Tourism
Connie Lee - NDOW
Connie Lucido - Department of Administration
Cory Lytle - Lincoln County
Craig Mortimore - Wild Nevada
Cynthia Turiczek - Public Utilities Commission
D. Bradford Hardenbrook - Department of Wildlife, Las Vegas
Dagny Stapleton - NACO
David David - UNR Bureau of Mines
David Mouat - Desert Research Institute
Deborah Stockdale - Nellis Air Force Base
Denesa Johnston - Fire Marshal
Ed Ryan - Smith and Mason Valleys Conservation District
Ed Rybold - NAS Fallon
Eddy Quaglieri - Division of Water Resources
Elizabeth A. Harrison - Tahoe Resource Team - Division of State Lands
Eloisa Hopper - Nellis Air Force Base
Elyse Randles - State Land Office
Gary Reese - Nevada Division of Forestry

Greg Lovato - NDEP
Ian Kono - Nevada Division of Water Resources
J Crandell - Colorado River Commission of Nevada
James D. Morefield - Natural Heritage Program
James Llinebaugh - Grazing Board District N-3
Jane Freeman - US Forest Service
Jeff Hardcastle - State Demographer
Jennifer Celio - Sagebrush Ecosystem Technical Team
Jennifer Newmark - NDOW - Wildlife Diversity
Jered McDonald - Legislative Counsel Bureau
Jim Balderson - NDEP
Jim Baumann - Nevada State Grazing Boards - Central Committee
Jim English - Washoe County
Jim Olson - Lander County
Jim Souba - City of Fallon Public Works
Joe Freeland - Nevada Division of Forestry
John Christopherson - Nevada Division of Forestry
John Delong - Nevada State Grazing Boards - Central Committee
John Estill - Nevada State Grazing Boards - Central Committee
John Muntean - UNR Bureau of Mines
John Tull - NDOW
Jon Price - UNR Bureau of Mines
Julie Hunter - Washoe County Health District
Kacey KC - Nevada Division of Forestry
Karen Beckley - State Health Division
Kevin Hill - Nevada State Energy Office
Kevin Verre - NDOT
Kim Borgzinner - NDEP
Kristin Szabo - Nevada Natural Heritage Program
Kurt Haukohl - NDOT
Larry Cruz - Hawthorne Army Depot
Lee Bonner - NDOT
Levi Kryder - Nye County
Linda Cohn - National Nuclear Security Administration
Lindsey Lesmeister - NDOW
Lori M. Story - Attorney General
Louis Groffman - Nevada Department of Transportation
Lowell Price - Commission on Minerals
Lynn Haarklau - Nellis Air Force Base
Major Doug McEldowney - Nevada National Guard
Mark Costa - NDOT
Mark Enders - NDOW
Mark Freese - Department of Wildlife
Mark Harris, PE - Public Utilities Commission
Marta Adams - Attorney General
Matt Maples - NDOW
Meghan Brown - Dept of Agriculture
Michael J. Stewart - Legislative Counsel Bureau
Michael Visher - Division of Minerals
Michelle Langsdorf - Grazing Board District N-3

Mike Dang - Governor's Office on Economic Development
Mitch Ison - NDOT
Miteshell Lanham - Lander County
Moira Kolada - NDOW
Nancy Boland - Esmeralda County
Peggy Roefer - Colorado River Commission
Rachel Buzetti - Nevada State Grazing Boards - Central Committee
Rebecca Palmer - State Historic Preservation Office
Rich Perry - Nevada Division of Minerals
Richard Arnold - Nevada Indian Commission
Richard Huntsberger - Nevada State Grazing Boards - Central Committee
Rick Martin - Division of Emergency Management
Robert Halstead - Nevada Agency for Nuclear Project
Robert Rule - NAS Fallon
Rory Chetelat - Clark County
Ryan McGinness - Washington Office
Sandy Quilici - Department of Conservation & Natural Resources
Sheila Anderson - Governor's Office
Sherry Rupert - Indian Commission
Shimi Mathew - Nellis AFB
Shirley DeCrona - Nevada Division of State Parks
Skip Canfield - State Land Use Planning Agency
Stephen Foree - NDOW
Steve Boies - Nevada State Grazing Boards - Central Committee
Steve Endacott - City of Fallon
Susan Scholley - Legislative Counsel Bureau
Terry Rubald - Nevada Department of Taxation, Local Government, Centrally Assessed Property
Tim Mueller - Department of Transportation
Tim Rubald - Conservation Districts
Tod Oppenborn - Nellis Air Force Base
Tori Sundheim - NACO
Traci Pearl - Office of Traffic Safety
Tracy Kipke - NDOW
Valerie King - NDEP
Warren Turkett - Colorado River Commission of Nevada
Wayne Howle - Attorney General
Wes Henderson - Nevada League of Cities
Zip Upham - NAS Fallon

To unsubscribe from the JMAC list, click the following link:
&*TICKET_URL(JMAC,SIGNOFF);

B.9 NATIVE AMERICAN CONSULTATION AND COMMUNICATION

Government-to-Government Notice of Intent Letter: August 13, 2015

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

August 13, 2015

Mr. William Spoerer
99 CES/CEIE
6020 Beale Ave.
Nellis AFB, NV 89191

Chairperson George Gholson
P.O. Box 1779
621 West Line St. Suite 109
Bishop, CA 93515

Dear Chairperson Gholson

The U.S. Air Force is looking to renew withdrawn lands for the Nevada Test and Training Range (NTTR) and the possibility of acquiring new lands from the Bureau of Land Management (BLM) in an interagency agreement. The Air Force has also begun preliminary planning for an environmental impact study of the range as part of the renewal process. Once the Air Force has determined a plan of action, we will be asking for your input and participation in this Government to Government process.

Should you or your staff have any questions about the project, please contact our cultural resource manager, Ms. Kish La Pierre, 99 CES/CEIEA, at (702) 652-5813 or at kish.lapierre@us.af.mil.

Sincerely

WILLIAM S. SPORER
Chief, Environmental Element

Enable Success Through Innovative Base Support

Notice of Tribal Coordination Meetings: March 9, 2016

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Ave.
Nellis AFB NV 89191

Chairperson Tina Braithwaite
Benton Paiute Indian Tribe
25669 Highway 6, PMB I
Benton, CA 93512

Dear Chairperson Braithwaite

As part of the United States Air Force's (USAF) tribal consultation process under the National Historic Preservation Act (NHPA) the USAF would like to request your input to identify any Traditional Cultural Properties (TCPs), Sacred Sites, or historic properties of cultural or religious significance to Indian Tribes associated with the identified Area of Potential Effect (APE) for the proposed Nevada Test and Training Range (NTTR) military land withdrawal. The USAF invites any input or feedback from tribes to identify issues of tribal concern regarding the proposed undertaking.

Under the Military Lands Withdrawal Act of 1999 (Public Law 106-65) 2,919,890 acres were withdrawn from the Department of Interior for use by the NTTR; the current withdrawal (Attachment 1) will expire in 2021. As a result, the USAF seeks Congressional action to extend the currently withdrawn lands for the purpose of continuing the existing test and training activities and intends to submit the Legislative Environmental Impact Statement (LEIS), in accordance with the Federal Land Policy Management Act (FLPMA).

The USAF is also writing a proposal for Congress to expand lands withdrawn for the NTTR (Attachment 2) to provide additional security and safety while enhancing the functionality and capacity of the NTTR. The additional features associated with the proposed expansion are critical to meet increasing demands on the NTTR to satisfy national security requirements. Under this concept, the USAF proposes to expand the withdrawn lands associated with EC South on the west side of the range, 64C/D and 65D on the south side of the range and east of 62A/B, for a total potential increase of up to a maximum 301,507 acres. The Air Force may not pursue military land withdrawal of this acreage in its entirety, but rather may pursue withdrawal of portions of these lands based on mission needs and public and tribal access concerns. In order to effectively balance mission needs with public and tribal uses of potential military withdrawal lands, it is critical that the Air Force understand tribal concerns within the APE. Of the lands proposed for potential military land withdrawal expansion, approximately 260,000 acres are presently managed by the U.S Fish and Wildlife Service (USFWS) under the Desert National

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Wildlife Refuge, while the remaining acreage is managed by the Bureau of Land Management (BLM).

For consultation purposes, the USAF has identified the APE for the undertaking as an extension of the current withdrawal, as well as the proposed expansion of military withdrawal lands. Should the full extent of the proposed land withdrawal be approved through Congressional legislation, the USAF anticipates establishing additional radar and emitter sites on new withdrawal lands, establishing some limited infrastructure for these sites, proposes some small unit maneuver corridors, and potentially establishing a landing strip for equipment and military personnel insertion and extraction. No new target impact areas or bombing sites are proposed by the Air Force at this time; however, the proposed expansion would change the accessibility to these lands as the Air Force would need to control the access to any land withdrawal expansion areas when engaging in more realistic training or testing activities. Controlled access would be required to ensure public safety while conducting training activities at higher altitude and greater speeds.

The types of activities that are now taking place on existing withdrawn lands of the North Range of NTTR will not change under the withdrawal extension. Within the South Range of the existing NTTR, if primary jurisdiction for land management were granted to the Air Force, additional training activities might include establishment of additional radar and emitter sites, construction of access roads, creation of additional dismounted maneuver routes and establishment of new insertion/extraction points. While the USAF has identified the general types of activities that may take pl

As the USAF develops the LEIS and works through the NHPA consultation process we look forward to effective tribal input as we work to preserve historic and tribal resources contained within the NTTR.

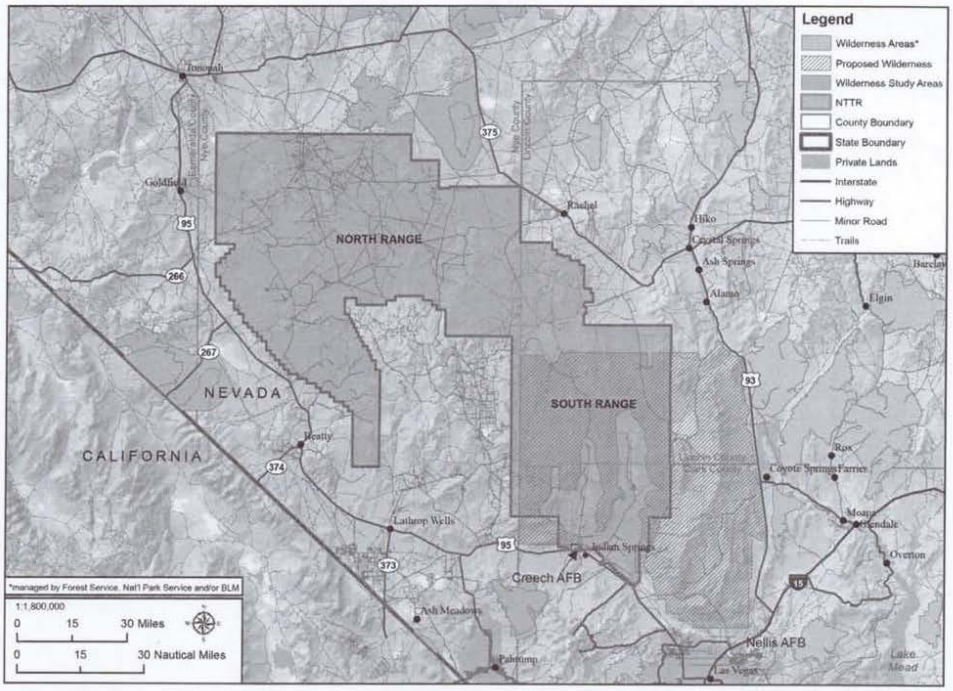
If you have any questions or comments regarding the information presented in this letter, please direct them to Ms. Kish La Pierre by e-mail at kish.lapierre@us.af.mi, or by phone at (702) 652-5813. Thank you for any inputs or information you can provide.

Sincerely

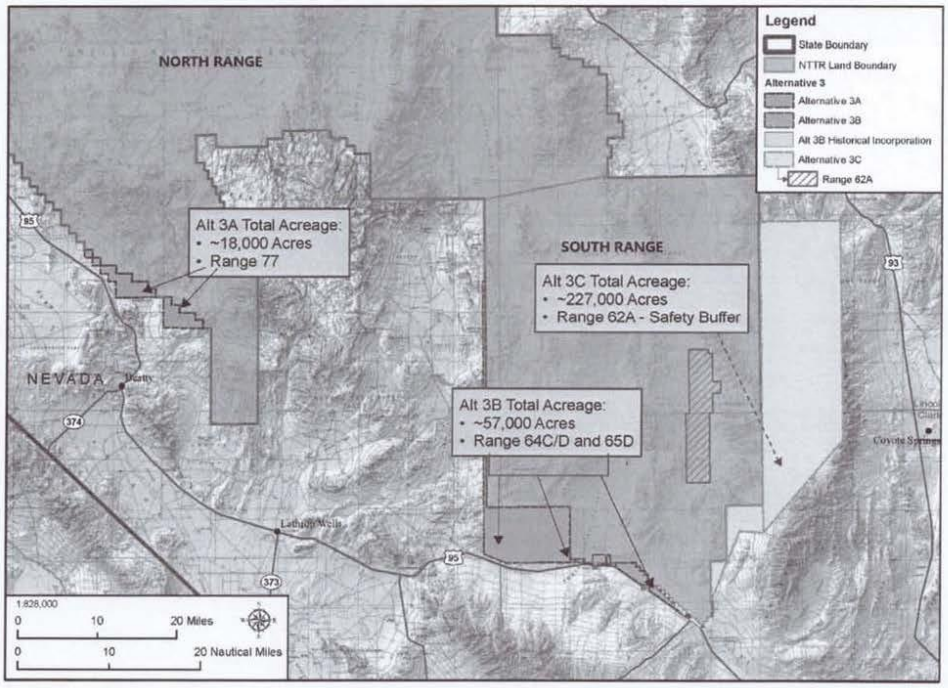
Michael A. Freeman, Lt. Col., USAF
Commander

Attachments:
1. Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas
2. Alternative 3A, 3B, and 3C Locations and Acreages
3. Draft NTTR Land Withdrawal Historic Property Inventory Plan

cc:
Christy Smith, US Fish and Wildlife Service
Anan Raymond, US Fish and Wildlife Service
Spencer Lodge, US Fish and Wildlife Service
Rebecca Palmer, Nevada State Historic Preservation Office



Attachment 1- Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas



Attachment 2- Alternative 3A, 3B, and 3C Locations and Acreages

Government-to-Government Consultation Letter from the Air Force to Benton Paiute Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 2 2 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Tina Braithwaite
25669 Highway 6, PMB I
Benton CA 93512

Dear Chairperson Braithwaite

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

Additionally, we intend to hold a formal meeting this summer in Las Vegas, Nevada as part of the official government-to-government consultation efforts regarding the NTTR land withdrawal renewal. We will be in contact via official letter at least 30 days in advance of the meeting once the date and details are set.

If you have any questions regarding these meetings, please contact the NAFB cultural resource manager and tribal liaison, Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Big Pine Paiute Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Shannon Romero
P.O. Box 700
825 South Main Street
Big Pine CA 93513

Dear Chairperson Romero

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

Richard H. Boutwell

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

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Government-to-Government Consultation Letter from the Air Force to Bishop Paiute Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Gerald Howard
50 Tusu Lane
Bishop CA 93514

Dear Chairperson Howard

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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If you have any questions regarding these meetings, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

Richard H. Boutwell

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Chemehuevi Indian Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Charles Wood
P.O. Box 1976
Havasu Lake CA 92363

Dear Chairperson Wood

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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If you have any questions regarding these meetings, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

Richard H. Boutwell

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Colorado River Indian Tribes: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Dennis Patch
26600 Mohave Road
Parker AZ 85344

Dear Chairperson Patch

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

Richard H. Boutwell

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Duckwater Shoshone Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Perline Thompson
P.O. Box 140068
511 Duckwater Falls
Duckwater NV 89314

Dear Chairperson Thompson

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

Richard H. Boutwell

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Ely Shoshone Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 2 2 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Alvin Marques
16 Shoshone Circle
Ely NV 89301

Dear Chairperson Marques

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Ft. Independence Paiute Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 2 2 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Norman Wilder
P.O. Box 67
131 North Hwy 395
Independence CA 93526

Dear Chairperson Wilder

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Ft. Mojave Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 2 2 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Timothy Williams
500 Merriman Avenue
Needles CA 92363

Dear Chairperson Williams

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

Richard H. Boutwell

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Kaibab Band of Southern Paiutes: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Roland Maldonado
HC 65 Box 2
Fredonia AZ 86022

Dear Chairperson Maldonado

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Las Vegas Paiute Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Benny Tso
#1 Paiute Drive
Las Vegas NV 89106

Dear Chairperson Tso

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Lone Pine Paiute-Shoshone Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Mary Wuester
P.O. Box 747
975 Teya Road
Lone Pine CA 93545

Dear Chairperson Wuester

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

Richard H. Boutwell

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Moapa Band of Paiutes: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Robert Tom
P.O. Box 340
Moapa NV 89025

Dear Chairperson Tom

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

Richard H. Boutwell

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Pahrump Paiute Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 2 2 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Native American Coordinator Richard Arnold
P.O. Box 3411
Pahrump NV 89041

Dear Native American Coordinator Arnold

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

Additionally, we intend to hold a formal meeting this summer in Las Vegas, Nevada as part of the official government-to-government consultation efforts regarding the NTTR land withdrawal renewal. We will be in contact via official letter at least 30 days in advance of the meeting once the date and details are set.

If you have any questions regarding these meetings, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

Richard H. Boutwell

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Paiute Indian Tribes of Utah: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Corrina Bow
440 North Paiute Drive
Cedar City UT 84721

Dear Chairperson Bow

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

Additionally, we intend to hold a formal meeting this summer in Las Vegas, Nevada as part of the official government-to-government consultation efforts regarding the NTTR land withdrawal renewal. We will be in contact via official letter at least 30 days in advance of the meeting once the date and details are set.

If you have any questions regarding these meetings, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

Richard H. Boutwell

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Timbisha Shoshone Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 2 2 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson George Gholson
P.O. Box 1779
621 West Line St. Suite 109
Bishop CA 93515

Dear Chairperson Gholson

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

Additionally, we intend to hold a formal meeting this summer in Las Vegas, Nevada as part of the official government-to-government consultation efforts regarding the NTTR land withdrawal renewal. We will be in contact via official letter at least 30 days in advance of the meeting once the date and details are set.

If you have any questions regarding these meetings, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

Richard H. Boutwell

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC
Ms. Barbara Durham, THPO

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Yomba Shoshone Tribe: June 22, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 2 2 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Wayne Dyer
HC 61, Box 6275
Austin NV 89310

Dear Chairperson Dyer

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

Additionally, we intend to hold a formal meeting this summer in Las Vegas, Nevada as part of the official government-to-government consultation efforts regarding the NTTR land withdrawal renewal. We will be in contact via official letter at least 30 days in advance of the meeting once the date and details are set.

If you have any questions regarding these meetings, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

Richard H. Boutwell

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Letter from Air Force to Benton Paiute Tribe: January 9, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Ave.
Nellis AFB NV 89191

Chairperson Tina Braithwaite
Benton Paiute Indian Tribe
25669 Highway 6, PMB I
Benton, CA 93512

Dear Chairperson Braithwaite

As part of the United States Air Force's (USAF) tribal consultation process under the National Historic Preservation Act (NHPA) the USAF would like to request your input to identify any Traditional Cultural Properties (TCPs), Sacred Sites, or historic properties of cultural or religious significance to Indian Tribes associated with the identified Area of Potential Effect (APE) for the proposed Nevada Test and Training Range (NTTR) military land withdrawal. The USAF invites any input or feedback from tribes to identify issues of tribal concern regarding the proposed undertaking.

Under the Military Lands Withdrawal Act of 1999 (Public Law 106-65) 2,919,890 acres were withdrawn from the Department of Interior for use by the NTTR; the current withdrawal (Attachment 1) will expire in 2021. As a result, the USAF seeks Congressional action to extend the currently withdrawn lands for the purpose of continuing the existing test and training activities and intends to submit the Legislative Environmental Impact Statement (LEIS), in accordance with the Federal Land Policy Management Act (FLPMA).

The USAF is also writing a proposal for Congress to expand lands withdrawn for the NTTR (Attachment 2) to provide additional security and safety while enhancing the functionality and capacity of the NTTR. The additional features associated with the proposed expansion are critical to meet increasing demands on the NTTR to satisfy national security requirements. Under this concept, the USAF proposes to expand the withdrawn lands associated with EC South on the west side of the range, 64C/D and 65D on the south side of the range and east of 62A/B, for a total potential increase of up to a maximum 301,507 acres. The Air Force may not pursue military land withdrawal of this acreage in its entirety, but rather may pursue withdrawal of portions of these lands based on mission needs and public and tribal access concerns. In order to effectively balance mission needs with public and tribal uses of potential military withdrawal lands, it is critical that the Air Force understand tribal concerns within the APE. Of the lands proposed for potential military land withdrawal expansion, approximately 260,000 acres are presently managed by the U.S Fish and Wildlife Service (USFWS) under the Desert National

Enable Success Through Innovative Base Support

Wildlife Refuge, while the remaining acreage is managed by the Bureau of Land Management (BLM).

For consultation purposes, the USAF has identified the APE for the undertaking as an extension of the current withdrawal, as well as the proposed expansion of military withdrawal lands. Should the full extent of the proposed land withdrawal be approved through Congressional legislation, the USAF anticipates establishing additional radar and emitter sites on new withdrawal lands, establishing some limited infrastructure for these sites, proposes some small unit maneuver corridors, and potentially establishing a landing strip for equipment and military personnel insertion and extraction. No new target impact areas or bombing sites are proposed by the Air Force at this time; however, the proposed expansion would change the accessibility to these lands as the Air Force would need to control the access to any land withdrawal expansion areas when engaging in more realistic training or testing activities. Controlled access would be required to ensure public safety while conducting training activities at higher altitude and greater speeds.

The types of activities that are now taking place on existing withdrawn lands of the North Range of NTTR will not change under the withdrawal extension. Within the South Range of the existing NTTR, if primary jurisdiction for land management were granted to the Air Force, additional training activities might include establishment of additional radar and emitter sites, construction of access roads, creation of additional dismounted maneuver routes and establishment of new insertion/extraction points. While the USAF has identified the general types of activities that may take place in the proposed withdrawal expansion area, specific activities and their locations will not be defined until after enactment of any withdrawal legislation. Consequently, the USAF is preparing a programmatic Legislative Environmental Impact Statement (LEIS) that will more broadly discuss the types of activities the Air Force would pursue, if additional lands or greater jurisdiction of existing lands at the NTTR is provided to the Air Force. Specific future activities on any withdrawn lands would be subject to additional and appropriate National Environmental Policy Act (NEPA) and associated consultations. Initial requirements for planning and implementing these potential future activities would be addressed as part of an NHPA Programmatic Agreement or Memorandum of Understanding.

In support of effective tribal engagement and as part of NHPA Section 106 consultation efforts for this undertaking the USAF seeks information on historic properties of cultural and religious significance to Indian Tribes, and invites your input and comments regarding:

- Known historic properties of cultural and religious significance of tribal concern,
- Tribal concerns associated with the Proposed Action within the area of potential effect,
- Input on methods for data gathering, as well as perceived tribal historic property identification needs,
- Comments on the Historic Resource Inventory Plan (HRIP)
- Any other issues or concerns you request be considered during preparation of consultation documentation or the LEIS.

As the USAF develops the LEIS and works through the NHPA consultation process we look forward to effective tribal input as we work to preserve historic and tribal resources contained within the NTTR.

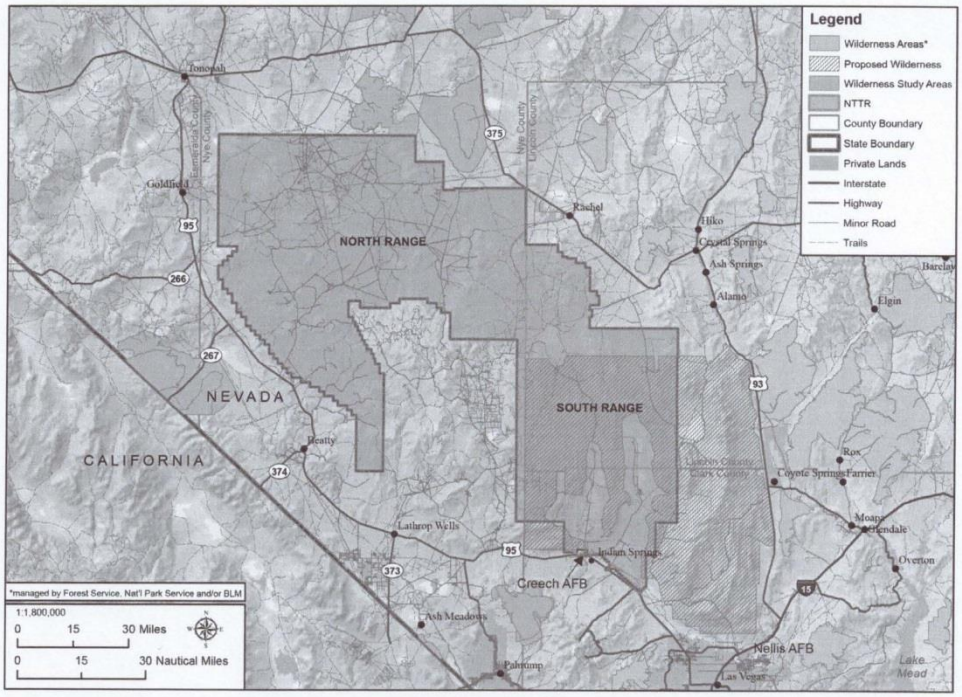
If you have any questions or comments regarding the information presented in this letter, please direct them to Ms. Kish La Pierre by e-mail at kish.lapierre@us.af.mi, or by phone at (702) 652-5813. Thank you for any inputs or information you can provide.

Sincerely

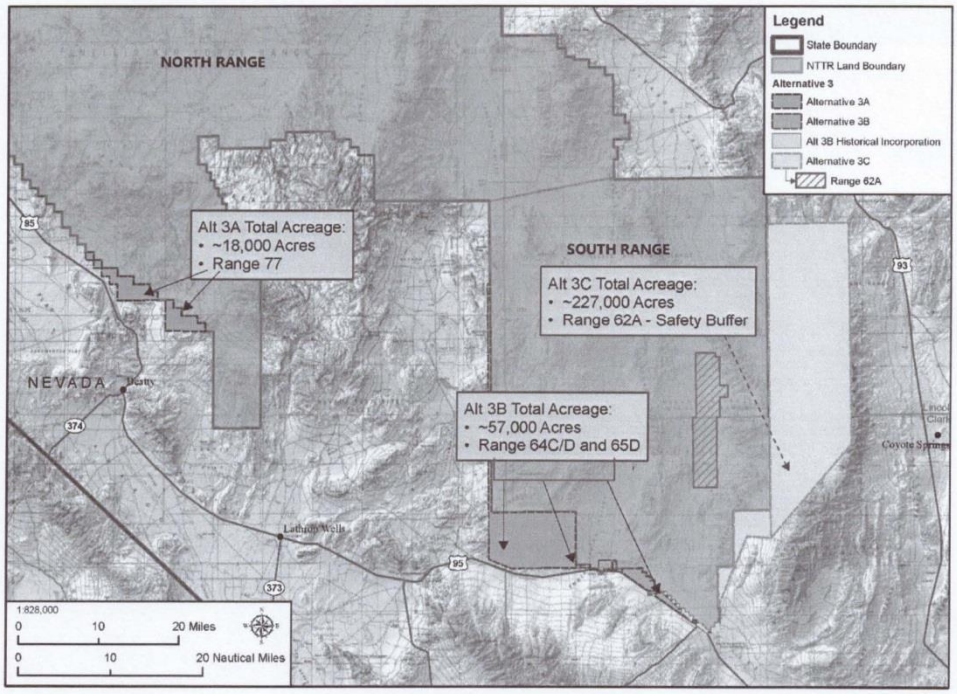
Michael A. Freeman, Lt. Col., USAF
Commander

Attachments:
1. Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas
2. Alternative 3A, 3B, and 3C Locations and Acreages
3. Draft NTTR Land Withdrawal Historic Property Inventory Plan

cc:
Christy Smith, US Fish and Wildlife Service
Anan Raymond, US Fish and Wildlife Service
Spencer Lodge, US Fish and Wildlife Service
Rebecca Palmer, Nevada State Historic Preservation Office



Attachment 1- Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas



Attachment 2- Alternative 3A, 3B, and 3C Locations and Acreages

Letter from Nuwuvi Working Group to Air Force: February 11, 2017

NUWUVI WORKING GROUP

February 11, 2017

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Avenue
Nellis AFB, NV 89191

Re: NTTR LEIS Military Land Withdrawal

Dear Col. Freeman:

The Nuwuvi Working Group is aware of the impending Nevada Test and Training Range Military Land Withdrawal proposed by the United States Air Force USAF) in preparation of a Legislative Environmental Impact Statement to acquire 260,000 acres within the existing boundary of the Desert National Wildlife Refuge.

The proposed land expansion falls within the traditional homelands of culturally affiliated Southern Paiute and Chemehuevi Tribes located in Nevada, California, Utah and Arizona. These particular tribes formed the Nuwuvi Working Group (NWG) nearly a decade ago as a means of interfacing directly with FWS to enhance our longstanding government-to-government relationship relating to any and all activities impacting the precious resources on the Desert National Wildlife Refuge (DNWR).

The NWG comprised of key culturally knowledgeable individuals are appointed by their respective tribal governments and charged with the responsibility of engaging in meaningful interactions about resources on the DNWR while updating their respective tribes. NWG membership along with their leadership has demonstrated their extensive knowledge relating to our deep-rooted cultural ties to the Sheep Mountains that are considered culturally sensitive and vital to the perpetuation of our culture. Currently no other group of tribes other than Southern Paiute and Chemehuevi tribes possess the background knowledge and information that relates to the area and can truly recognize the gravity of the sensitive cultural and religious resources without understanding Southern Paiute/Chemehuevi epistemology.

It is our understanding USAF is intending to conduct archaeological evaluations for this National Historic Preservation Act (NHPA) Section 106 undertaking on a significant portion of the Desert National Wildlife Refuge. In turn, the Air Force NHPA Section 106 undertaking will ultimately turn a significant portion of the Desert National Wildlife Refuge Sheep Range into a bombing range under the jurisdiction of the Air Force and irrevocably adding the culturally important religious and ceremonial areas on the Sheep Range to the Nevada Test and Training Range. In our view, the proposed Sheep Range along with other culturally sensitive

area will be impacted by associated destruction, desecration and restriction that adversely impact our culture in perpetuity.

Due to the high degree of cultural sensitivity identified by Southern Paiute and Chemehuevi Tribes, the USAF NHPA Section 106 undertaking will without consideration have irreversible adverse effects on historic properties and most importantly the religious and cultural significance to Indian Tribes. As an active bombing range, access will diminish significantly and eliminate our frequent and sustained connection to our traditional and contemporary culture, sites, plants, animals and other important attributes vital to our existence.

We believe qualified and traditionally knowledgeable individuals be identified by the NWG with concurrence from their respective tribal governments to identify historic and ethnohistoric properties in compliance with NHPA Section 106. Further, full consideration must be given to surveying cultural resources, sites and identifying the cultural values attributed to those properties with religious and cultural significance to our affected tribes and/or bands who demonstrated cultural affiliation to the Sheep Range.

In examining the proposed undertaking including the Air Force Section 106 Historic Property identification plans and contractor evaluation are modeled after out-dated archaeological surveys and fail to consider the importance of identifying, addressing and mitigating cultural and religious tribal values associated with the proposed expansion area. Without adjustments, the proposed Section 106 survey will not consider our resources, culture and spiritual needs including but not limited to historic properties of religious and cultural significance to Indian Tribes.

Any proposed survey of this magnitude must include an appropriate ethnographic study of the area by a qualified ethnographer (not archaeologist) with knowledge and familiarity with culturally affiliated tribes and selected by the NWG. Such an ethnographic study must consider existing documentation including but not limited to existing or potential Traditional Cultural Property nominations and religious connections to the area by collecting and synthesizing important Nuwuvi traditional and spiritual knowledge.

In tandem with any ethnographic effort, tribal insight and concerns must be properly documented using appropriate ethnographic methods conducted by and with Nuwuvi equal to recent FWS and Forest Service efforts relating to four newly constructed Visitor's Centers. Moreover, tribal interactions must be conducted in a manner consistent with government-to-government relationship protocols modeled after tribal interactions adopted by both DNWR and culturally affiliated tribes.

Sincerely,

Nuwuvi Working Group

Letter from Kaibab Band of Paiute Indians: February 17, 2017

Kaibab Band of Paiute Indians

NUWUVI WORKING GROUP

February 17, 2017

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Avenue
Nellis AFB, NV 89191

Re: NTTR LEIS Military Land Withdrawal

Col. Freeman, Sir:

The Nuwuvi Working Group is aware of the impending Nevada Test and Training Range Military Land Withdrawal proposed by the United States Air Force (USAF), in preparation of a Legislative Environmental Impact Statement (LEIS) to acquire 260,000 acres within the existing boundary of the Desert National Wildlife Refuge (DNWR).

The proposed land expansion falls within the traditional homelands of culturally affiliated Southern Paiute and Chemehuevi Tribes located in Nevada, California, Utah and Arizona. These particular tribes formed the Nuwuvi Working Group (NWG) nearly a decade ago as a means of interfacing directly with Fish and Wildlife (FWS), to enhance our longstanding government-to-government relationship relating to any and all activities impacting the precious resources on the DNWR.

The NWG is comprised of key culturally knowledgeable individuals who are appointed by their respective tribal governments and charged with the responsibility of engaging in meaningful interactions about resources on the DNWR while simultaneously updating their respective tribes. NWG membership along with their leadership has demonstrated their extensive knowledge relating to our deep-rooted cultural ties to the Sheep Mountains that are considered culturally sensitive and vital to the perpetuation of our culture. Currently no other group of tribes other than Southern Paiute and Chemehuevi tribes possess the epistemology, background knowledge and specialized information that relates to the area and can truly recognize the gravity of the sensitive cultural and religious resources on the DNWR.

Tribal Affairs
HC 65 Box 2
Fredonia, Arizona 86022
Phone (928) 643-7245
Fax (888) 939-3777

It is our understanding that the USAF is intending to conduct archaeological evaluations for this National Historic Preservation Act (NHPA) Section 106 undertaking on a significant portion of the Desert National Wildlife Refuge. In turn, the Air Force NHPA Section 106 undertaking will ultimately turn a significant portion of the Desert National Wildlife Refuge Sheep Range into a bombing range under the jurisdiction of the Air Force. This process will irrevocably add the culturally important religious and ceremonial areas on the Sheep Range to the Nevada Test and Training Range. In our view, the proposed Sheep Range along with other culturally sensitive areas will be impacted by the associated destruction, desecration and restriction that will adversely impact our culture into perpetuity.

Due to the high degree of cultural sensitivity identified by Southern Paiute and Chemehuevi Tribes, the USAF NHPA Section 106 undertaking will without consideration have irreversible adverse effects on historic properties, and most importantly, on sites of religious and cultural significance to Indian Tribes. As an active bombing range, access will diminish significantly and eliminate our frequent use and sustained connection to our traditional and contemporary culture, sites, plants, animals and other important attributes vital to our existence.

We believe qualified and traditionally knowledgeable individuals should be identified by the NWG with concurrence from their respective tribal governments to identify historic and ethnohistoric properties in compliance with NHPA Section 106 and E.O. 13175 and E.O.13007. Further, full consideration must be given to surveying cultural resources, sites and identifying the cultural values attributed to those properties with religious and cultural significance to our affected tribes and/or bands who demonstrated cultural affiliation to the Sheep Range.

In examining the proposed undertaking including the Air Force's Section 106 process, identification plans and contractor evaluation are modeled after out-dated archaeological surveys and fail to consider the importance of identifying, addressing and mitigating contemporary cultural and religious tribal values associated with the proposed expansion area. Without adjustments, the proposed Section 106 survey will not consider our resources, culture and spiritual needs, including but not limited to, historic properties of religious and cultural significance to Indian Tribes.

Any proposed survey of this magnitude must include an appropriate ethnographic study of the area by a qualified ethnographer (not an archaeologist) with knowledge and familiarity with the culturally affiliated tribes and selected by the NWG. Such an ethnographic study must consider existing documentation, including but not limited to, existing or potential Traditional Cultural Property nominations and religious connections to the area by collecting and synthesizing important Nuwuvi traditional and spiritual knowledge.

In tandem with any ethnographic effort, tribal insight and concerns must be properly documented using appropriate ethnographic methods conducted by and with Nuwuvi equal to recent FWS and Forest Service efforts relating to four newly constructed Visitor's Centers in southern Nevada. Moreover, tribal interactions must be conducted in a manner consistent with government-to-government relationship protocols modeled after tribal interactions adopted by both DNWR and the culturally affiliated tribes.

Respectfully,

Roland Maldonado
Tribal Chairman
Kaibab Band of Paiute Indians
928/643/7125

Letter from the Nuwuvi Working Group: February 24, 2017

February 24, 2017

Lt. Col. Michael A. Freeman

Commander, 99 CES

6020 Beale Avenue

Nellis AFB, NV 89191

Re: NTTR LEIS Military Land Withdrawal

Dear Col. Freeman:

The Nuwuvi Working Group is aware of the impending Nevada Test and Training Range Military Land Withdrawal proposed by the United States Air Force (USAF) in preparation of a Legislative Environmental Impact Statement (LEIS) to acquire 260,000 acres within the existing boundary of the Desert National Wildlife Refuge (DNWR).

The proposed land expansion falls within the traditional homelands of culturally affiliated Southern Paiute and Chemehuevi Tribes located in Nevada, California, Utah and Arizona. These particular tribes formed the Nuwuvi Working Group (NWG) nearly a decade ago as a means of interfacing directly with Fish and Wildlife (FWS) to enhance our longstanding government-to-government relationship relating to any and all activities impacting the precious resources on the DNWR.

The NWG is comprised of key cultural knowledgeable individuals that are appointed by their respective tribal governments and charged with the responsibility of engaging in meaningful interaction concerning resources on the DNWR while simultaneously updated their respective tribes. NWG membership along with their leadership has demonstrated their extensive knowledge related to our deep-rooted cultural ties to the Sheep Mountains that are considered culturally sensitive and vital to the perpetuation of our culture. Currently no other group of tribes other then Southern Paiute and Chemehuevi Tribes possess the epistemology, background knowledge and specialized information that relates to the area and can truly recognize the gravity of the sensitive cultural and religious resources on the NDWR.

It is our understanding USAF is intending to conduct an archaeological evaluation for this National Historic Preservation Act (NHPA) Section 106 undertaking on a significant portion of the Desert National Wildlife Refuge. In turn, the Air Force NHPA Section 106 undertaking will ultimately turn a significant portion of the Desert National Wildlife Refuge Sheep Range into a bombing range under the jurisdiction of the Air Force. This process will irrevocably add the culturally important religious and ceremonial areas on the Sheep Range to the Nevada Test and Training Range. In our view, the proposed Sheep Range along with other culturally sensitive areas will be impacted by the associated destruction, desecration and restriction that adversely impacts our culture in perpetuity.

Due to the high degree of cultural sensitivity identified by Southern Paiute and Chemehuevi Tribes, the USAF NHPA Section 106 undertaking will without consideration have irreversible adverse effects on historic properties, and most importantly, on sites of religious and cultural significance to Indian Tribes. As an active bombing range, access will diminish significantly and eliminate our frequent and sustained connection to our traditional and contemporary culture, sites, plants, animals and other important attributes vital to our existence.

We believe qualified and traditionally knowledgeable individuals should be identified by the NWG with concurrence from their respective tribal governments to identify historic and ethnohistoric properties in compliance with NHPA Section 106. Further, full consideration must be given to surveying cultural resources, sites and identifying the cultural values attributed to those properties with religious and cultural significance to our affected tribes and who demonstrated cultural affiliation to the Sheep Range.

In examining the proposed undertaking including the Air Force's Section 106 process, identification plans and contractor evaluation are modeled after out-dated archaeological surveys and fail to consider the importance of identifying, addressing and mitigating contemporary culture and religious tribal values associated with the proposed Section 106 survey will not consider our resources, culture and spiritual needs, including but not limited to, historic properties of religious and cultural significance to Indian Tribes.

Any proposed survey of this magnitude must include an appropriate ethnographic study of the area by a qualified ethnographer (not archaeologist) with knowledge and familiarity with the culturally affiliated tribes and selected by the NWG. Such an ethnographic study must consider existing documentation, including but not limited to the area by collecting and synthesizing important Nuwuvi traditional and spiritual knowledge.

In tandem with any ethnographic effort, tribal insight and concerns must be properly documented using appropriate ethnographic methods conducted by and with Nuwuvi equal to recent FWS and Forest Services effort relating to four newly constructed Visitor's Centers in southern Nevada. Moreover, tribal

interactions must be conducted in a manner consistent with government-to-government relationship protocols modeled after tribal interactions adopted by both DNWR and the culturally affiliated tribes.

Sincerely,

Ronald Escobar

Nuwuvi Working Group Member

Chemehuevi Tribal Member

Letter from Chemehuevi Indian Tribe: February 25, 2017

Chemehuevi Indian Tribe

P.O. Box 1976 • Havasu Lake, California 92363 • (760) 858-4219 • Fax: (760) 858-5400

February 25, 2017

Kevin DesRoberts, Deputy Project Leader
Fish and Wildlife Service
4701 North Torrey Pines Dr.
Las Vegas, NV 89130

Re: NTTR LEIS Military Land Withdrawal

Dear Mr. DesRoberts:

As you are aware, the Chemehuevi Indian Tribe of California is federally recognized and a founding member of the Nuwuvi Working Group (NWG). We support the concerns expressed by the NWG relating to the proposed Nevada Test and Training Range (NTTR) land expansion onto the Desert National Wildlife Refuge (DWNR).

Our Tribal Council along with the NWG is extremely concerned with any actions that adversely affect our culture, traditional homelands and the numerous culturally sensitive sites or resources managed by the U.S. Fish and Wildlife Service (USFWS). The proposed actions of the Air Force under the auspices of an active bombing range for the NTTR located within the DNWR will have irreparable impacts on our ability to regularly access our traditional sites for religious and ceremonial purposes. This undertaking will without a doubt inhibit our ability to sustain our culture for future generations.

The proposed Historic Property Identification Plan (HPIP) proposed by the Air Force is silent on tribal resources relating to our religious ties to the area and fails to consider the impacts upon our songscapes and storyscapes within the broader cultural landscape. Equally, the HPIP does not account for the religious and spiritual implications placed upon our people including those tribes represented by the NWG.

Archaeological surveys or other activities involving culturally affiliated tribes related to the proposed undertaking must be conducted in a manner consistent with the mutually agreed upon

collaborative processes established between culturally affiliated tribes represented by the NWG and USFWS.

We see no consideration given to addressing or mitigating cultural and religious values associated with the proposed expansion area. The Chemehuevi Indian Tribe is troubled by the proposed Section 106 surveys that will not properly account for our resources including the cultural needs relating to those historic properties vital to the spiritual continuity of our people.

The Chemehuevi Indian Tribe disagrees with the outdated methodology proposed by Far Western Anthropological Research Group (FWARG) and their attempt to use intuitive archaeological predictive modeling. This approach will no doubt achieve skewed results by using insufficient information and not considering tribal perspectives or incorporating traditional knowledge about the area. Ultimately the intuitive model will identify only those sites within pre-determined locations without tribal consideration or intentional avoidance of other culturally important locations. Most importantly, tribal input from knowledgeable tribal representatives will be totally absent.

For reasons unknown, the proposed site evaluations approved by the Air Force and planned by FWARG are unacceptable and non-inclusive. In our view, ethnographic studies are necessary for focusing on the traditional cultural resources present on DNWR lands. Tribal involvement will promote a fuller understanding of the cultural nuances paramount to our culture including the culturally perceived impacts upon the land in question.

Clearly, a qualified trained ethnographer approved by the Nuwuvi Working Group in collaboration with USFWS is necessary to conduct proper ethnographic evaluations in accordance with NWG and USFWS government-to-government protocols.

Due to the nature of the proposed undertaking and the limited archaeological studies planned under Section 106 of the National Historic Preservation Act, the Air Force must provide sufficient funding to the UWFWS to conduct such a cultural analysis using the NWG on a government-to-government basis. Accordingly, culturally knowledgeable tribal members approved by their respective Nuwuvi tribal governments must participate in this effort. This approach will support integral components of a more robust systematic ethnographic evaluation to ensure the integrity of the study.

Due to the highly religious significance of the DNWR and the urgency of the proposed Air Force undertaking, the Chemehuevi Indian Tribe cannot support the existing elements of the HPIP nor the flawed unconscionable analysis proposed by the Air Force. The antiquated archaeological modeling is inadequate and until significant changes are made to address these concerns the interests of our people, will not be represented nor can we engage in a deficient project. It is our

contention USFWS must thoroughly consider the implications of an inadequate NHPA Section 106 archaeological surveys associated with the Legislative Environmental Impact Statement before issuing a permit under the Archaeological Resources Protection Act.

Sincerely,

Charles Wood
Tribal Chairman

Letter from Air Force to Kaibab Band of Paiute Indians, Chemehuevi Indian Tribe, and Nuwuvi Working Group: April 4, 2017

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

Lieutenant Colonel Michael A. Freeman
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

APR 0 4 2017

Mr. Roland Maldonado
Tribal Chairman
Kaibab Band of Paiute Indians

Mr. Charles Wood
Tribal Chairman
Chemehuevi Indian Tribe

Mr. Ronald Escobar
Nuwuvi Working Group Member
Chemehuevi Tribal Member

SUBJ: NTTR LEIS – Military Land Withdrawal Response Letters (Ref: your February 17, 2017; February 24, 2017; and February 25, 2017 letters respectively)

Dear Mr. Maldonado, Mr. Wood, and Mr. Escobar,

The U.S. Air Force (USAF) appreciates the input you provided in your letters to me and to Mr. DesRoberts at the US Fish and Wildlife Service (USFWS) on behalf on of the Kaibab Band of Paiute Indians and the Chemehuevi Indian Tribe in February, 2017 regarding the request for ethnographic studies, tribal engagement and participation, and feedback on the Historic Property Identification Plan (HPIP) submitted to the Nellis AFB Affiliated Tribes in January 2017. We received four letters that expressed shared concerns that are all attached to this response. Since the concerns were similar we are responding to you and your respective tribes with a single letter. As part of the USAF's continued government-to-government engagement and tribal consultation for the Nevada Test and Training Range (NTTR) military land withdrawal proposal, the USAF recognizes the concerns and issues raised by the Kaibab Paiute and Chemehuevi Tribes. In response the USAF would like to provide the following updates:

1) The USAF and our cooperating agency partners' value input from the Affiliated Tribes and are seeking to make modifications to our historic resource inventory approach to address some of the concerns raised by you and other Tribes. The Air Force will look to better integrate an ethnographic understanding into the tribal consultation, Section 106, and LEIS processes. The USAF understands the importance of ethnography and the integral role it plays in understanding

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the cultural landscape, particularly for tribes with historic ties to the NTTR and surrounding lands that could be affected by a future land withdrawal. To that end, the USAF has supported several ethnographic studies for the NTTR over the years. As part of the overall cultural characterization of the Area of Potential Effect for this undertaking the USAF intends to leverage those existing ethnographic studies to the extent possible and conduct an additional ethnographic study to supplement existing information in response to tribal comments received on the NTTR land withdrawal. The USAF will utilize a qualified ethnographer (not an archaeologist) to conduct the ethnographic study. Because of the number of Affiliated Tribes involved in this consultation effort, from a practical perspective the USAF cannot provide separate ethnographic studies for each tribe. The USAF therefore proposes one comprehensive ethnographic study, utilizing new tribal input as well as leveraging previously conducted studies to include existing or potential Traditional Cultural Property (TCP) nominations and religious connections to the area. With regards to the ethnographer, the USAF requests that the Nellis Air Force Base (AFB) Affiliated Tribes provide a list of qualified, preferred ethnographers that the Air Force could review in planning for the requested ethnographic study. Your support in providing a response to this request no later than 4 May 2017 is appreciated, to ensure there is adequate time to complete the study in conjunction with the land withdrawal process.

2) The USAF would also like to clarify the undertaking being considered as part of the proposed NTTR military land withdrawal. As part of the undertaking the USAF is considering an extension of the existing NTTR land withdrawal within the current NTTR boundary, as well as alternatives for potentially expanding the NTTR boundary by up to 301,507 acres in 3 distinct areas adjacent to the existing NTTR North and South range areas. The potential expansion areas were identified in previous tribal correspondence and meetings with potentially affected tribal groups. Under the Proposed Action and all alternatives considered, there would be no new target impact areas established in the Sheep Mountain Range or in any new expanded areas proposed for military land withdrawal. Additionally, at this time there are no site-specific land disturbance proposals included in the undertaking. The USAF has identified the general types of activities that would take place in the proposed withdrawal expansion areas in the future, if the withdrawal is approved by Congress. Some of these activities include establishment of radar and emitter sites, potential landing strips, and small team ground maneuvers. The impacts from these activities, if pursued in the future, are anticipated to impact only a small portion (less than 1%) of any new lands withdrawn by Congress. Specific activities and their locations would not be defined until after enactment of any future withdrawal legislation. At that time, any activities would be subject to additional appropriate National Environmental Policy Act (NEPA) analysis, National Historic Preservation Act (NHPA), and tribal consultation. As a result, the Affiliated Tribes will have multiple opportunities to consult and provide input on future site-specific activities in any new withdrawal areas prior to the occurrence of any activities which may impact cultural resources.

3) The USAF currently works with the tribes of the Nuwuvi Working Group (NWG) and other Affiliated Tribes under the Nellis AFB Native American Program to consult on NTTR activities and provide access to Historic Properties of Cultural and Religious Significance to Indian Tribes (HPCRSIT) affiliated with the NTTR. If any changes are made to the NTTR as a result of Congressional legislation in the future, it is the intention of the USAF to continue to consult and

provide opportunities for tribal access to HPCRSIT and other areas of tribal interest regardless of the alternative(s) selected. The USAF recognizes that tribal access to proposed military withdrawal areas would be reduced due to safety considerations when military activities are occurring, but the Air Force would work to balance desired access in new withdrawal areas with future military operations. Opportunities for access to USAF land areas would be identified and codified through the Section 106 consultation process and government-to-government coordination. If there are specific aspects of the protocols used between the NWG member tribes and the USFWS in the management of the Desert National Wildlife Refuge (DNWR) that you and your tribe would like to incorporate into the Nellis AFB Native American Program please let us know. Nellis AFB does not have a copy of any protocols or agreements between the USFWS and the NWG to help understand the concerns you addressed about following those protocols.

4) While the intent of the undertaking is to provide the land area necessary to meet current and future mission requirements, it is not the intent of the USAF to adversely impact HPCRSIT or negatively affect opportunities for the Affiliated Tribes to access these areas. In order to effectively balance mission needs with tribal uses of potential military withdrawal lands, the USAF understands that it is critical to receive input from the Affiliated Tribes on the proposed undertaking. The USAF has identified multiple methods that could be used to accomplish this in the HPIP provided in January 2017. The main components of the HPIP include literature review and summation (using existing information from NVCRIS and other published sources), an archaeology survey for the areas that the USAF has been provided access, and an ethnographic study. In response to input received, the USAF will plan to reduce the scope of archeological survey efforts, while increasing the focus on efforts to gather and understand ethnography of the area. Archaeological survey efforts that do occur will include Native American cultural experts to serve as monitors during field investigations, including representation the Nellis Affiliated Tribes with cultural ties to the areas being studied. These Native American cultural experts will assist the USAF in the identification and evaluation of HPCRSIT, as well as other aspects of the withdrawal that may impact Native Americans. The USAF is currently working with Mr. Richard Arnold as the Native American Coordinator (NAC) to coordinate the survey efforts over the next few weeks.

5) The USAF intends to provide an opportunity for tribal input on the LEIS and the withdrawal process. In addition to the extensive consultation and coordination efforts already conducted and planned for the future, the USAF is currently working with Mr. Arnold to identify members of a Native American Writers Subgroup (NAWS) to provide Native American perspectives on the land withdrawal proposal. The process for assembling the NAWS is ongoing at this time and the details will be coordinated with the Affiliated Tribes over the next few weeks.

If you have any questions or comments regarding the information presented in this letter, please direct them to (Ms. Kish LaPierre) by e-mail at (kish.lapierre@us.af.mil), or by phone at (702) 652-5813. Thank you for any inputs or information you can provide.

Sincerely

Michael A. Freeman, Lt Col, USAF
Commander

Attachment:
Referenced Four Letters

cc:
Nellis Air Force Base Native American Program Affiliated Tribes
Nuwuvi Working Group
Nellis Native American Coordinator (Mr. Richard Arnold)
US Fish and Wildlife Service (Mr. Kevin DesRoberts, Ms Christy Smith, Mr. Anan Raymond, and Mr. Spencer Lodge)
Nevada State Historic Preservation Office (Ms. Rebeca Palmer)

Enclosure

NUWUVI WORKING GROUP

February 11, 2017

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Avenue
Nellis AFB, NV 89191

Re: NTTR LEIS Military Land Withdrawal

Dear Col. Freeman:

The Nuwuvi Working Group is aware of the impending Nevada Test and Training Range Military Land Withdrawal proposed by the United States Air Force USAF) in preparation of a Legislative Environmental Impact Statement to acquire 260,000 acres within the existing boundary of the Desert National Wildlife Refuge.

The proposed land expansion falls within the traditional homelands of culturally affiliated Southern Paiute and Chemehuevi Tribes located in Nevada, California, Utah and Arizona. These particular tribes formed the Nuwuvi Working Group (NWG) nearly a decade ago as a means of interfacing directly with FWS to enhance our longstanding government-to-government relationship relating to any and all activities impacting the precious resources on the Desert National Wildlife Refuge (DNWR).

The NWG comprised of key culturally knowledgeable individuals are appointed by their respective tribal governments and charged with the responsibility of engaging in meaningful interactions about resources on the DNWR while updating their respective tribes. NWG membership along with their leadership has demonstrated their extensive knowledge relating to our deep-rooted cultural ties to the Sheep Mountains that are considered culturally sensitive and vital to the perpetuation of our culture. Currently no other group of tribes other than Southern Paiute and Chemehuevi tribes possess the background knowledge and information that relates to the area and can truly recognize the gravity of the sensitive cultural and religious resources without understanding Southern Paiute/Chemehuevi epistemology.

It is our understanding USAF is intending to conduct archaeological evaluations for this National Historic Preservation Act (NHPA) Section 106 undertaking on a significant portion of the Desert National Wildlife Refuge. In turn, the Air Force NHPA Section 106 undertaking will ultimately turn a significant portion of the Desert National Wildlife Refuge Sheep Range into a bombing range under the jurisdiction of the Air Force and irrevocably adding the culturally important religious and ceremonial areas on the Sheep Range to the Nevada Test and Training Range. In our view, the proposed Sheep Range along with other culturally sensitive

area will be impacted by associated destruction, desecration and restriction that adversely impact our culture in perpetuity.

Due to the high degree of cultural sensitivity identified by Southern Paiute and Chemehuevi Tribes, the USAF NHPA Section 106 undertaking will without consideration have irreversible adverse effects on historic properties and most importantly the religious and cultural significance to Indian Tribes. As an active bombing range, access will diminish significantly and eliminate our frequent and sustained connection to our traditional and contemporary culture, sites, plants, animals and other important attributes vital to our existence.

We believe qualified and traditionally knowledgeable individuals be identified by the NWG with concurrence from their respective tribal governments to identify historic and ethnohistoric properties in compliance with NHPA Section 106. Further, full consideration must be given to surveying cultural resources, sites and identifying the cultural values attributed to those properties with religious and cultural significance to our affected tribes and/or bands who demonstrated cultural affiliation to the Sheep Range.

In examining the proposed undertaking including the Air Force Section 106 Historic Property identification plans and contractor evaluation are modeled after out-dated archaeological surveys and fail to consider the importance of identifying, addressing and mitigating cultural and religious tribal values associated with the proposed expansion area. Without adjustments, the proposed Section 106 survey will not consider our resources, culture and spiritual needs including but not limited to historic properties of religious and cultural significance to Indian Tribes.

Any proposed survey of this magnitude must include an appropriate ethnographic study of the area by a qualified ethnographer (not archaeologist) with knowledge and familiarity with culturally affiliated tribes and selected by the NWG. Such an ethnographic study must consider existing documentation including but not limited to existing or potential Traditional Cultural Property nominations and religious connections to the area by collecting and synthesizing important Nuwuvi traditional and spiritual knowledge.

In tandem with any ethnographic effort, tribal insight and concerns must be properly documented using appropriate ethnographic methods conducted by and with Nuwuvi equal to recent FWS and Forest Service efforts relating to four newly constructed Visitor's Centers. Moreover, tribal interactions must be conducted in a manner consistent with government-to-government relationship protocols modeled after tribal interactions adopted by both DNWR and culturally affiliated tribes.

Sincerely,

Nuwuvi Working Group

Enclosure

Kaibab Band of Paiute Indians

NUWUVI WORKING GROUP

February 17, 2017

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Avenue
Nellis AFB, NV 89191

Re: NTTR LEIS Military Land Withdrawal

Col. Freeman, Sir:

The Nuwuvi Working Group is aware of the impending Nevada Test and Training Range Military Land Withdrawal proposed by the United States Air Force (USAF), in preparation of a Legislative Environmental Impact Statement (LEIS) to acquire 260,000 acres within the existing boundary of the Desert National Wildlife Refuge (DNWR).

The proposed land expansion falls within the traditional homelands of culturally affiliated Southern Paiute and Chemehuevi Tribes located in Nevada, California, Utah and Arizona. These particular tribes formed the Nuwuvi Working Group (NWG) nearly a decade ago as a means of interfacing directly with Fish and Wildlife (FWS), to enhance our longstanding government-to-government relationship relating to any and all activities impacting the precious resources on the DNWR.

The NWG is comprised of key culturally knowledgeable individuals who are appointed by their respective tribal governments and charged with the responsibility of engaging in meaningful interactions about resources on the DNWR while simultaneously updating their respective tribes. NWG membership along with their leadership has demonstrated their extensive knowledge relating to our deep-rooted cultural ties to the Sheep Mountains that are considered culturally sensitive and vital to the perpetuation of our culture. Currently no other group of tribes other than Southern Paiute and Chemehuevi tribes possess the epistemology, background knowledge and specialized information that relates to the area and can truly recognize the gravity of the sensitive cultural and religious resources on the DNWR.

Tribal Affairs
HC 65 Box 2
Fredonia, Arizona 86022
Phone (928) 643-7245
Fax (888) 939-3777

It is our understanding that the USAF is intending to conduct archaeological evaluations for this National Historic Preservation Act (NHPA) Section 106 undertaking on a significant portion of the Desert National Wildlife Refuge. In turn, the Air Force NHPA Section 106 undertaking will ultimately turn a significant portion of the Desert National Wildlife Refuge Sheep Range into a bombing range under the jurisdiction of the Air Force. This process will irrevocably add the culturally important religious and ceremonial areas on the Sheep Range to the Nevada Test and Training Range. In our view, the proposed Sheep Range along with other culturally sensitive areas will be impacted by the associated destruction, desecration and restriction that will adversely impact our culture into perpetuity.

Due to the high degree of cultural sensitivity identified by Southern Paiute and Chemehuevi Tribes, the USAF NHPA Section 106 undertaking will without consideration have irreversible adverse effects on historic properties, and most importantly, on sites of religious and cultural significance to Indian Tribes. As an active bombing range, access will diminish significantly and eliminate our frequent use and sustained connection to our traditional and contemporary culture, sites, plants, animals and other important attributes vital to our existence.

We believe qualified and traditionally knowledgeable individuals should be identified by the NWG with concurrence from their respective tribal governments to identify historic and ethnohistoric properties in compliance with NHPA Section 106 and E.O. 13175 and E.O.13007. Further, full consideration must be given to surveying cultural resources, sites and identifying the cultural values attributed to those properties with religious and cultural significance to our affected tribes and/or bands who demonstrated cultural affiliation to the Sheep Range.

In examining the proposed undertaking including the Air Force's Section 106 process, identification plans and contractor evaluation are modeled after out-dated archaeological surveys and fail to consider the importance of identifying, addressing and mitigating contemporary cultural and religious tribal values associated with the proposed expansion area. Without adjustments, the proposed Section 106 survey will not consider our resources, culture and spiritual needs, including but not limited to, historic properties of religious and cultural significance to Indian Tribes.

Any proposed survey of this magnitude must include an appropriate ethnographic study of the area by a qualified ethnographer (not an archaeologist) with knowledge and familiarity with the culturally affiliated tribes and selected by the NWG. Such an ethnographic study must consider existing documentation, including but not limited to, existing or potential Traditional Cultural Property nominations and religious connections to the area by collecting and synthesizing important Nuwuvi traditional and spiritual knowledge.

In tandem with any ethnographic effort, tribal insight and concerns must be properly documented using appropriate ethnographic methods conducted by and with Nuwuvi equal to recent FWS and Forest Service efforts relating to four newly constructed Visitor's Centers in southern Nevada. Moreover, tribal interactions must be conducted in a manner consistent with government-to-government relationship protocols modeled after tribal interactions adopted by both DNWR and the culturally affiliated tribes.

Respectfully,

Roland Maldonado
Tribal Chairman
Kaibab Band of Paiute Indians
928/643/7125

Enclosure

February 24, 2017

Lt. Col. Michael A. Freeman

Commander, 99 CES

6020 Beale Avenue

Nellis AFB, NV 89191

Re: NTTR LEIS Military Land Withdrawal

Dear Col. Freeman:

The Nuwuvi Working Group is aware of the impending Nevada Test and Training Range Military Land Withdrawal proposed by the United States Air Force (USAF) in preparation of a Legislative Environmental Impact Statement (LEIS) to acquire 260,000 acres within the existing boundary of the Desert National Wildlife Refuge (DNWR).

The proposed land expansion falls within the traditional homelands of culturally affiliated Southern Paiute and Chemehuevi Tribes located in Nevada, California, Utah and Arizona. These particular tribes formed the Nuwuvi Working Group (NWG) nearly a decade ago as a means of interfacing directly with Fish and Wildlife (FWS) to enhance our longstanding government-to-government relationship relating to any and all activities impacting the precious resources on the DNWR.

The NWG is comprised of key cultural knowledgeable individuals that are appointed by their respective tribal governments and charged with the responsibility of engaging in meaningful interaction concerning resources on the DNWR while simultaneously updated their respective tribes. NWG membership along with their leadership has demonstrated their extensive knowledge related to our deep-rooted cultural ties to the Sheep Mountains that are considered culturally sensitive and vital to the perpetuation of our culture. Currently no other group of tribes other then Southern Paiute and Chemehuevi Tribes possess the epistemology, background knowledge and specialized information that relates to the area and can truly recognize the gravity of the sensitive cultural and religious resources on the NDWR.

It is our understanding USAF is intending to conduct an archaeological evaluation for this National Historic Preservation Act (NHPA) Section 106 undertaking on a significant portion of the Desert National Wildlife Refuge. In turn, the Air Force NHPA Section 106 undertaking will ultimately turn a significant portion of the Desert National Wildlife Refuge Sheep Range into a bombing range under the jurisdiction of the Air Force. This process will irrevocably add the culturally important religious and ceremonial areas on the Sheep Range to the Nevada Test and Training Range. In our view, the proposed Sheep Range along with other culturally sensitive areas will be impacted by the associated destruction, desecration and restriction that adversely impacts our culture in perpetuity.

Due to the high degree of cultural sensitivity identified by Southern Paiute and Chemehuevi Tribes, the USAF NHPA Section 106 undertaking will without consideration have irreversible adverse effects on historic properties, and most importantly, on sites of religious and cultural significance to Indian Tribes. As an active bombing range, access will diminish significantly and eliminate our frequent and sustained connection to our traditional and contemporary culture, sites, plants, animals and other important attributes vital to our existence.

We believe qualified and traditionally knowledgeable individuals should be identified by the NWG with concurrence from their respective tribal governments to identify historic and ethnohistoric properties in compliance with NHPA Section 106. Further, full consideration must be given to surveying cultural resources, sites and identifying the cultural values attributed to those properties with religious and cultural significance to our affected tribes and who demonstrated cultural affiliation to the Sheep Range.

In examining the proposed undertaking including the Air Force's Section 106 process, identification plans and contractor evaluation are modeled after out-dated archaeological surveys and fail to consider the importance of identifying, addressing and mitigating contemporary culture and religious tribal values associated with the proposed Section 106 survey will not consider our resources, culture and spiritual needs, including but not limited to, historic properties of religious and cultural significance to Indian Tribes.

Any proposed survey of this magnitude must include an appropriate ethnographic study of the area by a qualified ethnographer (not archaeologist) with knowledge and familiarity with the culturally affiliated tribes and selected by the NWG. Such an ethnographic study must consider existing documentation, including but not limited to the area by collecting and synthesizing important Nuwuvi traditional and spiritual knowledge.

In tandem with any ethnographic effort, tribal insight and concerns must be properly documented using appropriate ethnographic methods conducted by and with Nuwuvi equal to recent FWS and Forest Services effort relating to four newly constructed Visitor's Centers in southern Nevada. Moreover, tribal

interactions must be conducted in a manner consistent with government-to-government relationship protocols modeled after tribal interactions adopted by both DNWR and the culturally affiliated tribes.

Sincerely,

Ronald Escobar

Nuwuvi Working Group Member

Chemehuevi Tribal Member

Enclosure

Chemehuevi Indian Tribe

P.O. Box 1976 • Havasu Lake, California 92363 • (760) 858-4219 • Fax: (760) 858-5400

February 25, 2017

Kevin DesRoberts, Deputy Project Leader
Fish and Wildlife Service
4701 North Torrey Pines Dr.
Las Vegas, NV 89130

Re: NTTR LEIS Military Land Withdrawal

Dear Mr. DesRoberts:

As you are aware, the Chemehuevi Indian Tribe of California is federally recognized and a founding member of the Nuwuvi Working Group (NWG). We support the concerns expressed by the NWG relating to the proposed Nevada Test and Training Range (NTTR) land expansion onto the Desert National Wildlife Refuge (DWNR).

Our Tribal Council along with the NWG is extremely concerned with any actions that adversely affect our culture, traditional homelands and the numerous culturally sensitive sites or resources managed by the U.S. Fish and Wildlife Service (USFWS). The proposed actions of the Air Force under the auspices of an active bombing range for the NTTR located within the DNWR will have irreparable impacts on our ability to regularly access our traditional sites for religious and ceremonial purposes. This undertaking will without a doubt inhibit our ability to sustain our culture for future generations.

The proposed Historic Property Identification Plan (HPIP) proposed by the Air Force is silent on tribal resources relating to our religious ties to the area and fails to consider the impacts upon our songscapes and storyscapes within the broader cultural landscape. Equally, the HPIP does not account for the religious and spiritual implications placed upon our people including those tribes represented by the NWG.

Archaeological surveys or other activities involving culturally affiliated tribes related to the proposed undertaking must be conducted in a manner consistent with the mutually agreed upon

collaborative processes established between culturally affiliated tribes represented by the NWG and USFWS.

We see no consideration given to addressing or mitigating cultural and religious values associated with the proposed expansion area. The Chemehuevi Indian Tribe is troubled by the proposed Section 106 surveys that will not properly account for our resources including the cultural needs relating to those historic properties vital to the spiritual continuity of our people.

The Chemehuevi Indian Tribe disagrees with the outdated methodology proposed by Far Western Anthropological Research Group (FWARG) and their attempt to use intuitive archaeological predictive modeling. This approach will no doubt achieve skewed results by using insufficient information and not considering tribal perspectives or incorporating traditional knowledge about the area. Ultimately the intuitive model will identify only those sites within pre-determined locations without tribal consideration or intentional avoidance of other culturally important locations. Most importantly, tribal input from knowledgeable tribal representatives will be totally absent.

For reasons unknown, the proposed site evaluations approved by the Air Force and planned by FWARG are unacceptable and non-inclusive. In our view, ethnographic studies are necessary for focusing on the traditional cultural resources present on DNWR lands. Tribal involvement will promote a fuller understanding of the cultural nuances paramount to our culture including the culturally perceived impacts upon the land in question.

Clearly, a qualified trained ethnographer approved by the Nuwuvi Working Group in collaboration with USFWS is necessary to conduct proper ethnographic evaluations in accordance with NWG and USFWS government-to-government protocols.

Due to the nature of the proposed undertaking and the limited archaeological studies planned under Section 106 of the National Historic Preservation Act, the Air Force must provide sufficient funding to the UWFWS to conduct such a cultural analysis using the NWG on a government-to-government basis. Accordingly, culturally knowledgeable tribal members approved by their respective Nuwuvi tribal governments must participate in this effort. This approach will support integral components of a more robust systematic ethnographic evaluation to ensure the integrity of the study.

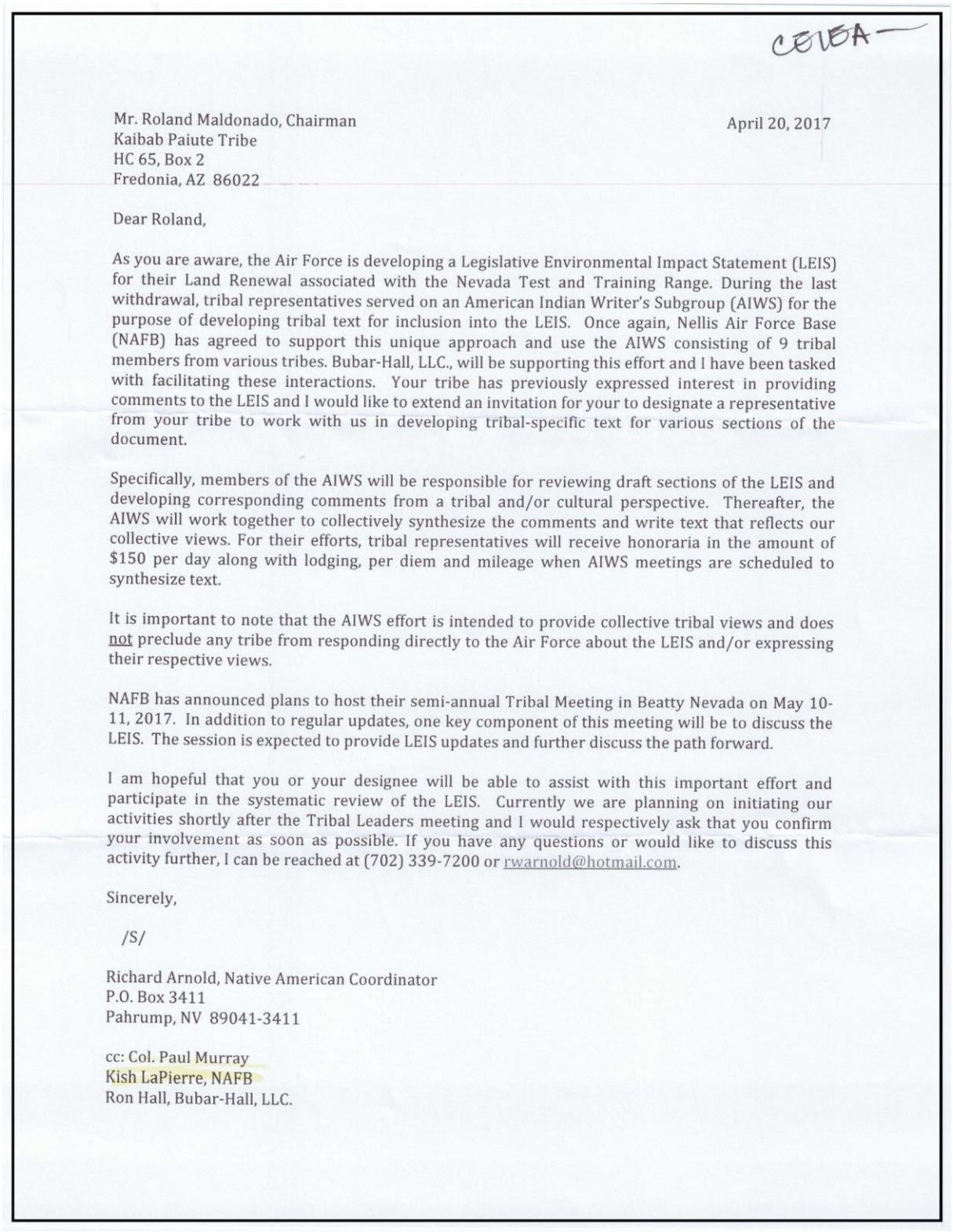
Due to the highly religious significance of the DNWR and the urgency of the proposed Air Force undertaking, the Chemehuevi Indian Tribe cannot support the existing elements of the HPIP nor the flawed unconscionable analysis proposed by the Air Force. The antiquated archaeological modeling is inadequate and until significant changes are made to address these concerns the interests of our people, will not be represented nor can we engage in a deficient project. It is our

contention USFWS must thoroughly consider the implications of an inadequate NHPA Section 106 archaeological surveys associated with the Legislative Environmental Impact Statement before issuing a permit under the Archaeological Resources Protection Act.

Sincerely,

Charles Wood
Tribal Chairman

Letter from Native American Coordinator to Kaibab Paiute Tribe Chairman: April 20, 2017



CEVEA—

Mr. Roland Maldonado, Chairman
Kaibab Paiute Tribe
HC 65, Box 2
Fredonia, AZ 86022

April 20, 2017

Dear Roland,

As you are aware, the Air Force is developing a Legislative Environmental Impact Statement (LEIS) for their Land Renewal associated with the Nevada Test and Training Range. During the last withdrawal, tribal representatives served on an American Indian Writer's Subgroup (AIWS) for the purpose of developing tribal text for inclusion into the LEIS. Once again, Nellis Air Force Base (NAFB) has agreed to support this unique approach and use the AIWS consisting of 9 tribal members from various tribes. Bubar-Hall, LLC., will be supporting this effort and I have been tasked with facilitating these interactions. Your tribe has previously expressed interest in providing comments to the LEIS and I would like to extend an invitation for your to designate a representative from your tribe to work with us in developing tribal-specific text for various sections of the document.

Specifically, members of the AIWS will be responsible for reviewing draft sections of the LEIS and developing corresponding comments from a tribal and/or cultural perspective. Thereafter, the AIWS will work together to collectively synthesize the comments and write text that reflects our collective views. For their efforts, tribal representatives will receive honoraria in the amount of $150 per day along with lodging, per diem and mileage when AIWS meetings are scheduled to synthesize text.

It is important to note that the AIWS effort is intended to provide collective tribal views and does not preclude any tribe from responding directly to the Air Force about the LEIS and/or expressing their respective views.

NAFB has announced plans to host their semi-annual Tribal Meeting in Beatty Nevada on May 10-11, 2017. In addition to regular updates, one key component of this meeting will be to discuss the LEIS. The session is expected to provide LEIS updates and further discuss the path forward.

I am hopeful that you or your designee will be able to assist with this important effort and participate in the systematic review of the LEIS. Currently we are planning on initiating our activities shortly after the Tribal Leaders meeting and I would respectively ask that you confirm your involvement as soon as possible. If you have any questions or would like to discuss this activity further, I can be reached at (702) 339-7200 or rwarnold@hotmail.com.

Sincerely,

/S/

Richard Arnold, Native American Coordinator
P.O. Box 3411
Pahrump, NV 89041-3411

cc: Col. Paul Murray
Kish LaPierre, NAFB
Ron Hall, Bubar-Hall, LLC.

Letter from Native American Coordinator to Moapa Band of Paiutes Chairman: April 20, 2017

Mr. Darren Daboda, Chairman
Moapa Band of Paiutes
P.O. Box 340
Moapa, NV 89025

April 20, 2017

Dear Darren,

As you are aware, the Air Force is developing a Legislative Environmental Impact Statement (LEIS) for their Land Renewal associated with the Nevada Test and Training Range. During the last withdrawal, tribal representatives served on an American Indian Writer's Subgroup (AIWS) for the purpose of developing tribal text for inclusion into the LEIS. Once again, Nellis Air Force Base (NAFB) has agreed to support this unique approach and use the AIWS consisting of 9 tribal members from various tribes. Bubar-Hall, LLC., will be supporting this effort and I have been tasked with facilitating these interactions. Your tribe has previously expressed interest in providing comments to the LEIS and I would like to extend an invitation for your to designate a representative from your tribe to work with us in developing tribal-specific text for various sections of the document.

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I am hopeful that you or your designee will be able to assist with this important effort and participate in the systematic review of the LEIS. Currently we are planning on initiating our activities shortly after the Tribal Leaders meeting and I would respectively ask that you confirm your involvement as soon as possible. If you have any questions or would like to discuss this activity further, I can be reached at (702) 339-7200 or rwarnold@hotmail.com.

Sincerely,

/S/

Richard Arnold, Native American Coordinator
P.O. Box 3411
Pahrump, NV 89041-3411

cc: Col. Paul Murray
Kish LaPierre, NAFB
Ron Hall, Bubar-Hall, LLC.

Letter from Colorado River Indian Tribe: May 18, 2017

COLORADO RIVER INDIAN TRIBES
Tribal Historic Preservation Office
26600 Mohave Road
Parker, Arizona 85344
Telephone: (928)-669-5822 Fax: (928) 669-5843

May 18, 2017

Department of the Air Force
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

RE: NTTR LEIS Military Land Withdrawal Response Letters

Dear Ms. Kish LaPierre:

The Colorado River Indian Tribes' Tribal Historic Preservation Office ("CRIT THPO") has received your letter dated April 04, 2017, regarding the *Nevada Test and Training Range (NTTR) military land withdrawal proposal.*

As a preliminary matter, the Colorado River Indian Tribes are a federally recognized Indian tribe comprised of over 4,200 members belonging to the Mohave, Chemehuevi, Hopi and Navajo Tribes. The almost 300,000 acre Colorado River Indian Reservation sits astride the Colorado River between Blythe, California and Parker, Arizona. The ancestral homelands of the Tribe's members, however, extend far beyond the Reservation boundaries. Significant portions of public and private lands in California, Arizona and Nevada were occupied by the ancestors of the Colorado River Indian Tribes' Mohave and Chemehuevi members since time immemorial. These landscapes remain imbued with substantial cultural, spiritual and religious significance for the Tribes' current members and future generations. For this reason, we have a strong interest in ensuring that potential cultural resource impacts are adequately considered and mitigated.

In particular, the Colorado River Indian Tribes are concerned about the removal of artifacts from this area and corresponding destruction of the Tribes' footprint on this landscape. As such, the Tribes request that all prehistoric cultural resources, including both known and yet-to-be-discovered sites, be avoided if feasible. If avoidance of the site is infeasible, then the Tribes request that the resources be left in-situ or reburied in a nearby area, after consultation. This language should be incorporated into enforceable mitigation measures.

In addition, we respond as follows:

_____Given the potential impact of the project on important cultural resources, the Colorado River Indian Tribes request in-person government-to-government consultation. Please contact the CRIT THPO to discuss our concerns and schedule a meeting with Tribal Council.

_____In the event any human remains or objects subject to provision of the Native American Graves Protection and Repatriation Act, or cultural resources such as sites, trails, artifacts are identified during ground disturbance, please contact the CRIT THPO within 48 hours.

_____The Colorado River Indian Tribes request tribal monitoring of any ground disturbing activity as a condition of project approval. The Tribes request notification of any opportunities to provide tribal monitoring for the project.

___√___The Colorado River Indian Tribes do not have any specific comment on the proposed project and instead defer to the comments of other affiliated tribes.

Thank you for your consideration. Please contact the undersigned if you have any questions or concerns.

Sincerely,

COLORADO RIVER INDIAN TRIBES
TRIBAL HISTORIC PRESERVATION OFFICE

/s/David Harper, Director
26600 Mohave Road
Parker, AZ 85344
Phone: (928) 669-5822
E-mail: david.harper@crit-nsn.gov

critthpo@crit-nsn.gov

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Utu Utu Gwaitu Paiute Tribe (Bento Paiute Tribe): December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Ms. Tina Braithwaite, Chairperson
Utu Utu Gwaitu Paiute Tribe (Benton Paiute Tribe)
25669 Highway 6, PMB I
Benton, CA 93512

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Ms. Braithwaite,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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The project website (www.nttrleis.com) can be used to submit comments on the Draft Legislative EIS or comments may also be submitted by mail to the 99th Air Base Wing Public Affairs, 4430 Grissom Ave., Ste. 107, Nellis AFB, NV 89191. Please direct any requests for information or other inquiries to the 99th Air Base Wing Public Affairs, 4430 Grissom Ave., Ste. 107, Nellis AFB, NV 89191, by e-mail at 99ABW.PAOutreach@us.af.mil, or by phone at (702) 652-2750.

Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Big Pine Paiute Tribe: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Ms. Shannon Romero, Chairperson
Big Pine Pauite Tribe
P.O. Box 700
825 South Main Street, Big Pine, CA 93513

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Ms. Romero,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Enable Mission Success by Delivering Innovative Support

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Bishop Paiute Tribe: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. William Vega, Chairperson
Bishop Paiute Tribe
50 Tusu Lane
Bishop, CA 93514

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Vega,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Chemehuevi Indian Tribe: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Charles Wood, Chairperson
Chemehuevi Indian Tribe
P.O. Box 1976
Havasu Lake, CA 92363

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Wood,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Colorado River Indian Tribes: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Dennis Patch, Chairperson
Colorado River Indian Tribes
26600 Mohave Road
Parker, AZ 85344

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Patch,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Enable Mission Success by Delivering Innovative Support

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Duckwater Shoshone Tribe: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Rodney Mike, Chairperson
Duckwater Shoshone Tribe
511 Duckwater Falls, P.O. Box 140068
Duckwater, NV 89314-0068

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Mike,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Ely Shoshone Tribe: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Victor McQueen Jr., Chairman
Ely Shoshone Tribe
16 Shoshone Circle
Ely, NV 89301

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. McQueen,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Ft. Mojave Tribe: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Timothy Williams, Chairperson
Ft. Mojave Tribe
500 Merriman Avenue
Needles, CA 92363

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Williams,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Ft. Independence Paiute Tribe: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Norman Wilder, Chairperson
Ft. Independence Paiute Tribe
P.O. Box 67
131 North Hwy 395
Independence, CA 93526

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Wilder,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Kaibib Band of Southern Paiutes: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Ms. Ona Segundo, Chairperson
Kaibab Band of Southern Paiutes
HC 65 Box 2
Fredonia, AZ 86022

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Ms. Segundo ,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Las Vegas Paiute Tribe: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Benny Tso, Chairperson
Las Vegas Paiute Tribe
#1 Paiute Drive
Las Vegas, NV 89106

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Tso,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Lone Pine Paiute-Shoshone Tribe: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Ms. Mary Wuester, Chairperson
Lone Pine Paiute-Shoshone Tribe
P.O. Box 747
975 Teya Road
Lone Pine, CA 93545

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Ms. Wuester,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Moapa Band of Paiutes: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Ms. Lori Kay, Chairperson of Cultural Committee
Moapa Band of Paiutes
P.O. Box 340
Moapa, NV 89025

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Ms. Kay,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Pahrump Paiute Tribe: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Richard Arnold
Pahrump Paiute Tribe
P.O. Box 3411
Pahrump, NV 89041

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Arnold,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Timbisha Shoshone Tribe: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. George Gholson, Chairperson
Timbisha Shoshone Tribe
621 West Line St. Suite 109
Bishop, CA 93515

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Gholson,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,

PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Paiute Indian Tribes of Utah: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Ms. Tamra Borchardt-Slayton, Chairperson
Paiute Indian Tribes of Utah
440 North Paiute Drive
Cedar City, UT 84721

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Ms. Borchardt-Slayton,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Yomba Shoshone Tribe: December 4, 2017

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Wayne Dyer, Chairperson
Mr. Daryl Brady, Vice-Chairperson
Yomba Shoshone Tribe
HC 61, Box 6275
Austin, NV 89310

SUBJECT: **Draft Legislative Environmental Impact Statement Public Review**
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Dyer/Mr. Brady,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:
Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Letter from the Moapa Band of Paiutes: March 29, 2018

MOAPA BAND OF PAIUTES
MOAPA RIVER INDIAN RESERVATION
BOX 340
MOAPA, NEVADA 89025
TELEPHONE (702) 865-2787
FAX (702) 865-2875

Tribal Resolution: M-18-03-07

RESOLUTION OF THE GOVERNING BODY OF THE MOAPA BAND OF PAIUTES

Subject: Oppose Department of Defense Increased Use and Expansion of the Nevada Test and Training Range (NTTR) in the Desert National Wildlife Refuge

WHEREAS, the Moapa Band of Paiutes are organized under the provisions of the Indian Reorganization Act of June 18, 1934, (Stat. 594), as amended to exercise certain rights of home rule and be responsible for the general welfare of its membership and is governed by its Business Council which manages its affairs under Articles III and V of its Constitution; and

WHEREAS, the Moapa Business Council is the governing body of the Moapa Band of Paiute Indians, by authority of the Tribe's Constitution and By-Laws; and

WHEREAS, the region encompassing the NTTR and the Desert National Wildlife Refuge remain central to the lives of Native American Tribes. These lands are known to contain traditional and ceremonial use along with traditional gathering and collection locations for Native American people. The region contains abundant ecological resources and special power places that are crucial in the continuity of Native American culture, religion and society; and

WHEREAS, the Mountains of Southern Nevada are considered sacred lands to the Southern Paiute Nuwu, where great legends were said to have begun and ended and where our hearts belong to this land. Since time immemorial, our people have lived and traveled across these lands. They carved their stories on the rocks, cooked their food in the now ancient roasting pits, and left artifacts that show how our people thrived in this beautiful desert and mountain environment. These are the objects of antiquity that tell the story of the Nuwu; of how we thrived on the land and of how our homelands were stolen by white colonizers. We cannot forget this history; and

WHEREAS, much of the Refuge has not been properly inventoried for cultural resources and 80% of the Sheep Range is designated as the Sheep Mountain Archaeological site on the National Register of Historic Places; and

WHEREAS, the bighorn sheep are sacred to the Moapa people. Creation stories say that the Paiute people enter the mountains and left as sheep. In essence the sheep are people. It is our duty to protect the mountain sheep for if they all die, then we die too. The Refuge was originally protected for the sheep and the mountains in the Desert Refuge/NTTR and are key habitat for desert bighorn sheep; and

WHEREAS, the Department of Defense wants to increase training operations in the Desert Refuge/NTTR and increase the size of the NTTR. Expansion would eliminate even more access to the Desert Refuge including denying access to half of the Sheep Range limiting access to cultural sites and

potentially damaging them and negatively impacting sheep in the mountain ranges in the NTTR and the Sheep Range

NOW THEREFORE BE IT RESOLVED, that the Moapa Business Council strongly prefers the Department of Defense Alternative 1 which would maintain the status quo and does not increase the use or size of the NTTR

BE IT FURTHER RESOLVED that the Moapa Business Council urges the Department of Defense to increase coordination directly with the Moapa Tribe pertaining to any additional land withdrawal and change in use and provide more access to important cultural sites within the boundaries of the NTTR including, but not limited to, Pintwater Cave.

CERTIFICATION

We, the undersigned Chairman and Secretary of the Business Council of the Moapa Band of Paiute Indians, do hereby certify that the foregoing resolution was considered and passed at a duly called meeting of the Business Council of the Moapa Band of Paiute Indians, at which a quorum was present, held on the 12th day of March 2018, with (4) For (0) Against (0) Abstaining, and (1) Absent.

Chairman Gregory Anderson Sr.

Tribal Council Secretary Delaine Bow

MOAPA BAND OF PAIUTES

MOAPA RIVER INDIAN RESERVATION
BOX 340
MOAPA, NEVADA 89025
TELEPHONE (702) 865-2787
FAX (702) 865-2875

Via U.S. Mail
March 28, 2018

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

RE: Moapa Band of Paiutes- Comment Letter

Dear Colonel Murray,

The Moapa Band of Paiutes submits the following comment on the Nevada Test and Training Range Military Land Withdrawal draft legislative environmental impact statement. For at least the last 800 to 1000 years, the ancestors of Moapa Band members have lived, hunted, worshipped, and travelled in the areas that the Air Force now proposes to withdraw from public access and to subject to flight training, munitions testing, and simulated ground combat. The proposed withdrawal raises deep concerns with the Band and its members.

The Air Force's proposal continues the long and tragic history of the United States' expulsion of the Southern Paiute from their homelands. Prior to 1830, members of the Southern Paiute traveled widely in the region without impact from settlers. After increasing conflict, executive orders signed by President Grant in 1873 and 1874 created an approximately 2,000,000-acre reservation, including the entire Moapa and Lower Virgin watersheds and extensive lands along the Colorado River. *See* Kappler, Indian Affairs, Laws and Treaties 866-67 (2d.ed. 1904). The Reservation was diminished to a meager 1,000 acres, and then later restored to the still much reduced approximately 72,000 acres.

The creation of the Reservation removed the Band from its homelands. The current Reservation includes very little mountainous terrain and is separated from much of the Band's wildlife, cultural, and spiritual resources. Access to public land on off-reservation areas is therefore critical to preservation of our heritage and the ongoing health and well-being of our Band. The Mountains of Southern Nevada are sacred lands, where great legends began and ended, and where our hearts belong. Our stories are carved in the rocks, and the strength of our people is in our history and our connection to the earth. Band members rely heavily on access to surrounding public lands to stay connected to our culture, religion, and sense of belonging. The Air Force's proposed withdrawal and training exercises would restrict Band members from accessing critical cultural resources and wildlife, and would forever alter sacred landscapes.

The proposed use of sacred lands exacerbates the historical harm of removing the Band from its homelands. Few things could be more destructive to the Band's culture, which is based upon connection with and respect for earth, than the testing of jet planes, war games, and munitions.

Training also damages life on the Reservation. Flyovers and munitions training occur night and day and severely impact quality of life on the Reservation, by damaging the quiet and peace that is critical to the Band's well-being. Increasing these impacts will further damage the Band.

As explained in the attached resolution, M-18-03-07, titled "Opposed Department of Defense Increased Use and Expansion of the Nevada Test and Training Range (NTTR) in the Desert National Wildlife Refuge," the Band opposes further impacts to cultural and wildlife resources, and supports adoption of Alternative 1 or a more protective alternative.

The Band further requests a thorough and open conversation between the Air Force and Band members, at times and locations such that Band members can understand what is happening to their sacred places without sifting through hundreds of pages of environmental impact statement, and that the Air Force can hear first-hand how the expansion will harm our way of life. These are concerns that cannot be adequately expressed or considered through bureaucratic documentation, but must be understood as they are felt, as deep harms to a people's culture and well-being.

The comments below set forth specific concerns raised by the proposed expansion and request further analysis of impacts to the Band, following the order of the draft EIS.

Purpose and Need

The purpose and need must include a short, plain statement of what is required to satisfy congressional direction. *See* 40 C.F.R. § 1502.13 (requiring a statement that "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action"). "The stated goal of a project necessarily dictates the range of 'reasonable' alternatives and an agency cannot define its objectives in unreasonably narrow terms." *City of Carmel-By-The-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997).

The purpose and need in the EIS focuses heavily on the Air Force's desire for expansion. The Band suggests that the purpose and need should reflect both the need for military preparedness and the Government's obligations to the general public and trust obligations to Native American groups such as the Band. For example, the purpose and need could state more broadly that the purpose and need is "to ensure military preparedness consistent with direction from Congress while causing the least practical impact to public lands and while honoring fiduciary obligations to Native American groups."

The purpose and need presented in the EIS is lengthy, but never adequately explains why that full enormous withdrawn area is necessary, or why further expansion is required. Instead, it discusses reducing scheduling conflicts and the need to prepare for peer adversaries, without discussion of why the amount of training activities proposed are necessary or what other obligations must be served. This leads to a generally one-sided analysis that presupposes expansion of the withdrawal.

Moapa Band of Paiutes Comment Letter
March 29, 2018

The NTTR land withdrawal already encompasses 2.9 million acres of varied terrain that has provided training for decades. EIS at 1-1. The adjacent withdrawn "Nevada National Security Site" removes an additional 336,665 acres from public use. EIS at 1-5. The total withdrawn land area is roughly the size of Connecticut, and uses an airspace of 12,000 square nautical miles (approximately 10 million acres). For purposes of training, the area is connected to the large China Lake and Utah Test and Training Range. EIS at 2-2. In other words, the Air Force already has a massive training area at its disposal. While it is understandable that the Air Force would like to have more area, withdrawals come at a steep price for the public in general and for the Band in particular. The Band therefore suggests that purpose and need should more thoroughly consider and discuss obligations that persist in addition to the goal of preparing Air Force and other troops for combat.

Alternatives

NEPA requires federal agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(2)(E). To satisfy this requirement, an EIS must include a reasonable range of alternatives. The alternative section is "the heart of the environmental impact statement," 40 C.F.R. § 1502.14; hence, "the existence of a viable but unexamined alternative renders an environmental impact statement inadequate." *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1519 (9th Cir. 1992).

The EIS presents an inadequate range of alternatives because, in addition to the no-action alternative, it only considers three closely similar expansions. All alternatives share an assumption that impacts to wildlife and cultural resources must be at least as great as the status quo. Such a limited view is not "sufficient to permit a reasoned choice." *Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810, 815 (9th Cir. 1987).

The Band requests that the Air Force work collaboratively with the Band and other Native American groups, the United States Fish and Wildlife Service, local communities, environmental organizations, and other stakeholders to develop and consider a less impactful alternative. This development of a full spectrum of options will enable a truly reasoned selection.

The less impactful alternative could consider mitigation or reduction of impacts such as the following:

- Established and advertised "open access" periods of time throughout the year to enable access to critical areas identified by affected stakeholders. These access periods would be times when training in those areas is curtailed so that Band members and others could access important sites and partake in culturally significant activities, such as hunting desert bighorn sheep. The current advance application process, *see* EIS 2-13, is cumbersome, unpredictable, and resource intensive.

- Elimination or reduction in flyovers near and over heavily impacted communities, such as the Reservation.

- Scheduling night trainings for certain times of the year or month, so that local residents can prepare accordingly.
- Elimination of impactful activities during critical seasons for vulnerable wildlife, such as desert tortoise and desert bighorn sheep.
- Greater funding for ongoing efforts to identify traditional cultural properties and to restore and maintain wildlife habitat.

Other options could be developed through thorough engagement with stakeholders.

Baseline

In NEPA analysis, the baseline is a useful index against which to compare alternatives. "The purpose of setting a baseline is because the 'no action' status quo alternative . . . is the standard by which the reader may compare the other alternatives' beneficial and adverse impacts related to the applicant doing nothing." *Kilroy v. Ruckelshaus*, 738 F.2d 1448, 1453 (9th Cir. 1984) (internal citation and quotation omitted). The selection of the baseline is therefore crucial to the impacts analysis and, as a result, the evaluation of alternatives.

The EIS presents the baseline as a continuation of the status quo into the future. EIS 2-20 to 2-21. This is correct until November 6, 2021, when the current withdrawal expires. From that point forward, the baseline should assume "no action," which means that Congress does not extend the withdrawal. Alternative 1 should reflect that change in 2021, rather than perpetual continuation of the status quo, which is based on the premise that Congress will extend the withdrawal. This change would help to bring about the impacts of the action alternatives into clearer focus.

Cultural Resources Identification, Access, and Impacts

Under the National Historic Preservation Act (NHPA), the Air Force must consider adverse impacts to the Band's cultural resources as part of its Section 106 consultation and consult with the Band. *See* 54 U.S.C. § 300101; 36 C.F.R. § 800.1; 36 C.F.R. § 800.2(c)(2)(ii). Impacts to such sites are also environmental impacts under NEPA.

The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. 36 C.F.R. § 800.1(a). Adverse effects include, but are not limited to: Physical destruction of or damage to all or part of the property; change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance; and introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features. 36 C.F.R. § 800.5(a)(2).

Moapa Band of Paiutes Comment Letter
March 29, 2018

The proposed withdrawal negatively impacts the Band and its members' use of culturally significant sites in every way: it restricts or eliminates access, risks destruction of known and unknown cultural sites, diminishes landscapes that are central to the Band's creation and history, and creates noise and visual impacts that diminish Band members' ability to enjoy cultural properties that may remain accessible.

The Band requests that the Air Force take three steps: first, facilitate the identification of cultural resources through a thorough survey and delineation, second, ensure access for Band members and members of other Native American groups, and third, ensure that training does not damage cultural resources. The Band agrees with the recommendation of the Consolidated Groups of Tribes and Organizations that the Air Force treat the Band and other Native American groups as co-managers of cultural resources. *See* EIS K-8; 36 C.F.R. 802.2(c)(ii). Given the large scope of the project and impacts to many sovereign governments, consultation with the Advisory Council for Historic Preservation may also be necessary. 36 C.F.R. § 802.2(b).

The EIS states that ethnographic study was conducted in areas 3A and 3B in the summer of 2017, and that the USFWS determined that archaeological surveys are unnecessary in area 3C. EIS at I-1. However, surveys coordinated with the Band and other local native groups should be conducted throughout the entire area proposed for withdrawal to comply with the NHPA's direction to identify and protect cultural resources, 36 C.F.R. § 800.1(a), and to fully understand the impacts to the environment. While in a typical project it might be possible to survey and identify while activities are ongoing, that is unlikely to be successful for military training exercises. As such, thorough identification in compliance with Air Force guidance must occur prior to withdrawal and authorization of training. *See* Air Force Instruction 32-7065 § 3.1. Band members are aware of many sites and can facilitate appropriately confidential identification of others.

It is important in the identification process for the Air Force to recognize that cultural resources include traditional cultural landscapes. Air Force guidance recognizes that traditional cultural properties include "1) locations where Native American or other groups traditionally gather wild foods or medicines; 2) ethnic neighborhoods whose cultural character is important to those who live in them; 3) rural landscapes reflecting traditional patterns of agriculture or social interaction; and 4) landforms associated with Native American traditions and religious practices." *See* Air Force Instruction 32-7065 at 38 (definitions). The Advisory Council for Historic Preservation provides helpful guidance on the treatment of traditional cultural landscapes. In 2012, the ACHP approved the "Native American Traditional Cultural Landscapes Action Plan," which calls for increased recognition of "large scale historic properties which have included multiple, linked features that form a cohesive landscape of significance to a tribe."[1] The Air Force should coordinate with the Band to identify such landscapes and landforms, which abound in the area proposed for withdrawal. The Band appreciates that Colonel Murray visited the Business Council to discuss this project, and encourages further and ongoing engagement with Band members.

[1] *See* http://www.achp.gov/docs/Tradtional%20CLs%20in%20Section%20106%20background.pdf

Once cultural resources are identified, the Air Force should ensure access to those sites for Band members. Executive Order 13007 requires that executive agencies such as the Air Force "(1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites." Air Force guidance more broadly states that "[i]nstallation commanders shall provide Tribes and Native Hawaiian Organizations (NHOs) access to and use of sacred sites on Air Force controlled lands." *See* Air Force Instruction 32-7065 § 3.4.10.[2]

The Band recommends that the Air Force exclude highly significant cultural resources from any withdrawal, and where that is not possible, establish predictable and sufficient times when culturally significant areas are accessible to Band members. Recognizing that military training is inherently dangerous, the Air Force should schedule pauses in training in certain areas such that Band members can access culturally valuable areas to engage in the practices that keep the Band healthy, in balance, and connected to its religion and culture. These activities include visiting sacred landforms and hunting desert bighorn sheep. The Band requests to coordinate with the Air Force so that access for Band members occurs without burdensome and time-intensive application procedures.

Finally, the Band requests that the Air Force coordinate with the Band to take all possible measures to protect identified sites. These measures may include removing certain areas from training or coordinating with Band members to carry out any soil disturbance in a culturally appropriate manner. See generally, EIS at K-9.

Coordination with the Band should include funding Band cultural preservation as necessary, as the Band should not bear the financial burden of facilitating an Air Force project, particularly one that it opposes.

Noise

The proposed training would be enormously loud and noisy. The EIS states that "[v]irtually 24 hours per day/7 days per week, multiple testing and training missions" occur at NTTR, and the proposed action alternative would increase that activity level by up to 30 percent. *See* EIS at 1-21. Those testing and training missions often generate sudden, loud, and disruptive sound that adversely impacts the Band and its members, both on and off the Reservation. The 2017 Compatible Use Zone Study predicts over one hundred thousand flight operations a year (including thousands of nighttime flights, see Table 4-2) originating from Nellis Air Force Base, and states that the Air Force's flying operations are often incompatible with residential and other land uses. While the Reservation appears to be outside the contours of the loudest areas, Figures 3.3 and 3.4 in the Compatible Use Zone Study predict frequent flights over the Moapa River Indian Reservation.

[2] "Sacred sites" include "[a]ny specific, discrete, narrowly delineated location on federal land that is identified by an Indian Tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the Tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site." EO 13007.

The Band recognizes that the Air Force has carried out extensive modeling and analysis of "noise" levels generated by training activities in the EIS, Appendix C. However, that analysis construes current noise levels as the baseline, which functions to mask the current, deeply intrusive sound levels. The Band requests that the Air Force adjust its baseline as discussed *supra*, and acknowledge the ongoing impacts created by status quo use.

It is important to note that the concept of "noise" is inherently subjective and culturally relative. The Moapa Band has lived in a quiet, peaceful setting for approximately one thousand years, and undisturbed contemplation and appreciation of the earth is an integral aspect of Southern Paiute culture. The Air Force's methodology of measuring noise and annoyance is deficient in that it does not recognize that noise impacts different cultures differently. The Band requests that the Air Force evaluate the impacts of sound in the culturally appropriate context, which includes consideration of impacts on Band members.

Finally, the noise analysis focuses on annoyance and physiological effects, without adequate analysis of psychological impacts. Lack of study on such impacts is not sufficient reason not to include analysis, particularly where community members report harm and where the Air Force has decades of accessible data. *See* 40 C.F.R. § 1502.22. Exposing civilians and military veterans to the continued sounds of warfare is likely to create anxiety and other psychological harms, and those impacts require further analysis.

Wildlife

The areas proposed for withdrawal include diverse and rich ecosystems.

The Band values a healthy, intact, and diverse ecosystem. Desert bighorn sheep are particularly important to the Band. Band members value sheep and would like to continue to view healthy populations and to carry out culturally significant hunting rights. The Band and its members are deeply connected to the surrounding ecosystem, and the Band becomes out of balance when the surrounding world is harmed.

The Band requests further analysis of the impacts of noise to desert bighorn sheep and other wildlife. The current noise analysis focuses on human impacts. Sheep are skittish and easily disturbed, making it likely that overflights and munition training are likely to impair their normal breeding, foraging, and other behavior.

Most of the current analysis focuses on the impacts of fencing on wildlife. *See* EIS at 3-1. The Band appreciates that the Air Force is planning on constructing fencing that allows sheep and other wildlife passage. However, as recognized in the EIS, the huge amount of fencing and the necessary maintenance it requires is still likely to cause myriad impacts. Given that a wire fence is unlikely to deter members of the public who seek to enter NTTR lands, the Band suggests that a less impactful approach would be to employ property boundary line markers without connecting fencing. This would serve to notify the public of the boundary, while significantly reducing maintenance costs and environmental impacts.

Moapa Band of Paiutes Comment Letter
March 29, 2018

The EIS references impacts to eagles and other birds, without detailed analysis. The Band requests analysis of how many strikes of eagles and other birds are likely, and what impacts noise and ground disturbance are likely to have on eagles and other birds. The Air Force should obtain necessary permits under the Migratory Bird Treaty Act, 16 U.S.C. §§ 703–712, and the Bald and Golden Eagle Protection Act, 16 U.S.C. §§ 668-668d.

Air Pollution/Greenhouse Gas Emissions

The appendix EIS describes the emissions anticipated from aircraft training, construction, and other activities associated with the proposed land withdrawal. *See, e.g.*, EIS at 3-36. The Band suggests that the Air Force consider the heightened climate change impacts caused by emissions of pollutants and water vapor at high altitude, where those emissions can reflect heat from the earth and cause disproportionate impacts both locally and globally.[3]

Conclusion

The Band opposes a larger withdrawal of public lands for military training. The Band has already been removed from its homelands, with resulting deep damage to the Band's health, culture, and economy. The proposed withdrawal further excludes members and continues and amplifies historical harm.

As the Air Force proceeds, it should respect the Band's long presence in the region and its inherent sovereign rights. The Air Force must collaborate with the Band and its members to ensure that real, on-the-ground concerns of Band members are carefully considered and understood.

Sincerely,

MOAPA BAND OF PAIUTES

By: Gregory Anderson, Sr.
Gregory Anderson, Sr.
Chair, Moapa Business Council

cc: Ziontz Chestnut, Tribal Attorneys

[3] Please see discussion of climate impacts of aviation by the Intergovernmental Panel on Climate Change here: http://www.ipcc.ch/ipccreports/sres/aviation/index.php?idp=65. Emissions occurring at night are a particular concern because they can prevent night time cooling.

Letter from the Air Force to Moapa Band of Paiutes: April 27, 2018

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

APR 27 2018

Colonel Paul J. Murray
Commander
4430 Grissom Avenue, Suite 101
Nellis AFB NV 89191

Chairperson Greg Anderson
Moapa Band of Paiutes
P.O. Box 340
Moapa NV 89025

Dear Chairman Anderson

During the recent Nevada Test and Training Range (NTTR) land withdrawal tribal consultation meeting held on 14 March 2018 at the Las Vegas Paiute Reservation, you raised concerns regarding the execution of the Air Force's government-to-government consultation obligations. I want to reassure you that the Air Force takes these obligations seriously. Although the Air Force did submit a letter to Chairman Robert Tom initiating government-to-government consultation on the NTTR land withdrawal on 22 June 2016, we recognize that leadership within the tribe has changed. At the invitation of the Moapa Tribal Council, the Air Force attended the tribal meeting chaired by Chairman Darren Daboda on 19 January 2017 and briefed the status of Legislative Environmental Impact Statement (LEIS) for the NTTR land withdrawal. Subsequently, the Air Force attended the tribal council meeting on 2 March 2017 to further discuss the LEIS status and noise issues associated with the F-35 beddown.

The Air Force wishes to continue to dialogue with you and the Moapa tribe to understand your concerns. Therefore, I am submitting this letter to reaffirm our commitment to government-to-government consultation process with the Moapa Band of Paiute. We have appreciated your feedback through meetings and discussions on the NTTR land withdrawal and through the LEIS planning process. We have ensured that the Moapa tribe received invitations to participate in the LEIS Native American Writer's Group and requested participation of the Moapa in archaeological surveys and ethnographic studies that will lead to eventual Congressional decisions on the NTTR land withdrawal. I assure you that we remain engaged to understand your concerns and have received your tribal resolution that is opposed to expansion of the NTTR. As Commander of Nellis Air Force Base, I would like to meet with you and any other tribal leadership you feel would be appropriate to further the government-to-government consultation process for the NTTR land withdrawal. My staff will work to coordinate a time in the coming weeks when we can further discuss the concerns you've presented in the tribal resolution.

We have appreciated the Moapa's tribal participation in both the ethnographic studies and cultural survey field activities that were conducted in conjunction with the LEIS study. In

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particular, the participation of the Moapa in the ethnographic study has been extremely valuable to the process of gaining a better understanding the cultural history of the area.

If you have any questions, please contact the Nellis AFB cultural resources manager and tribal liaison, Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil and I hope to be able to meet with you in the near future.

Sincerely

PAUL J. MURRAY
Colonel, USAF
Commander

cc:
Colonel Chris Zulke, NTTR/CC

Letter from the Air Force to Las Vegas Paiute Tribe: April 27, 2018

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

APR 2 7 2018

Colonel Paul J. Murray
Commander
4430 Grissom Avenue, Suite 101
Nellis AFB NV 89191

Chairperson Benny Tso
Las Vegas Paiute Tribe
1 Paiute Drive
Las Vegas NV 89106

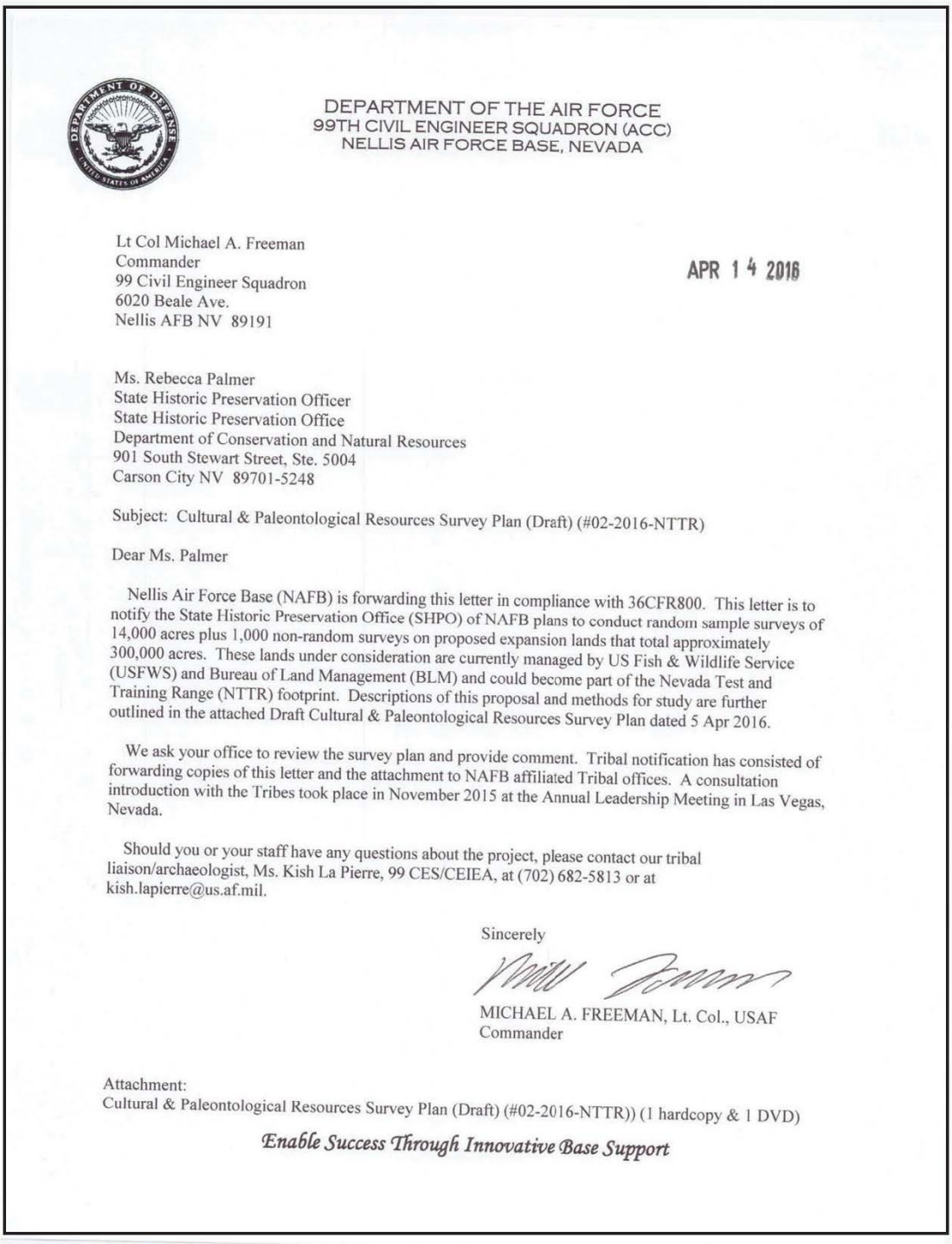
Dear Chairperson Tso

During the recent Nevada Test and Training Range (NTTR) tribal consultation meeting held on 14 March 2018 at the Las Vegas Paiute Reservation, some members of the Las Vegas Paiute Tribe raised concerns regarding the execution of the Air Force's government-to-government consultation obligations.

B.10 AGENCY CONSULTATIONS

B.10.1 National Historic Preservation Act Section 106 Consultation

Letter from Air Force to SHPO notification of random sample surveys: April 14, 2016



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

Lt Col Michael A. Freeman
Commander
99 Civil Engineer Squadron
6020 Beale Ave.
Nellis AFB NV 89191

APR 14 2016

Ms. Rebecca Palmer
State Historic Preservation Officer
State Historic Preservation Office
Department of Conservation and Natural Resources
901 South Stewart Street, Ste. 5004
Carson City NV 89701-5248

Subject: Cultural & Paleontological Resources Survey Plan (Draft) (#02-2016-NTTR)

Dear Ms. Palmer

Nellis Air Force Base (NAFB) is forwarding this letter in compliance with 36CFR800. This letter is to notify the State Historic Preservation Office (SHPO) of NAFB plans to conduct random sample surveys of 14,000 acres plus 1,000 non-random surveys on proposed expansion lands that total approximately 300,000 acres. These lands under consideration are currently managed by US Fish & Wildlife Service (USFWS) and Bureau of Land Management (BLM) and could become part of the Nevada Test and Training Range (NTTR) footprint. Descriptions of this proposal and methods for study are further outlined in the attached Draft Cultural & Paleontological Resources Survey Plan dated 5 Apr 2016.

We ask your office to review the survey plan and provide comment. Tribal notification has consisted of forwarding copies of this letter and the attachment to NAFB affiliated Tribal offices. A consultation introduction with the Tribes took place in November 2015 at the Annual Leadership Meeting in Las Vegas, Nevada.

Should you or your staff have any questions about the project, please contact our tribal liaison/archaeologist, Ms. Kish La Pierre, 99 CES/CEIEA, at (702) 682-5813 or at kish.lapierre@us.af.mil.

Sincerely

MICHAEL A. FREEMAN, Lt. Col., USAF
Commander

Attachment:
Cultural & Paleontological Resources Survey Plan (Draft) (#02-2016-NTTR)) (1 hardcopy & 1 DVD)

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cc:
Katherine R. Kerr Advisory Council on Historic Preservation (ACHP)
Danelle Gutierrez, Tribal Historic Preservation Officer, Big Pine Paiute Tribe
Raymond Andrews, Tribal Historic Preservation Officer, Bishop Paiute-Shoshone Tribe
Billie G. Saulque, Chairperson, Benton Utu Utu Gwaitu Paiute Tribe
Stephanie Arman, Tribal Historic Preservation Officer, Fort Independence Paiute Tribe
Barbara Durham, Tribal Historic Preservation Officer, Timbisha Shoshone Tribe
Janice Aten, Environmental Director, Lone Pine Paiute-Shoshone Reservation
Perline Thompson, Chairperson, Duckwater Shoshone Tribe
Wayne Dyer, Chairperson, Yomba Shoshone Tribe
Alvin Marques, Chairperson, Ely Shoshone Tribe
Charles Wood, Chairperson, Chemehuevi Indian Tribe
Roland Maldonado, Chairperson, Kaibab Band of Southern Paiutes
Benny Tso, Chairperson, Las Vegas Paiute Tribe
Robert Tom, Chairperson, Moapa Band of Paiutes
Richard Arnold, Native American Coordinator NAFB, Pahrump Paiute Tribe
Corrina Bow, Chairperson, Paiute Indian Tribes of Utah
Dennis Patch, Chairperson, Colorado River Indian Tribes
Timothy Williams, Chairperson, Ft. Mojave Tribe

Letter from U.S. Fish and Wildlife Service to Air Force, regarding resource study plans: April 27, 2016

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Anan Raymond, Regional Archaeologist
Region 1+ Region 8 Cultural Resource Team
20555 Gerda Lane, Sherwood, OR 97140
phone:503-625-4377, fax:503-625-4887, cell:503-803-7913
email: anan_raymond@fws.gov

April 27, 2016

Mike Ackerman
AFCEC/CZN, Bldg 1
2261 Hughes Ave, Ste 155
Joint Base San Antonio, TX 78236
email; michael.ackerman.2@us.af.mil phone 210- 925-2741

Dear Mr. Ackerman,

I write regarding the cultural resource study plan for the Legislative Environmental Impact Statement (LEIS) for the expansion lands under consideration for withdrawal from US Fish & Wildlife Service (FWS) into the Nevada Test and Training Range (NTTR). In previous emails with your contractor Leidos I have shared my concern on the proposed archaeological sample survey. Rather than exploring for the unique distribution and character of cultural resources in the expansion area, the survey appears to be designed to prove that the archaeological record in the expansion area is the same as the record already documented in existing NTTR lands. While my concern still stands, this letter is not about that problem. Rather, I call your attention to two fundamental flaws in your process for identifying cultural resources and evaluating adverse impacts to them: 1) lack of compliance with Section 106 the National Historic Preservation Act (NHPA), and 2) lack of meaningful Tribal consultation.

NHPA Section 106 Applies

We recognize that the LEIS is an appropriate procedure to examine natural and cultural impacts for the withdrawal of FWS lands into the NTTR expansion areas. However, the LEIS (and the NEPA process in general) are insufficient tools to address impacts to contemporary cultural sites and historic properties. Section 106 of the National Historic Preservation Act is the correct tool, but we are unaware how the NTTR will use Section 106 for the withdrawal.

It is not enough for the LEIS to assert that when specific on-the-ground disturbance projects are proposed in the withdrawn lands, NHPA Section 106 will be implemented. By then it will be too late. The lands will have been withdrawn, the expansion fulfilled, and the resources lost to the NTTR.

Consider the NTTR undertaking: 300,000 acres of Desert National Wildlife Refuge (NWR) lands will be withdrawn from their present public use and access. The proposed withdrawal lands contain hundreds of cultural sites and cultural landscapes managed and protected by the FWS. The sites and landscapes are actively and appropriately visited and used by Tribal members, scientists, and the public. Not only will the withdrawal eliminate access and deny use, it will also put the cultural resources under perpetual threat by a host of military activities. A strict focus on the material record overlooks the human-environment relationships that the culturally affiliated Native American Nations embody with the lands considered for withdrawal. These indigenous peoples consider the land alive and a living relative.

The proposed withdrawal is a new and significant land use program that constitutes an undertaking as defined by Section 106 of the National Historic Preservation Act (NHPA). We urge the NTTR to declare that its proposed withdrawal is an undertaking under NHPA and begin Section 106 compliance by identifying appropriate consulting parties, and consulting with those parties to describe and map the undertaking's areas of potential effect (APE). Then it will be appropriate for NTTR, in consultation with others, to consider historic property identification efforts in the APE. Until then, NTTR's proposed cultural resource survey for the LEIS is premature and ill-advised. In fact, upon initiating the Section 106 process, NTTR will realize that the presently proposed cultural resource survey for the LEIS is not relevant; the proposed survey doesn't address the unique resources of the withdrawal area and it doesn't address the concerns of Southern Paiute tribes.

Meaningful Tribal Consultation

As you know, NHPA Section 106 requires that the federal agency responsible for an undertaking will consult with affected Indian Tribes. We understand that NTTR is planning to do so for the LEIS, but we are unaware if the NTTR will engage in meaningful consultation with Tribes for the land withdrawal under Section 106 of the NHPA.

For the past 7 years the FWS and Nuwuvi or Southern Paiute tribes have engaged in productive consultation at Desert NWR. We have learned that Southern Paiutes are connected to the land, resources, and specific sites throughout Desert NWR. They also have place-based spiritual values specific to the areas being considered for withdrawal. These areas include roasting pits, caves, residential sites, tool and raw material collection locations, rock writings, camps, sacred places, traditional cultural properties, hunting locations, cultural landscapes, water sources, travel corridors, and food and medicine collection areas. Many of these sites, landscapes, and associated resources are historic properties under the NHPA. The significance and integrity of the sites is contained not only by their content and physical condition, but also by Nuwuvi relationships with and connections to the sites. The NTTR expansion undertaking has the potential to adversely affect historic properties by impacting their physical content and integrity, and by impacting the Tribes' connection to them.

As you also know, Tribal consultation under Section 106 of the NHPA is more than just considering potential affects to the physical properties of cultural sites. Consultation also includes identification of historic properties of religious and cultural significance (a.k.a. traditional cultural properties or places) to Indian Tribes. We hope that your Section 106 process for the withdrawal will collect and consider the contemporary perspective of Southern Paiute governments and individuals on the location, content, and importance of cultural resources in the proposed withdrawal area. The FWS cannot fulfill it federal Trust responsibility to the Southern Paiute Tribes or effectively participate in the NTTR LEIS unless the NTTR meaningfully consults with the Tribes and exercises the NHPA Section 106 process

Requested action
The FWS looks forward to being notified that the NTTR is initiating the NHPA Section 106 process with a description of the withdrawal undertaking and a discussion and map of the APE. We anticipate to your invitation to consult alongside the SHPO, Southern Paiutes, and other interested parties on the undertaking, APE, and historic property identification effort. We also look forward to consultation with NTTR before receiving a permit application under the Archaeological Resources Protection Act from your contractor to conduct historic property identification in the withdrawal APE. You may contact me at the address on the letterhead but please include Christy Smith (christy_smith@fws.gov) project leader at Desert NWR Complex on all correspondence.

Sincerely,

Anan Raymond
Regional Historic Preservation Officer

CC: Christy Smith, NV SHPO.

Letter from SHPO to Air Force, regarding Draft Cultural Survey Plan: May 16, 2016

NEVADA
STATE HISTORIC PRESERVATION OFFICE

Department of Conservation and Natural Resources

Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Rebecca L. Palmer, SHPO

May 16, 2016

Lt. Col. Michael A. Freeman
Commander
99 Civil Engineer Squadron
Department of the Air Force
6020 Beale Ave
Nellis Air Force Base, Nevada 89191

Re: 300,000 Acres NTTR Land Withdrawal from BLM and FWS
#02-2016-NTTR/Undertaking # 2016-4330

Dear Lt. Col. Freeman:

The Nevada State Historic Preservation Office (SHPO) acknowledges receipt of the Cultural and Paleontological Resources Survey Plan (Draft) from the Department of the Air Force – Nellis Air Force Base, Nevada (Air Force).

The SHPO notes that this plan only accounts for prehistoric era archaeological resources and paleontological resources. As currently written this plan does not acknowledge or account for the larger spectrum of potential historic properties within the 300,000 acres area. Thus, this plan is incomplete as presented.

Should you have any questions concerning this correspondence, please contact Jessica Axsom at (775)684-3445 or by e-mail at jaxsom@shpo.nv.gov.

Sincerely,

Rebecca Lynn Palmer
State Historic Preservation Officer
21550

cc: Ms. Katharine Kerr, ACHP Program Analyst

901 S. Stewart Street, Suite 5004 ✦ Carson City, Nevada 89701 ✦ Phone: 775.684.3448 Fax: 775.684.3442

www.shpo.nv.gov

Letter from Air Force to SHPO regarding project notification: July 18, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

Lieutenant Colonel Michael A. Freeman
Commander
6020 Beale Ave.
Nellis AFB NV 89191

JUL 18 2016

Ms. Rebecca Palmer
State Historic Preservation Officer
State Historic Preservation Office
Department of Conservation and Natural Resources
901 South Stewart Street, Ste. 5004
Carson City NV 89701-5248

Dear Ms Palmer

The United States Air Force (USAF) is now preparing a *Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Land Withdrawal* extension and proposed expansion. Because the current NTTR land withdrawal (Attachment 1) will expire in 2021, the USAF seeks Congressional action to extend the currently withdrawn lands for the purpose of continuing the existing test and training activities. The USAF is also considering a proposal for Congress to expand lands withdrawn for the NTTR (Attachment 2) to provide additional security and safety while enhancing the functionality and capacity of the NTTR. The additional features associated with the proposed expansion are critical to meet increasing demands on the NTTR to satisfy national security requirements. Under this concept, the USAF proposes to expand the withdrawn lands associated with EC South on the west side of the range, 64C/D and 65D on the south side of the range and east of 62A/B, for a total of approximately 310,000 acres.

While Congress and the President ultimately make the decision with respect to legislative withdrawals such as this one, the USAF anticipates engaging in undertakings in the future, should the withdrawal be enacted. In addition, the proposed expansion would change the accessibility of these lands depending upon the alternative means of implementing these features as determined by Congress. Therefore, in accordance with Section 106 of the National Historic Preservation Act (NHPA) and 36 C.F.R. §800.1(c), the USAF seeks to consult with you early in the planning process in order to take into account any historic preservation concerns you may have as it formulates these undertakings.

The types of activities that are now taking place on existing withdrawn lands will not change under the withdrawal extension. While the USAF has identified the general types of activities that will take place in the proposed withdrawal expansion area, specific activities and their locations cannot be defined until after enactment of any withdrawal legislation. As a result, the USAF is preparing an LEIS which is programmatic in nature. The LEIS will identify cultural resources within proposed withdrawal areas, and to the extent possible address impacts to those

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resources based on the types of activities that may occur in the future in these areas. Specific future activities would be subject to additional and appropriate NEPA analysis and NHPA consultation.

To develop the LEIS and meet NHPA obligations, the USAF would use existing cultural resource information for the current NTTR lands. It plans to initiate a Cultural Resources Study of 15,000 acres of land within the proposed withdrawal expansion areas to identify and characterize resources that may be present. Because the proposed expansion areas consist of over 300,000 acres and the results of the land withdrawal process may not be known until 2021, the Air Force has developed a draft plan to characterize cultural resources through a random-sample survey strategy in these areas. The plan will be supplemented by any previous studies in these areas and associated available data; all identified cultural resources 50 years or older will be recorded as part of the survey (including historical structures). This survey will also serve to supplement and test a successful probabilistic model developed for work conducted previously on the adjacent NTTR property. The USAF has included the proposed plan to address characterization of historic properties as Attachment 3 to this letter.

Sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, that have an interest in the NTTR Land Withdrawal LEIS have been contacted and offered an opportunity to partner in cultural resource studies and participate as consulting parties. Tribes affiliated with Nellis AFB (NAFB) include: the Benton Paiute Tribe, Fort Independence Paiute Tribe, Duckwater Shoshone Tribe, Timbisha Shoshone Tribe, Yomba Shoshone Tribe, Ely Shoshone Tribe, Big Pine Paiute Tribe, Lone Pine Paiute-Shoshone Tribe, Bishop Paiute Tribe, Fort Mojave Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Kaibab Band of Southern Paiutes, Las Vegas Paiute Tribe, Moapa Band of Paiutes, Pahrump Paiute Tribe, Paiute Indian Tribe of Utah (Tribes). The USAF initiated discussions with these Tribes by visiting tribal offices and informally discussing the NTTR land withdrawal project in February/March of 2015.

In November of 2015, the USAF held a second informational meeting on NAFB, where the tribes were invited to comment on the project and provide feedback on issues important to them. As a result of this meeting, the tribes requested that four additional meetings be held at locations around Nevada and California that were more conveniently located for tribal members to attend. These meetings were held from April 25-29 at the Bishop Paiute Tribe Reservation, the Ely Shoshone Tribal Reservation, the Mojave Tribal Reservation, and at the Las Vegas Paiute Tribal Reservation. A government-to-government letter initiating formal consultations to all seventeen federally recognized tribes was sent to all tribes on June 22, 2016. In addition to these interactions, the tribes are providing input on special studies associated with the LEIS. The attached Cultural and Paleontological Survey Plan (Duke, 2016) was submitted to the NAFB affiliated tribes for review and input in March 2016. So far, the Tribes have not requested any modifications to the survey strategy.

For consultation with your office, the USAF identifies the Area of Potential Effect as the extended and potentially expanded withdrawn NTTR lands. The USAF invites your comments regarding the following:

- Outstanding cultural and/or tribal resources.
- The potential for irresolvable management conflicts, such as areas where it would be difficult or impossible to avoid, minimize, or mitigate impacts from future actions.
- Any other issues or concerns you request be considered during preparation of the LEIS.

As the USAF develops the LEIS, it will continue consulting with you under Section 106 and provide the necessary information and determinations for established procedures under NHPA. We look forward to the NV SHPO's valuable contributions as we work collaboratively for the preservation of the historic resources entrusted to the stewardship of the USAF on the withdrawn NTTR lands.

If you have any questions or comments regarding the information presented in this letter, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

MICHAEL A. FREEMAN, Lt Col, USAF
Commander

Attachments:
1. Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas
2. Alternative 3A, 3B, and 3C Locations and Acreages
3. Cultural and Paleontological Survey Plan (Duke, 2016)

cc:
Mr. Michael Ackerman (AFCEC/CZN)
Mr. Skip Canfield (Nevada State Clearinghouse)

E-mail from Air Force to SHPO regarding clarification on tribal consultations: July 20, 2016

From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN [redacted]
Sent: Wednesday, July 20, 2016 9:57 AM
To: 'Rebecca Palmer'
Cc: LAPIERRE, KISH D GS-12 USAF ACC 99 CES/CEIEA
Subject: RE: Nevada Test and Training Range Land Withdrawal Consultation Request Letter
Attachments: SHPO LEIS Consultation.pdf
Signed By: [redacted]

Dear Ms. Palmer,
I wanted to send one clarification/correction on the AF NHPA consultation request letter to your office. On the last paragraph of page 2 of the letter we state that we sent a government-to-government consultation request letter to all 17 Federally recognized tribes. As a point of clarification, there were 16 Federally recognized tribes as stated and identified in the prior paragraph. One of the 17 tribes listed in the prior paragraph is not Federally recognized. Apologies for any confusion.

If you have any questions on the letters or meetings, please let me know.

Sincerely,

-Mike

Mike Ackerman
Air Force Civil Engineer Center
NEPA Division (AFCEC/CZN)
[redacted]

-----Original Message-----
From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN
Sent: Tuesday, July 19, 2016 2:24 PM
To: 'Rebecca Palmer' [redacted]
Cc: LAPIERRE, KISH D GS-12 USAF ACC 99 CES/CEIEA [redacted]
Subject: Nevada Test and Training Range Land Withdrawal Consultation Request Letter (Hard Copy to Follow)

Ms. Palmer,
I wanted to provide you with these electronic files as a courtesy before you receive the hard copies in the mail. You should be receiving a hardcopy

consultation request letter for the Nevada Test and Training Range land withdrawal in the next few days. We'll provide additional material with more

1

details on the proposal and alternatives leading up to our 5 August discussion. We'll provide read-ahead material no later than 1 August as requested. Also you will be receiving an updated copy of the Air Force's cultural survey plan (listed as Attachment 3 in the letter) prior to 1 August,
so that we can obtain any additional thoughts or input you may have on the survey approach.

If you have any questions, please just let me know.

Sincerely,

-Mike

Mike Ackerman
Air Force Civil Engineer Center
NEPA Division (AFCEC/CZN)

E-mail from Air Force to BLM regarding surveys: August 5, 2016

From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN <[redacted]

Sent: Friday, August 05, 2016 5:04 PM
To: Raymond, Anan; srowe@blm.gov; Lodge, Spencer; Akstulewicz, Kevin D.
Cc: Christy Smith; Kevin DesRoberts; Amy Sprunger; LAPIERRE, KISH D GS-12 USAF ACC 99 CES/CEIEA; McLaurine, Henry C.
Subject: RE: NHPA Consultation Coordination
Attachments: NTTR Land Withdrawal NV SHPO Consultation Brief (5 Aug 16).pdf

Anan / Susan / Spencer,
I wanted to follow up with you on our call with SHPO. We went through the slide presentation attached. We are standing by to hear back from SHPO on their thoughts with respect to NHPA consultation approach. There was no initial guidance provided regarding consultation, and they requested time to review some of the materials we provided last month.

If you are available, I would like to set up an NHPA / cultural survey discussion next week. Would next Wednesday work for you both? Just let me know if there is a good time that would work.

Sincerely,

-Mike

Mike Ackerman
Air Force Civil Engineer Center
NEPA Division (AFCEC/CZN)
[redacted]

-----Original Message-----
From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN
Sent: Wednesday, August 03, 2016 10:21 AM
To: 'Raymond, Anan' <anan_raymond@fws.gov>
Cc: Christy Smith <christy_smith@fws.gov>; Kevin DesRoberts <kevin_desroberts@fws.gov>; Amy Sprunger <Amy_Sprunger@fws.gov>; Lodge, Spencer <spencer_lodge@fws.gov>; LAPIERRE, KISH D GS-12 USAF ACC 99 CES/CEIEA [redacted]>; HENRY.C.MCLAURINE[redacted] 'Akstulewicz, Kevin D.' [redacted]<KEVIN.D.AKSTULEWICZ@[redacted] srowe@blm.gov
Subject: NHPA Consultation Coordination

Anan,
We do plan on reaching out to you and BLM staff after this 5 August call with SHPO to discuss the way forward and make sure we understand what you need in advance of surveys. I actually wanted to have you and BLM's cultural POC on the call with us on the 5th so we could discuss the consultation process together, but SHPO wants to have a direct discussion with the AF first to discuss the consultation process.

I do want to see if we can schedule a call early next week with FWS and BLM cultural resources POCs so we can follow up with you and talk about the way forward. Is there a good time that would work for you Mon, Tues or Wed?

1

We are committed to making sure the cultural resource survey effort provides good information and supports effective future management of the resources.

Thanks for your thoughts below,

-Mike

Mike Ackerman
Air Force Civil Engineer Center
NEPA Division (AFCEC/CZN)
[redacted]

-----Original Message-----
From: Raymond, Anan [mailto:anan_raymond@fws.gov]
Sent: Tuesday, August 02, 2016 7:01 PM
To: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN <[redacted]
Cc: Christy Smith <christy_smith@fws.gov>; Kevin DesRoberts <kevin_desroberts@fws.gov>; Amy Sprunger <Amy_Sprunger@fws.gov>; Lodge, Spencer <spencer_lodge@fws.gov>
Subject: Fwd: brief for Congressionals

Dear Mike,

Christy forwarded to me your ppt. The ppt is a helpful overview. The ppt identifies a dedicated NHPA Section 106 consultation process with Tribes. Excellent!

But, the ppt does not identify a NHPA Section 106 consultation process with the FWS.
The FWS has not yet received a Section 106 undertaking or APE letter from NTTR. I assume you will be sending this to FWS (Christy) after you have clarified things with SHPO later this week?

The ppt also indicates that NTTR plans to survey thousands of acres of FWS land in the fall of 2016.
As we have indicated in earlier correspondence, the present NTTR survey plan for FWS land needs to better address the unique cultural resources of the FWS "Alamos" section of the proposed expansion. Your ppt has a slide that hints strongly you will do that. Thank you. We look forward to learning about that and working with you on a first-class CR survey plan.
Spencer Lodge, our Desert NWR archaeologist will be you principal contact for this

As you also know, NTTR needs an ARPA permit from FWS before you survey FWS land. We also look forward to working with you on that.

Sincerely,
Anan

---------- Forwarded message ----------
From: Smith, Christy <christy_smith@fws.gov <mailto:christy_smith@fws.gov> >
Date: Tue, Aug 2, 2016 at 1:49 PM
Subject: Fwd: brief for Congressionals
To: Leanne Abel <leanne_abel@fws.gov <mailto:leanne_abel@fws.gov> >, Kevin DesRoberts <kevin_desroberts@fws.gov <mailto:kevin_desroberts@fws.gov> >, Anan Raymond <anan_raymond@fws.gov

<mailto:anan_raymond@fws.gov> >, Amy Sprunger <Amy_Sprunger@fws.gov <mailto:Amy_Sprunger@fws.gov> >, Polly Wheeler <polly_wheeler@fws.gov <mailto:polly_wheeler@fws.gov> >, Curtis McCasland <curtis_mccasland@fws.gov <mailto:curtis_mccasland@fws.gov> >

This is the presentation the AF will give to SHPO - I will pull info from this for the Congressional briefing...
C

Christy Smith, Project Leader

Desert National Wildlife Refuge Complex

4701 North Torrey Pines Drive
Las Vegas, NV 89130
[redacted]
christy_smith@fws.gov <mailto:christy_smith@fws.gov>

A Guiding Principal of the National Wildlife Refuge System:
Wild lands and the perpetuation of diverse and abundant wildlife are essential to the quality of American life.

---------- Forwarded message ----------
From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN [redacted]
<mailto:michael.ackerman.2@us.af.mil> >
Date: Tue, Aug 2, 2016 at 1:20 PM
Subject: RE: brief for Congressionals
To: "Smith, Christy" <christy_smith@fws.gov <mailto:christy_smith@fws.gov> >

Christy,
I would add that AF is looking at a range of options and that the LEIS will be programmatic in nature. In other words, no specific ground disturbance proposals are being put forward at this time, and that we have been working together to figure out best approaches for generating good management data.

If you want to pull anything from this brief to SHPO (just finished it last evening), I can send that power point or select slides to you.

Just let me know.

Thanks Christy.

-Mike

Mike Ackerman
Air Force Civil Engineer Center
NEPA Division (AFCEC/CZN)
[redacted]

-----Original Message-----
From: Smith, Christy [mailto:christy_smith@fws.gov <mailto:christy_smith@fws.gov>]
Sent: Tuesday, August 02, 2016 10:06 AM
To: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN [redacted]
<mailt[redacted]
Subject: brief for Congressionals

Hi Mike - I've been given about 5 minutes to brief congressionals on our cooperation on the LEIS - I'm going to present the potential alternatives - is there anything specific you'd like to add?
Christy

Christy Smith, Project Leader

Desert National Wildlife Refuge Complex

4701 North Torrey Pines Drive
Las Vegas, NV 89130
[redacted]
christy_smith@fws.gov <mailto:christy_smith@fws.gov> <mailto:christy_smith@fws.gov
<mailto:christy_smith@fws.gov> >

A Guiding Principal of the National Wildlife Refuge System:
Wild lands and the perpetuation of diverse and abundant wildlife are essential to the quality of American life.

--

Anan Raymond, Archaeologist, Regional Historic Preservation Officer Region 1 + Region 8 Cultural Resource Team US Fish and Wildlife Service
20555 Gerda Lane, Sherwood, OR 97140

email: anan_raymond@fws.gov <mailto:anan_raymond@fws.gov>

Letter from Advisory Council on Historic Preservation to Air Force and SHPO regarding project notification: August 17, 2016

Preserving America's Heritage

August 17, 2016

Lieutenant Colonel Michael A. Freeman
Commander
99th Civil Engineer Squadron
6020 Beale Avenue
Nellis Air Force Base, NV 89191

Ms. Rebecca Palmer
State Historic Preservation Officer
Historic Preservation Office
901 S. Stewart Street
Suite 5004
Carson City, NV 89701-4285

REF: Nevada Test and Training Area Land Withdrawal by Nellis Air Force Base
Clark, Lincoln, and Nye County, Nevada
ACHPConnect Log Number: 010399

Dear Lt Col Freeman and Ms. Palmer:

The Advisory Council on Historic Preservation (ACHP) understands that the Military Lands Withdrawal Act of 1999 (Public Law 106-65) withdrew 2,919,890 acres from the Department of Interior (DOI) for military use in the State of Nevada, primarily for use within the Nevada Test and Training Range (NTTR). The Department of the Air Force intends to submit, in accordance with the Federal Land Policy Management Act (FLPMA), a Land Withdrawal Case File renewal request to continue the withdrawal, and a separate Land Withdrawal Case File for a request to withdraw 300,000 additional acres by November 2018. We have been asked whether the act of land withdrawal itself constitutes an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA). The ACHP has been consistent in stating that the transfer of property from one federal agency to another federal agency is not an undertaking subject to Section 106, because a federal agency still has responsibilities under Sections 106 and 110 of the NHPA for the land it controls. However, how a federal agency plans to utilize the land once transferred may be subject to Section 106 review.

We are aware that the 99th Civil Engineer Squadron (99CES), with support from the Air Force Civil Engineer Center's National Environmental Policy Act Center (AFCEC/NEPA Center), is preparing a Legislative Environmental Impact Statement (LEIS) to be included in the recommendation to Congress on the withdrawal proposal. A LEIS does not require a Record of Decision, as the decision on whether or not to approve the Land Withdrawal Case Files is made by Congress. However, we believe it is in the best interest of the 99CES to be considering effects to historic properties for the proposed use of the land proposed for withdrawal as early is possible in the process.

ADVISORY COUNCIL ON HISTORIC PRESERVATION
401 F Street NW, Suite 308 • Washington, DC 20001-2637
Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov

On July 26, 2016, the ACHP received a copy of the correspondence the 99CES sent to the Nevada State Historic Preservation Office (SHPO) for the extension and proposed expansion of the withdrawal, and the initiation of the Section 106 process. We applaud this proactive outreach to the SHPO, even though they do not have a regulatory role in the development of the LEIS. As the ACHP is assisting both the SHPO and the 99CES in improving its working relationship under Section 106, we wish to provide both parties with the following initial suggestions and recommendations as this discussion continues:

- The undertaking should be clearly defined as the *consideration* of the use of acquired withdrawal land for the purposes of meeting the mission of the NTTR. This means that the 99CES focuses consultation on the mission of the NTTR, how the newly acquired land could assist that mission, and how historic properties may be affected by mission activities on the land.

- The Section 106 regulations do not require a federal agency to identify every single historic property within an Area of Potential Effects (APE), but to make a "reasonable and good faith effort" to identify historic properties. A strategy to survey a sample of the proposed withdrawal land should be developed in consultation with the SHPO, federally recognized Indian tribes, and other applicable federal agencies (it is our understanding this includes the Bureau of Land Management (BLM) and the United States Fish and Wildlife Service (USFWS) currently managing the land) to identify historic properties. It is recommended that the 99CES should first complete a grey literature search of survey work completed by the BLM and the USFWS for the proposed withdrawal land and using that as a base line for a new survey.

- The 99CES has presented a draft Cultural Resources Study (CRS) to the SHPO for review and comment. The current draft CRS is intended to characterize cultural resources through a random-sample survey strategy.

    - After completing the grey literature search, the 99CES should update the CRS accordingly to meet the goal of a phased approach to the identification of historic properties within the proposed withdrawal land.

    - This phased approach should include a model for the initial survey and define a process for continuing the identification effort within areas of the proposed withdrawal land once designated for NTTR mission use.

    - The CRS should include a time frame for when the survey work will be completed and when consulting parties will be given the opportunity to review the findings.

- Once the 99CES and the SHPO have a working knowledge of the range of potential historic properties within the proposed withdrawal land, and before you begin to assess effects of the proposed undertaking, we would appreciate an update on the status of the consultation and survey results.

Should you have any questions regarding our recommendations or require additional assistance, please contact Ms. Katharine R. Kerr at (202) 517-0216 or by e-mail at kkerr@achp.gov and reference the ACHPConnect Log Number.

Sincerely,

Brian Lusher for

Tom McCulloch, Ph.D., R.P.A.
Assistant Director
Office of Federal Agency Programs
Federal Property Management Section

Letter from SHPO to Air Force: September 12, 2016

NEVADA
STATE HISTORIC PRESERVATION OFFICE

Department of Conservation and Natural Resources

Brian Sandoval, Governor
Kay Scherer, Interim Director
Rebecca L. Palmer, SHPO

September 12, 2016

Lt. Col. Michael A. Freeman
Commander
99 Civil Engineer Squadron
Department of the Air Force
6020 Beale Ave
Nellis Air Force Base, Nevada 89191

Re: 300,000 Acres NTTR Land Withdrawal from BLM and FWS
#02-2016-NTTR/Undertaking # 2016-4330

Dear Lt. Col. Freeman:

The Nevada State Historic Preservation Office (SHPO) acknowledges receipt of the *Cultural and Paleontological Resources Survey Plan* (Draft) and *Nevada Test and Training Range Prehistoric and Ethnographic Synthesis: Technical Data Summary* from the Department of the Air Force – Nellis Air Force Base, Nevada (Air Force).

The SHPO notes that the *Cultural and Paleontological Resources Survey Plan* only accounts for prehistoric era archaeological resources and paleontological resources. As currently written this plan does not acknowledge or account for any other types of potential historic properties within the 300,000, including listed properties located in the expansion area. This plan is incomplete.

Furthermore, the *Nevada Test and Training Range Prehistoric and Ethnographic Synthesis: Technical Data Summary*, which provides the foundational data and research used to develop *Cultural and Paleontological Resources Survey Plan*, only accounts for and uses existing Air Force cultural resource inventories. How will the Air Force incorporate information from the gray literature completed by other federal agencies (e.g., the Bureau of Land Management and the U.S. Fish and Wildlife Service) into these documents as noted in the Advisory Council on Historic Preservation's (ACHP) letter, dated August 17, 2016?

Should you have any questions concerning this correspondence, please contact Jessica Axsom at (775) 684-3445 or by e-mail at jaxsom@shpo.nv.gov.

Sincerely,

Rebecca Lynn Palmer
State Historic Preservation Officer

cc: Ms. Katharine Kerr, ACHP Program Analyst

901 S. Stewart Street, Suite 5004 ✦ Carson City, Nevada 89701 ✦ Phone: 775.684.3448 Fax: 775.684.3442

www.shpo.nv.gov

National Historic Preservation Act Consultation request from Air Force to U.S. Fish and Wildlife Service, Region 8: October 18, 2016

DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA

Lieutenant Colonel Michael A. Freeman
Commander
4430 Grissom Ave., Ste. 101
Nellis AFB NV 89191-6520

OCT 18 2016

Mr. Paul Souza
U.S. Fish and Wildlife Service
Regional Director – Pacific Southwest (Region 8)
2800 Cottage Way
Sacramento, CA 95825

Subject: National Historic Preservation Act (NHPA) Section 106 Consultation Request; Nevada Test and Training Range (NTTR) Land Withdrawal at Nellis Air Force Base, Nevada

Dear: Mr. Souza,

The United States Air Force (USAF) is now preparing a Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Military Land Withdrawal. The Military Lands Withdrawal Act of 1999 (Public Law 106-65) withdrew 2,919,890 acres from the Department of Interior for use by the Department of Defense. The current withdrawal will expire in 2021. As a result, the USAF is working with the Department of the Interior (DoI) to support Congressional legislation to extend and possibly expand the current footprint of the NTTR to support military training and testing requirements.

In addition to extending the current existing land withdrawal, USAF alternatives being evaluated in the LEIS include 3 sub-alternatives that involve NTTR expansion by up to 301,507 acres. Options include withdrawing ~18,000 additional acres on the South side of the North Range, withdrawal of an additional ~57,000 acres on the South side of the NTTR South range, and withdrawal of ~227,000 acres of land overlapping the Desert National Wildlife Refuge (DNWR) to the East of the NTTR.

In furtherance of meeting requirements of Section 106 and other provisions of the National Historic Preservation Act (NHPA), the USAF has identified the USFWS as an appropriate NHPA consulting party to this action due to the nature of the proposal and the ownership/management of identified land areas. The USAF has also identified lands within Attachment 1 as the Area of Potential Effect, or APE, for the NTTR land withdrawal proposal.

The types of activities that are now taking place on existing withdrawn lands will not change under the withdrawal extension. The USAF has identified the general types of activities that may take place in the proposed withdrawal expansion area. New activities in proposed withdrawal expansion areas would include establishment of electronic emitter and radar sites, overland movement by small tactical teams of 10-12 military personnel, establishment of an airstrip, limited road and trail construction, fencing, and establishment of controlled access to ensure public safety during military operations. Specific locations for

these activities cannot be defined until after enactment of any withdrawal legislation. The USAF is not proposing any site-specific activities that would involve ground-disturbance at this time. Accordingly, the USAF is preparing a programmatic LEIS that will identify cultural resources within proposed withdrawal areas, and to the extent possible address impacts to those resources based on the types of activities that may occur in the future in these areas. Specific future activities on any withdrawn lands would be subject to the appropriate level of future NEPA review and associated supporting consultations at the time they are proposed. The Air Force anticipates completing a Programmatic Agreement (PA) to meet its Section 106 consultation requirements and, with this letter, invites the USFWS to participate as a consulting party in the formulation of the PA.

In accordance with Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR 800.1(c), the USAF initiated consultation with the Nevada State Historic Preservation Office (NVSHPO) in July 2016 for the NTTR military land withdrawal proposal. Nellis Air Force Base (NAFB) also initiated discussions with affiliated Native American tribes early in the planning process in order to take into account tribal concerns. With this letter, the USAF is also formally requesting the initiation of NHPA consultation with the US Fish and Wildlife Service for the NTTR military land withdrawal proposal given that the APE under consideration may impact your agency and cultural resource management programs.

Sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, that have an interest in the NTTR Land Withdrawal LEIS have been contacted and offered an opportunity to partner in cultural resource studies and participate as consulting parties. Tribes affiliated with NAFB include: the Benton Paiute Tribe, Fort Independence Paiute Tribe, Duckwater Shoshone Tribe, Timbisha Shoshone Tribe, Yomba Shoshone Tribe, Ely Shoshone Tribe, Big Pine Paiute Tribe, Lone Pine Paiute-Shoshone Tribe, Bishop Paiute Tribe, Fort Mojave Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Kaibab Band of Southern Paiutes, Las Vegas Paiute Tribe, Moapa Band of Paiutes, Pahrump Paiute Tribe, Paiute Indian Tribe of Utah (Tribes). The Air Force initiated discussions with these Tribes by visiting tribal offices and informally discussing the NTTR land withdrawal project in February/ March of 2015.

In November of 2015, the Air Force held a second informational meeting on NAFB, where the tribes were invited to comment on the project and provide feedback on issues important to them. As a result of this meeting, the tribes requested that four additional meetings be held at locations around Nevada and California that were more conveniently located for tribal members to attend. These meetings were held from April 25-29 at the Bishop Paiute Tribe Reservation, the Ely Shoshone Tribal Reservation, the Mojave Tribal Reservation, and at the Las Vegas Paiute Tribal Reservation. A government-to-government letter initiating formal consultations was sent to all sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, on June 22, 2016. In addition to these interactions, the tribes are providing input on special studies associated with the LEIS. The attached Cultural and Paleontological Survey Plan (Duke, 2016) was submitted to the NAFB affiliated tribes for review and input in March 2016. So far, the Tribes have not requested any modifications to the survey strategy.

As discussed, on 18 July 2016 the USAF initiated NHPA Section 106 consultation with the NVSHPO regarding this proposed action (copy of letter provided as Attachment 2); the Air Force held a discussion with the NVSHPO on 5 August 2016 to provide additional background information on the proposed project.

The Air Force plans to initiate a Cultural Resources Study within the proposed withdrawal expansion areas to identify and characterize resources that may be present. The Air Force has coordinated the survey plan with USFWS, and has updated the plan to include USFWS recommendations for Phase I cultural surveys in these areas. The USAF coordinated this plan with Mr. Anan Raymond (Regional Historic Preservation Officer for Regions 1 and 8) and Mr. Spencer Lodge Staff Archaeologist) in August 2016. USFWS input has been incorporated into the updated plan which has been provided back to these POCs and is available upon request. The plan will be supplemented by any previous studies in these areas and any available data

from the NVSHPO and partner agencies. All identified cultural resources 50 years or older will be recorded as part of the survey (including historical structures).

In support of NHPA consultation efforts for this undertaking the USAF seeks information from the USFWS on historic property sites and concerns within the area of potential effect, input on methods for data gathering, as well the USFWS' perceived historic property identification needs. The USAF also invites your comments regarding:

- Any outstanding cultural and/or tribal resources.
- The potential for irresolvable management conflicts, such as areas where it would be difficult or impossible to avoid, minimize, or mitigate impacts from future actions.
- Any other issues or concerns you request be considered during preparation of consultation documentation or the LEIS.

As the USAF develops the LEIS and works through the NHPA Section 106 consultation process with the NVSHPO, tribes, and other consulting parties, we look forward to the USFWS' contributions as we work collaboratively for the preservation of the historic resources entrusted to the stewardship of the USAF on the withdrawn NTTR lands.

If you have any questions or comments regarding the information presented in this letter, please direct them to Ms. Kish Lapierre by e-mail at kish.lapierre@us.af.mil or by phone at (702) 652-5813. Thank you for your attention to this matter.

Sincerely,

Michael A. Freeman
Lieutenant Colonel, USAF
Commander

Cc:

Polly Wheeler, Assistant Regional Director for Refuges, Pacific SW Region
Christy Smith, Desert National Wildlife Refuge Complex
Anan Raymond, USFWS Cultural Resources Management
Spencer Lodge, USFWS Cultural Resources Management
Rebecca Palmer, NV State Historic Preservation Office

B.10.2 Endangered Species Act Section 7 Consultation

Biological Assessment

BIOLOGICAL ASSESSMENT FOR THE NEVADA TEST AND TRAINING RANGE AND PROPOSED EXPANSION ALTERNATIVES

The Nevada Test and Training Range
Nellis Air Force Base

November 2017

Prepared for:
United States Air Force
Nellis Air Force Base

BIOLOGICAL ASSESSMENT FOR THE NEVADA TEST AND TRAINING RANGE AND PROPOSED EXPANSION ALTERNATIVES

Prepared for the
U.S. Air Force
Through the
U.S. Army Corps of Engineers
Contract # W9126G-14-D-0014
Delivery Order No. DS01
Leidos Subcontract No.: P010176987

November 2017

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Acronyms and Abbreviations

ACEC	Areas of Critical Environmental Concern
ATV	All-Terrain Vehicles
BA	Biological Assessment
BLM	Bureau of Land Management
BiOp	Biological Opinion
CAFB	Creech Air Force Base
CWA	Clean Water Act
DNWR	Desert National Wildlife Range
DOD	U.S. Department of Defense
DOI	U.S. Department of the Interior
DT	Desert Tortoise
DU	Depleted Uranium
EMR	Electromagnetic Radiation
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FAARP	Forward Area Arming and Refueling Points
GIS	Geographic Information Systems
GPS	Global Positioning System
INRMP	Integrated Natural Resources Management Plan
MOU	Memorandum of Understanding
LEIS	Legislative Environmental Impact Statement
MPH	Miles per Hour
MSL	Mean Sea Level
NAFB	Nellis Air Force Base
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NNRP	Nellis Natural Resources Program
NPBO	NTTR Programmatic Biological Opinion
NRCS	Natural Resources Conservation Service
NTTR	Nevada Test and Training Range. Also, the new name for 98th Range Wing
OHV	Off Highway Vehicle
STATSGO2	U.S. General Soil Map
TSPI	Time-Space-Position Information
USAF	United States Air Force
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	Unexploded Ordnance

Introduction

The United States Air Force (USAF) is in the process of renewing the withdrawal of land for military operations and training on the Nevada Test and Training Range (NTTR). The current withdrawal will expire on November 6, 2021, unless Congress enacts legislation to extend it. In accordance with Section 3016 of the Military Land Withdrawal Act (MLWA), the USAF, in coordination with Department of Defense (DoD), has notified Congress of a continuing military need for the NTTR withdrawal. Furthermore, the USAF plans to submit a Legislative Environmental Impact Statement (LEIS) that supports a legislative proposal through the Department of the Interior (DOI) to extend the withdrawal. The Endangered Species Act of 1973 (ESA), as amended, provides for the protection of plants and animals that are in danger of becoming extinct. The ESA is administered by the U.S. Fish and Wildlife Service (USFWS) and requires federal agencies to consult with the USFWS to determine if an action will adversely impact a threatened or endangered species. This consultation, formally called a Section 7 Consultation, requires the federal agency requesting the withdrawal to prepare a Biological Assessment (BA) of potentially impacted federally listed threatened and endangered species. After the USAF initiates formal consultation with the USFWS, the USFWS reviews the BA, determines that adequate information is provided in the BA, and prepares a programmatic Biological Opinion (BiOp). The BiOp is to be provided as part of the LEIS submission package to Congress.

As part of coordination with the USFWS, the USAF scheduled a meeting with the USFWS Ecological Services at the Las Vegas Office of the USFWS on February 9, 2017 to discuss the species to be included in the BA prepared for the renewal and expansion of the land withdrawal for the NTTR. An official list of potentially impacted special status species was also requested via https://ecos.fws.gov/ipac/. It was determined that the only listed species potentially impacted by the land withdrawal was the Mojave desert tortoise (*Gopherus agassazii*) (DT), which is currently listed as "Threatened". Therefore, the DT was designated as the species to be addressed by the BA for the actions associated with the NTTR land withdrawal renewal and expansion.

Purpose and Objectives of the Biological Assessment

The purpose of this BA is to provide the information required by the USFWS to formulate a BiOp of the implementation of the renewal and potential expansion of the land withdrawal for the NTTR and its impacts on the DT. This is a BA for the preparation of a programmatic BiOp, and does not preclude the need for further consultation for site-specific actions on the Action Area in the future. A programmatic BA addresses the general actions by the military that may potentially impact DT populations and habitat and provides guidelines to formulate and design plans that will minimize impacts to DT and its habitat. Analysis of the proposed action primarily focuses on the proposed use of the Action Area from a conceptual and qualitative perspective, and site-specific consultation will be required in the future for specific action locations and access routes once a decision on the withdrawal has been made and detailed planning has been initiated. In general, the USAF will avoid or minimize impacts to DT habitat for any development activities and military actions on the withdrawn land as is current practice.

The objectives of this BA are the following:

- Review the history of the USFWS consultation on the NTTR to date
- Describe the USAF mission and operations programs and actions resulting from those programs
- Describe the Action Area
- Discuss the biology and habitat of the DT
- Describe the historic and current status of the DT on the Action Areas

- Present a DT Habitat Suitability Model to determine habitat in the Action Area that could support DT populations
- Describe potential impacts imposed on the DT by the Proposed Action
- Propose measures to avoid, minimize, and mitigate impacts imposed by the Proposed Action

SCOPE OF THE BIOLOGICAL ASSESSMENT

The BA presents the proposed action by the USAF and its potential impacts on the DT population and habitat on the Action Area. The intent of the BA is to provide sufficient information to allow the USFWS to prepare a programmatic BiOp for the protection and conservation of the DT on the Action Area. The Action Area for this BA includes the South Range of the current NTTR which is approximately 1,005,891 acres in Lincoln, Clark, and Nye counties in Nevada. The USAF is also proposing to expand the current withdrawn lands to include three additional alternative areas shown in Figure 1. Expansion Alternative 3A is 17,906 acres lying along the southwest boundary of the North Range of the NTTR, northeast of Beatty, Nevada. Range 77, currently located in the North Range of the NTTR, is included as part of the Western Action Area. Expansion Alternative 3B is 56,501 acres located immediately south of the South Range of the NTTR both east and west of Indian Springs, Nevada. Alternative 3C is 227,027 acres immediately east of the South Range of the NTTR and west of the Sheep Mountain Range in the Desert National Wildlife Refuge (DNWR). Figure 2 shows the Action Area that potentially supports DT populations that will be discussed in this BA. Based on the conclusions of the previous BiOp, the North Range Study Area is not in the habitat range of the DT and will not be included in this BA (U.S. Fish and Wildlife Service, 2003). For the purposes of this BA, the Action Area is divided into the Eastern Action Area comprised of the South Range of the NTTR, Alternative 3B, and Alternative 3C, and the Western Action Area comprised of Alternative 3A and Range 77 (Figure 2). The latest version of the DT habitat model shows some scattered areas of habitat north of the boundary of Range 77 which are included in this analysis, but are not in the Action Area proper. All recommendations to protect DT include these scattered North Range areas. Access to the Action Area by wheeled vehicles will only be allowed via improved or gravel roads or trails already established outside of the Action Area though controlled entry areas or locked gates that are carefully monitored by security personnel or surveillance equipment. Personnel can also access the Action Area by foot, helicopter or parachute drop. The Action Area as mapped in Figure 2 includes all areas potentially impacted by the proposed action including staging areas, borrow pits, waste disposal, etc.

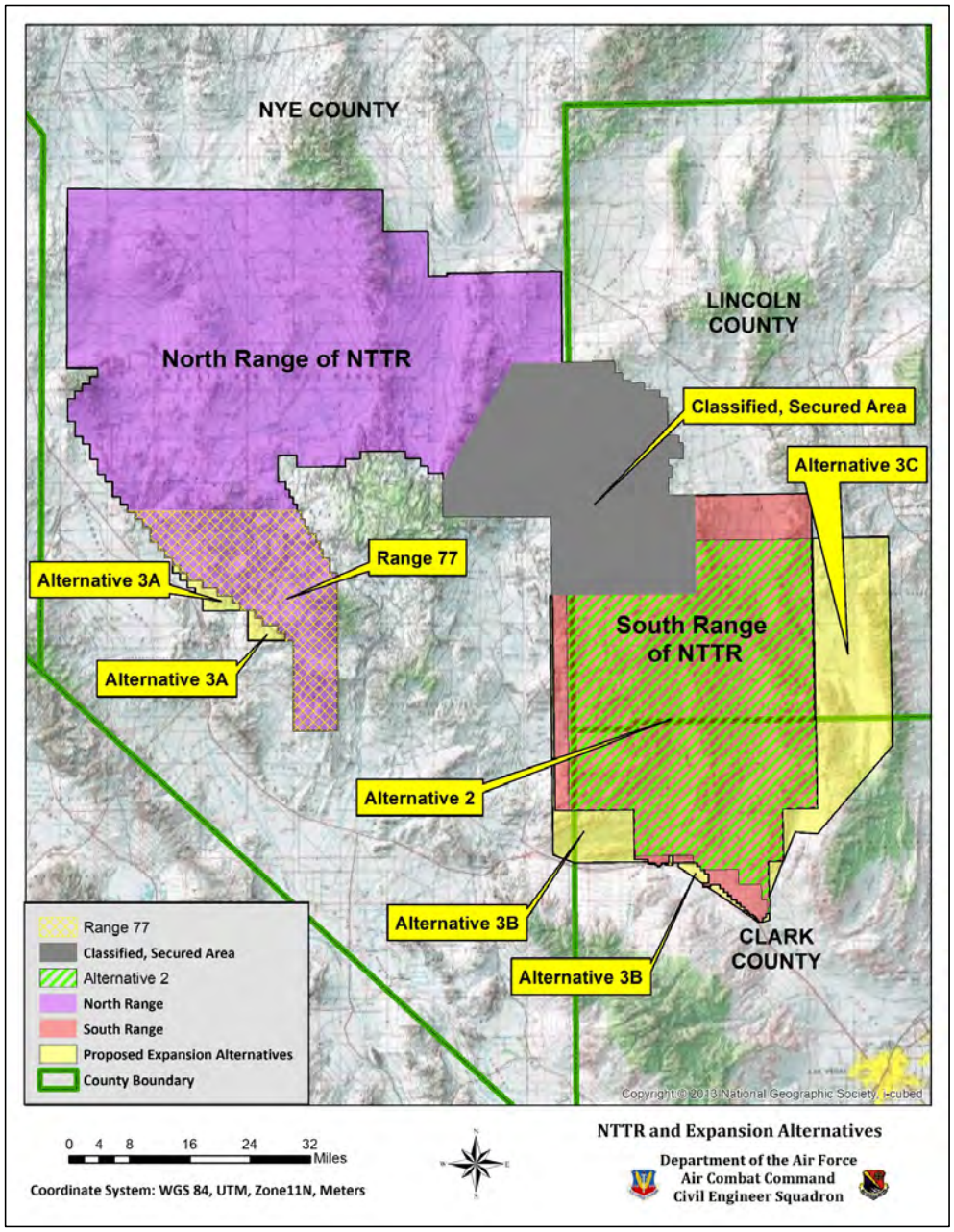


Figure 1. The current boundaries of the NTTR and proposed expansion alternatives for the withdrawn land.

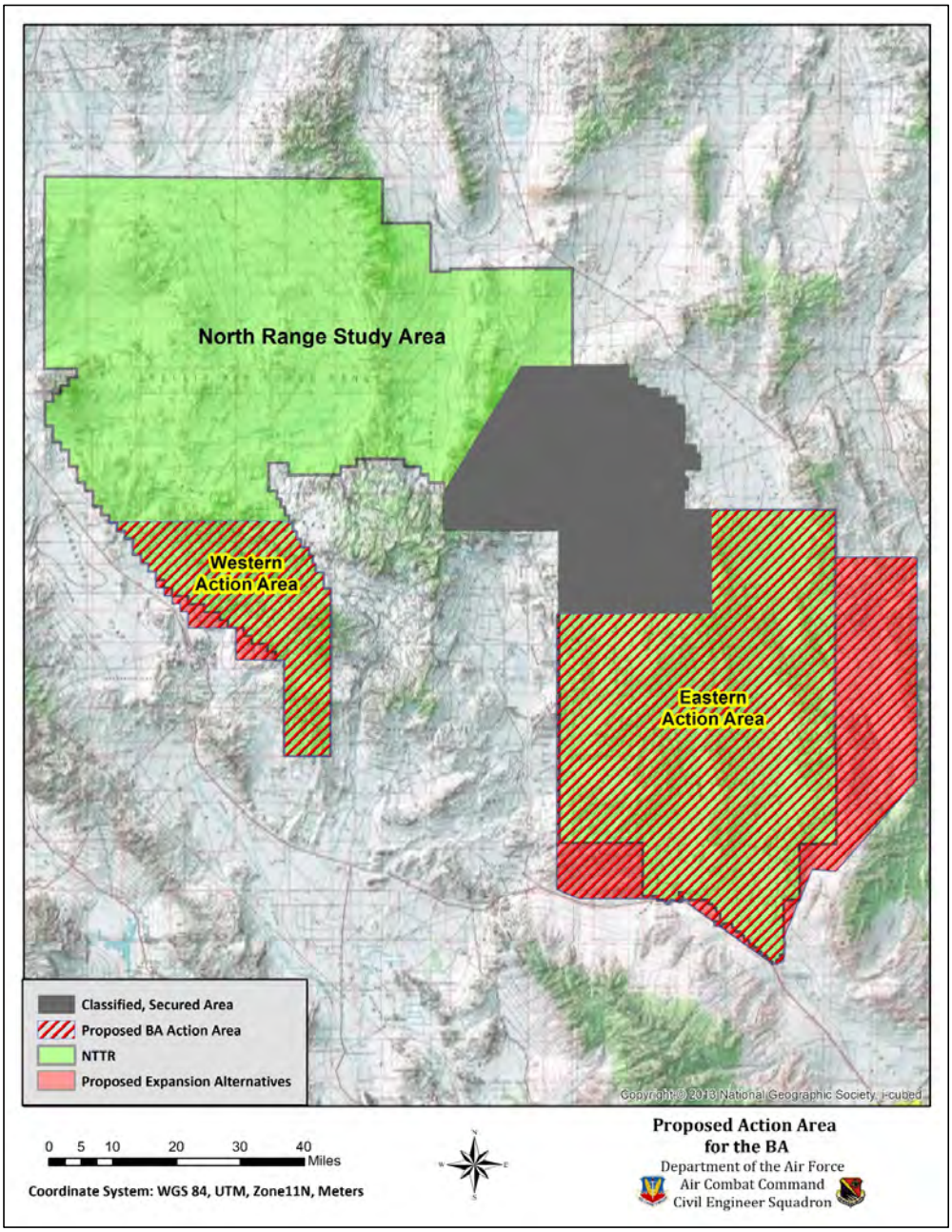


Figure 2. The proposed Action Area for the BA. For the purposes of this BA, the Action Area is divided into the Eastern Action Area and the Western Action Area.

HISTORY OF SECTION 7 FORMAL CONSULTATION

The Endangered Species Act of 1973 (ESA), as amended, is administered by the USFWS and provides for the protection of plants and animals that are in danger of becoming extinct. The ESA requires that all federal agencies shall seek to conserve endangered and threatened species and shall utilize their authorities to further the purpose of this Act. During 1995 and 1996, the USFWS was directed by Congress to assess the legal protection levels provided by the ESA. The evaluation process led to a set of new protection policies for rare plants and animals in the United States. The current protection status for each of these species can be found in detail on the Federal Register.

Section 9 of the ESA explicitly restricts the "taking" of a listed species. "Take" is defined in the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. In addition to the protection of actual species of concern, the ESA provides protection for the habitats necessary for the viability of listed species. Incidental takes are permissible under Section 7 of the ESA through: 1) formal consultation with the USFWS; 2) issuance of an incidental take permit (as in conjunction with issuance of a BiOp); or 3) issuance of a scientific collecting permit under Section 10 of the ESA.

Section 7(a)(2) provides an administrative mechanism for a federal agency to consult with the USFWS to determine whether a proposed action is likely to adversely impact listed threatened and endangered species either directly or through destruction or modification of its habitat. The USAF has consulted with the USFWS under Section 7 of the ESA for several projects that potentially impacted the DT on the NTTR. A BA and a programmatic BiOp were prepared for the current activities on the NTTR as part of the previous land withdrawal. Formal and informal consultations with the USFWS concerning the NTTR and proposed expansion areas are discussed below.

Formal and Informal Section 7 Consultations for the NTTR

U.S. Fish and Wildlife Service. July 19, 1994. *Biological Opinion for Continuing Current Weapons Testing/Training on the U.S. Department of the Air Force Weapons and Tactics Center Range Complex.*

On December 30, 1993, the USAF requested formal consultation with the USFWS pursuant to Section 7 of the Endangered Species Act of 1973 regarding the continuation of weapons training/testing on the USAF's Weapons and Tactics Center Range Complex (WTCRC) located on the DNWR. Specifically, this request outlined the possible impacts to potential DT populations and habitat within the WTCRC. Additionally, the USAF requested that formal consultation for development of the new Cluster Bomb Unit (CBU) target area be included under the scope of the BiOp. Mitigation efforts to minimize impacts to DT populations and habitat in WTCRC/DNWR, proposed by the USAF, included prohibiting off-road vehicle use within these areas; except for those activities necessary to clear and dispose of ordnance; developing a reclamation plan for unused or retired weapons delivery areas and roads within DT habitat restricting all traffic to roads (paved, gravel, or dirt) and a maximum speed limit of 25 mph.

The USFWS determined that an estimated 12 DT would be affected each year from continued operations in the WTCRC/DNWR, and that these operations would further degrade approximately 971 acres of previously disturbed DT habitat. However, the USFWS noted that the mitigation efforts proposed by the USAF to offset these losses would minimize these impacts.

The USFWS' resulting BiOp indicated that the continued operations in WTCRC/DNWR would not likely jeopardize the DT population, and no critical habitat would be impacted. The BiOp authorized the incidental take of DT (2 killed per year and 10 captured, removed, or displaced) if appropriate measures were implemented to minimize the potential for incidental takes. These measures included: 1) measures to minimize mortality or injury due to weapons training and testing operations; 2) measures

taken to minimize destruction of DT habitat due to weapons training and testing operations; and 3) measures taken to ensure compliance with prudent measures outlined in the BiOp (i.e. reporting requirements).

U.S. Fish and Wildlife Service, January 9, 1995. *Biological Opinion for Continuing Current Weapons Testing/Training on the U.S. Department of the Air Force Weapons and Tactics Center Range Complex (Amendment Letter). Response to USAF comments on the first amendment and the changing of design for the DT proof fence.*

The USFWS issued BiOp Number 1-5-94-F-162 to the USAF on July 19, 1994. This BiOp amendment letter summarizes the results of a November 14, 1994, meeting between the USFWS and the USAF personnel to amend the July 19, 1994 BiOp. During the meeting, an alternate fence design differing from that described in the original BiOp was proposed by the USAF and supported by the USFWS. The letter constituted written concurrence from the USFWS that the new fence design was approved.

U.S. Fish and Wildlife Service, June 5, 1995. *Biological Opinion for Continuing Current Weapons Testing/Training on the U.S. Department of the Air Force Weapons and Tactics Center Range Complex (Second Amendment Letter)*.

The USFWS issued a second amendment letter for BiOp Number 1-5-94-F-162 to the USAF on July 19, 1994. Term and Condition No. 2 of the BiOp required that the USAF submit a written vegetative rehabilitation plan for approval by the USFWS by July 19, 1995. However, it was later determined that review of the plan, as well as the implementation of a pilot study and monitoring program, would require more time than the deadline. Therefore, it was determined that this deadline should be adjusted. The USFWS concurred with the USAF opinion, and this amendment letter served as a revision to Term and Condition No. 2. Under the revised Term and Condition, the vegetative rehabilitation plan would be due October 31, 1995, and the pilot study would begin June 1996 to end in December 2001. All other terms and conditions of the original BiOp were to remain in effect.

U.S. Fish and Wildlife Service, June 7, 1995. *Comments on the Draft Revegetation and Monitoring Plan, Nellis Air Force Base.*

In January 1995, the USAF submitted the draft revegetation and rehabilitation plan to meet Term and Condition No. 2 of BiOp Number 1-5-94-F-162. The USFWS responded with comments in a letter dated June 7, 1995. The comments, both general and specific, were minor as the USFWS was in general agreement with the overall plan.

U.S. Fish and Wildlife Service. February 1997. *Biological Opinion on the Re-initiation of Formal Consultation for Continuing Current Weapons Testing and Training on U.S. Department of the Air Force Weapons and Tactics Center Range Complex.*

On July 8, 1996, the USAF requested formal consultation with the USFWS, pursuant to Section 7 of the Endangered Species Act of 1973, regarding the continuation of weapons training/testing for a five-year period on the USAF WTCRC located on the DNWR. Specifically, this request outlined the possible impacts to potential DT populations and habitats within the WTCRC/DNWR.

The BiOp summarized the previous formal consultations between USFWS and USAF concerning the project location, specifically the BiOp issued July 19, 1994 (File No. 1-5-94-F-162), and the amended BiOp issued February 14, 1995 (File No. 1-5-94-F-162.AMD). Additionally, the BiOp noted that innovations in

electronic guidance equipment have refined ordnance delivery and reduced impact areas within WTCRC/DNWR by 10 percent, and DT information was issued to all new WTCRC personnel, increasing DT awareness of on-site staff.

The USFWS BiOp stated that the continued operations in WTCRC/DNWR would not likely jeopardize the DT population, and no critical habitat would be impacted. The BiOp authorized the incidental take of DT (2 killed per year and 10 captured, removed, or displaced) if appropriate measures were implemented to minimize the potential for incidental takes. These measures included: 1) measures to minimize mortality or injury due to weapons training and testing operations; 2) measures taken to minimize destruction of DT habitat due to weapons training and testing operations; 3) a transfer of $50,000 into the DT Habitat Conservation Fund Number 730-9999; and 4) measures taken to ensure compliance with prudent measures outlined in the BiOp (reporting requirements).

U.S. Fish and Wildlife Service, December 3, 1999. *Request to amend the Biological Opinion for Weapons Testing/Training on the Weapons and Tactics Center Range Complex (Amendment Letter).*

The USFWS issued BiOp Number 1-5-94-F-278R to the USAF in February of 1997. This BiOp amendment letter summarized the request of the USAF to place 11 borrow pits (four of which were in DT habitat) within the complex as outlined in the Final Environmental Assessment for Borrow Pits on the Nellis Air Force Range, Nevada. The pits were to be used to supply base material for road improvements. The Service responded that maintenance of the roads was consistent with the 1997 BiOp and was covered in that opinion. The letter constituted written concurrence from the USFWS that the request was approved and the 1997 BiOp was amended to cover the four borrow pits in DT habitat.

U.S. Fish and Wildlife Service, January 2, 2002 File No. 1-5-02-I-455. Informal Consultation Requesting Formal Consultation for Construction of the 64-10 By-Pass Road.

The USFWS requested that the USAF initiate formal consultation for the construction of the Target 64-10 by-pass road because five DT burrows were found during surveys of the area and the USFWS did not concur with the USAF determination that the proposed project would not likely adversely affect the DT at the site.

U.S. Fish and Wildlife Service, January 16, 2002. *Request to Extend the Term of the Biological Opinion for Activities on the Air Force's Weapons and Tactics Center Range Complex.*

This concurrence letter granted the USAF request to extend the term of the February 1997 BiOp for six months to allow the USAF additional time to develop the Nevada Training Initiative and determine the needs of the NTTR for a 10-year period. The USFWS concurred with the request and extended the BiOp term from February 5, 2002 until August 5, 2002.

U.S. Fish and Wildlife Service. January 2, 2002. *Biological Opinion for Dogbone Lake/Target 62-1 Bypass Road, Lincoln County, Nevada.*

On July 2, 2002, the USAF requested concurrence through informal consultation with the USFWS that DT studies conducted in association with the proposed construction of three bypass roads (62-1, Dogbone Lake, and 64-10 bypass roads) would not adversely affect DT populations. Construction of these bypass roads were proposed to increase safety and reduce road degradation of existing facilities. No DT or DT sign were identified during the 64-10 survey, and the USFWS concurred that construction of this bypass

road was "not likely to adversely affect" DT at this site. However, the USFWS did not issue concurrence with a "not likely to adversely affect" decision for the 62-1 and Dogbone Lake bypasses because DT sign were identified during their surveys. In summary, the USFWS recommended formal consultation of the 62-1 and Dogbone Lake bypass roads to address the direct and indirect effects to DT that may occur due to project implementation. The BiOp summarized the previous formal consultations between the USFWS and the USAF concerning the project area, specifically BiOp No. 1-5-97-F-251 and No. 1-5-98-F-053.

Based on a review of information available for the project site, the USFWS concluded the following in the BiOp: "After reviewing the status of the DT, the environmental baseline for the action area, the effects of the proposed road re-alignment, and the cumulative effects; it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the DT. Critical habitat for the DT has been designated in portions of the Paiute and El Dorado Valleys, Mormon Mesa, Gold Butte, and Beaver Dam Slope areas of Nevada; however, this action does not affect those areas and no destruction or adverse modification of that critical habitat is anticipated."

The BiOp authorized the following amount of take: 1) No DT may be incidentally injured or killed by project activities; 2) No DT eggs were anticipated to be destroyed during construction activities; 3) No DT were anticipated to be taken in the form of indirect mortality through predation by ravens drawn to trash in the project area; and 4) an unknown number of DT may be taken indirectly in the form of harm through increased noise and ground vibrations associated with construction, use of heavy equipment, and other project activities.

The BiOp outlined reasonable and prudent measures to reduce the amount of take associated with DT on the project site. These measures included: 1) implementing measures to minimize injury or mortality of DT due to project-related activities; 2) implementing measures to minimize predation on DT by predators drawn to project areas; 3) implementing measures to minimize destruction of DT habitat, such as soil compaction, erosion, or crushed vegetation due to construction activities; and 4) implementing measures, terms and conditions, reporting requirements, and re-initiation requirements in this BiOp. Terms and conditions consistent with best management practices were also described in the BiOp.

U.S. Fish and Wildlife Service. June 17, 2003. File No. 1-5-02-F-522. *Programmatic Biological Opinion for Activities on the South Range of Nellis Air Force Base, Nevada Test and Training Range, and the Nevada Training Initiative, Clark and Lincoln Counties, Nevada.*

This programmatic BiOp was prepared and based on a review of programmatic and project specific activities proposed by the USAF on the South Range of the NTTR over a 16-year period. Specifically, this BiOp addressed the potential effect of mission activities on DT populations. The term of the BiOp terminates on March 1, 2019, which coincides with the NTTR land withdrawal from Bureau of Land Management (BLM) control.

Based on a review of information available for the coverage area, the USFWS concluded the following: "After reviewing the current status of the DT, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the USFWS' BiOp that implementation activities on the South Range as described in the January 2003 BA, are not likely to jeopardize the continued existence of the threatened Mojave population of the DT. Critical habitat for this species has been designated within 14 Critical Habitat Units in Nevada, California, Arizona, and Utah; however, the proposed action does not affect any of those areas and no destruction or adverse modification of that critical habitat is anticipated."

This decision was based on the following reasons: "1) The South Range does not include any areas designated for recovery of the DT; 2) few DT are likely to be killed or injured by the USAF actions which would be minimized by measures proposed by the USAF; and 3) no new actions will proceed under this programmatic biological opinion until the USAF submits required information on each project that may adversely affect the DT and a response has been received from the USFWS in accordance with the USFWS's protocol for programmatic biological opinions."

The USFWS BiOp stated that based on the minimization efforts employed on the South Range of the NTTR and an analysis of potential impacts, the following take of DT may occur:

1. To ensure that the protective measures were effective and were being properly implemented, the USAF shall contact the USFWS immediately if a DT is killed or injured. Upon locating a dead or injured DT within the action area, notification must be made to the Ecological Services Division of the USFWS. At that time, the USFWS and the USAF shall review the circumstances surrounding the incident to determine whether additional protective measures are required. Project activities may continue pending the outcome of the review, provided the protective measures and any appropriate terms and conditions of this BiOp have been and continue to be fully implemented. It was estimated that no more than one DT may be killed or injured on the South Range of the NTTR, per year. For the Nevada Training Initiative (NTI) project, the USFWS estimated that no more than two DT may be killed or injured as a result of project activities.
2. All DT found in harm's way in work areas may be captured and moved to a safe location. Based on the incidental take associated with prior activities, no more than five DT will be taken on the South Range of the NTTR through capture and movement, per year. No more than 20 DT will be captured or moved during the NTI project.
3. An unknown number of DT eggs may be disturbed or destroyed during surface-disturbing activities on the South Range. However, the number of nests and eggs affected by the project would be no more than one over the term of the proposed action, including the NTI project.
4. An unknown number of DT may be taken in the form of indirect mortality through predation by ravens drawn to trash in the project area. The level of raven or subsidized predator predation on DT will be greater as a result of programmatic activities than the existing baseline conditions.

The BiOp outlined reasonable and prudent measures to reduce the amount of take associated with DT on the project site. These measures included: 1) implementing measures to minimize the incidental take of DT resulting from weapons testing and training activities, including minimizing attraction of DT predators to activity sites; 2) implementing measures to minimize harm to DT as a result of impacts to DT habitat such as soil compaction, vegetation damage and destruction, and erosion; 3) implementing measures to minimize the incidental take of DT that may result from project and road construction projects; and 4) implementing measures to minimize the incidental take of DT that may result from capture, handling, and relocation of DT, as required or authorized in this BiOp. Terms and conditions consistent with best management practices are also described in the BiOp.

US Fish and Wildlife Service. June 30, 2004. *Amendment to the Programmatic Biological Opinion for Activities on the South Range of Nellis Air Force Base, Nevada Test and Training Range (NTTR), and the Nevada Training Initiative, Clark and Lincoln Counties, Nevada.*

This amendment, File No. 1-5-02-F-522.AMD1, granted the USAF permission to implement DT monitoring and clearing on NAFB, NTTR, and NTI in-lieu of constructing and maintaining DT barriers. The reasoning behind this change in techniques is that DT barriers were being rendered ineffective by target range impacts. The USFWS determined that a monitoring and clearing strategy would be equally or more effective than DT barriers. As such, Term and Condition 1.a and 1.d, were amended to reflect monitoring and clearing activities in accordance with Term and Condition 3.b as quoted below:

> *The Nevada Training Initiative Project (640 acres), Target* 62-6*, and new proposed projects that would involve surface disturbance will be cleared of DTs in accordance with Term and Condition 3.b. In addition to the project site clearance, on a case-by-case basis, a perimeter around the project area will also be cleared as determined by the Nellis AFB Natural Resources Manager and Service. The determination to conduct perimeter clearance will be based on the quality of DT habitat in the project area and/or likelihood of DTs appearing on the project site. DTs found and removed from the project site may be fitted with radio telemetry devices as determined on a case-by-case basis. Telemetered tortoises will be monitored and data collected at least until project construction is completed to determine if tortoises return to the area of capture. Telemetry data will be provided to the Service within* 30 *days of the conclusion of telemetry monitoring activities. Tortoises that return will be moved out of harm's way in accordance with Terms and Condition 3.b. Tortoises that are found in harm's way shall continue to be captured, moved, and released until surface disturbance ceases. Tortoises may be moved up to 1 mile from point of capture. A tortoise monitor will be present on the project sites during all project construction/earthmoving activities until the project is completed.*

Additionally, the USFWS acknowledged and commended the USAF for its efforts to delineate and map all DT habitats on the NTTR and to develop a DT management plan as part of the INRMP.

Request for Concurrence with DT Habitat Delineation on the Nevada Test and Training Range, Clark and Lincoln Counties, Nevada (August 27, 2009)

This document is a letter from the USFWS, File No. 1-5-02-F-522, approving the DT habitat map for use as a guide to identify areas where clearance surveys and monitoring would be required on the South Range of the NTTR. The map only serves as a guide because desert tortoise habitat delineations can only provide an estimate of such areas, it is likely that areas mapped as potential habitat are not occupied at this time by desert tortoises and tortoises may occur outside areas identified as potential desert tortoise habitat on the map. The USFWS specified four measures in the programmatic BiOp that applied towards activities in DT habitat:

1. Provide DT awareness training. The training should be provided to anyone working in or traveling through potential DT habitat.
2. Impose a speed limit of 25 miles per hour in DT habitat. The USFWS recommended that speed limit signs be posted on roads that enter DT habitat and ensure that these speed limits are enforced.
3. Rehabilitate disturbances of DT habitat and/or pay a per-acre remuneration fee.
4. Conduct clearance surveys for DTs or construct DT exclusionary fencing for actions in potential DT habitat.

Figure 3 is the DT habitat map approved by the USFWS for the NTTR and the current withdrawn land.

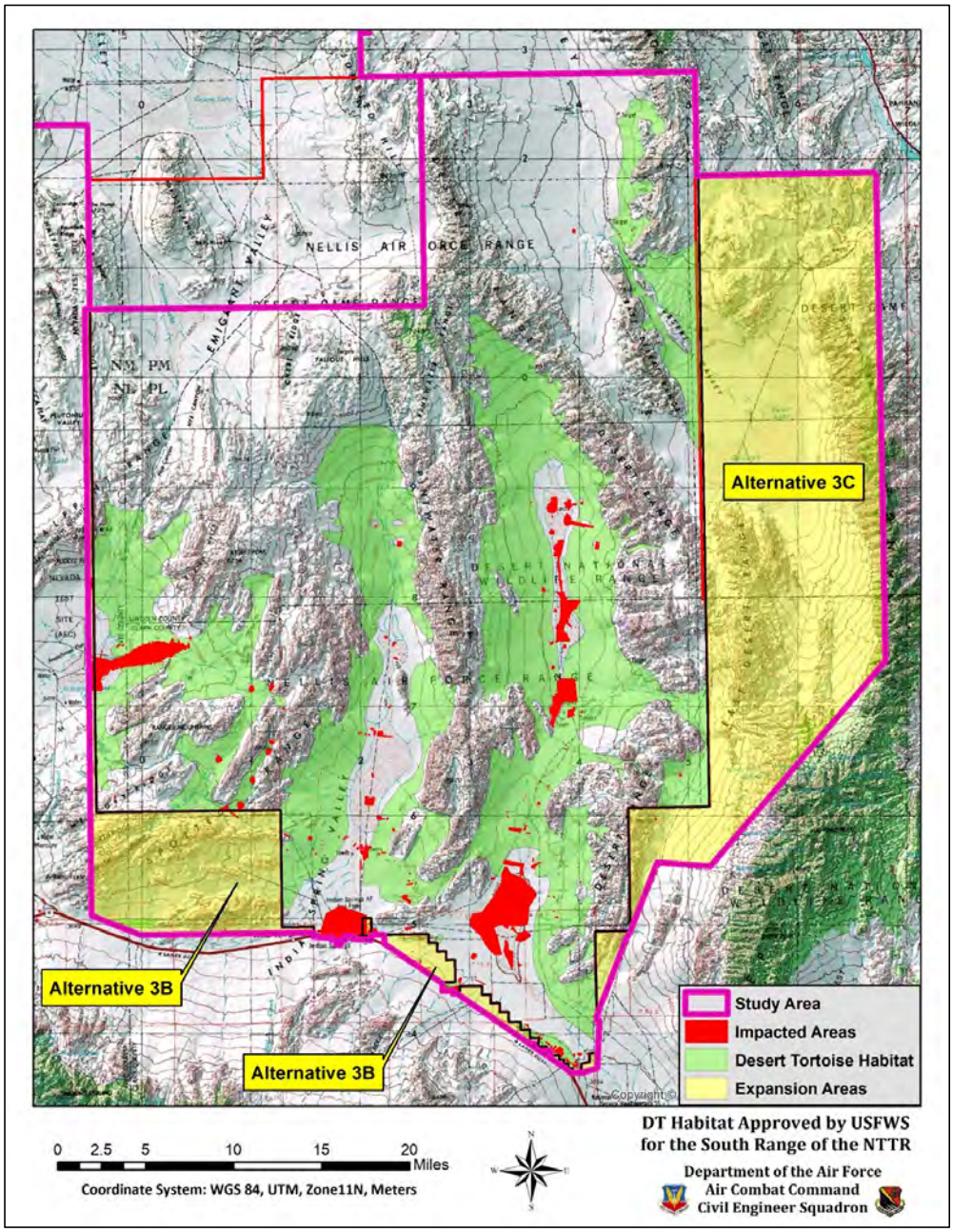


Figure 3. Desert Tortoise habitat map approved for NTTR by the USFWS on August 27, 2009. Impacted Areas indicates those areas that have been impacted by target use or infrastructure construction during or before the current BiOp was implemented.

Alternative 2

Alternative 2 involves a "ready access" component for the South Range that would allow increased training opportunities in the South Range. Currently, approximately 590,000 acres of the NTTR's South Range overlaps the Desert National Wildlife Range (DNWR), which are designated as proposed Wilderness and managed as de facto wilderness by virtue of USFWS land management policy. Generally, areas that were proposed for wilderness in the South Range correspond to elevations above 4,000 feet above mean sea level. Existing roads (mountain roads/passages) other than those used below 4,000 feet are off limits, as is troop movement, ground disturbance and the development of new locations such as emitter sites and communication sites. Previously used targets that are located in areas that were proposed as wilderness in 1971 are also off limits.

Alternative 3A

Alternative 3A is located northeast of Beatty, Nevada in Nye County on the northern extent of DT habitat range. The land is undeveloped and only used for cattle grazing and recreation. Nye County is preparing a Habitat Conservation Plan (HCP) for the DT and it will only include private lands in Alternative 3A if Alternative 3A is not included in the expansion of the withdrawn land. According to the BLM, this area falls under the programmatic BiOp for the BLM and no surveys have been conducted on the area to date (Personal communication with Gregory Brooks, Sept. 20, 2017, BLM).

Alternative 3B

Alternative 3B includes land between the south boundary of NTTR and U.S. Highway 95. The western part of this area is located in the DNWR, while the remainder is managed by the BLM under their programmatic BiOp. DT surveys have not been conducted in these areas (Personal communication with Gregory Brooks, Sept. 20, 2017, BLM).

Alternative 3C

Alternative 3C lies within the DNWR. No USFWS consultation has occurred in this area, but would be required if impacts to DT are imposed by any federal actions. Critical habitat has been designated for the DT in the vicinity of the DNWR, but none has been designated within the boundaries of the DNWR. The nearest critical habitat lies in Pahranagat Valley about 4 miles east of the eastern boundary of Alternative 3C and separated from Alternative 3C by the Sheep Mountain Range. Critical habitat has not been designated for any of the land lying within the DNWR because as a wildlife refuge, it affords full protection for the species within its management area boundaries. However, under the INRMP for NAFB, NTTR, and CAFB, an exemption of critical habitat designation under Section 4(a)(3)(B)(i) under the Endangered Species Act may be enforced. Such an exemption would preclude the need for critical habitat designation as long as the Secretary of the Interior determines in writing that the INRMP provides sufficient benefit to the species for which the critical habitat is being proposed.

Biological Opinions in the Vicinity of the Action Area

U.S. Fish and Wildlife Service. May 12, 1993. Formal Section 7 Consultation for the Issuance of a Right-of-Way Permit for the Southwest Intertie Project. File No. 1-5-93-F-91. This BiOp was issued for a transmission line running from Shoshone Idaho to Las Vegas Nevada. The last 53.2 miles of the transmission line impacted DT habitat. This habitat was located east of the east boundary of the DNWR. Impacts to DT were not anticipated. An extensive list of mitigative measures were included in the BO.

Recovery Plans

1994 DESERT TORTOISE (MOJAVE POPULATION) RECOVERY PLAN

The 1994 DT (Mojave Population) Recovery Plan (U.S. Fish and Wildlife Service, 1994B) presents conservation strategies for recovery of the DT population from the endangered status to delisting. Under the

plan, six evolutionary groups, or recovery units, were identified and targeted for DT recovery efforts (within the Mojave population). Recovery units were established based on differences in population genetics, ecology, and/or behavior. Management zones where DT populations would be allowed to recover were established in each recovery unit and classified as Desert Wildlife Management Areas (DWMAs). Additionally, Critical Habitat was established under the authority of the ESA, with portions of the established DWMAs overlapping with DT Critical Habitat. No Critical Habitat has been designated on the NTTR. According to this recovery plan, the NTTR and the study area lie within the Northeastern Mojave Recovery Unit. No DWMA are located within the boundaries of the study area.

Five criteria are stipulated by the 1994 Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994) that the species must meet to be eligible for delisting:

- The population must exhibit a statistically significant upward trend or remain stationary for at least 25 years (one DT generation); trends must be measured using a scientifically credible monitoring plan, with population estimates taken at five-year intervals.
- Sufficient habitat must be protected within a recovery unit (at least one DWMA of >1,000 miles^2) or, in unusual circumstances, the DT populations must be managed intensively enough to ensure long-term population viability.
- At each DWMA, population growth rates must be maintained at or above 1.0 into the future.
- Regulatory mechanisms, or land management commitments, must be implemented to ensure long-term protection of DT and their habitats.
- The population in the recovery unit should not need protection under the ESA in the foreseeable future (as determined by detailed genetic, demographic, physiological, behavioral, and environmental analyses).

Once populations meet all five criteria within a DWMA, the species may be considered recovering and possibly delisted for that area. Once all populations have recovered in the DWMAs, the species would be eligible for delisting on a national level.

2011 DESERT TORTOISE (MOJAVE POPULATION) REVISED RECOVERY PLAN

In 2011, the 1994 Desert Tortoise Recovery Plan was revised to accommodate impacts caused by the implementation of renewable energy development (U.S. Fish & Wildlife Service, 2011). These impacts could potentially cause habitat fragmentation, isolation of DT conservation areas, and subsequent possibility of restricted gene flow between conservation areas. Some of the recommendations included in the revised recovery plan included the following:

- Locate solar project facilities outside of DWMAs and ACECs (Areas of Critical Environmental Concern).
- Conserve and protect sensitive areas that potentially connect functional habitat or improve management capability of surrounding areas that may be open to renewable energy development.
- Connect blocks of DT habitat to maintain gene flow between populations.
- Quantify the lost or restoration of habitat as it relates to renewable energy and other projects.
- Evaluate the effects of corridors and barriers imposed by energy development and other infrastructure on DT movement and recovery.

According to the 2011 Desert Tortoise Revised Recovery Plan, the study area was moved into the Eastern Recovery Unit. No DWMAs were established within the boundaries of the study area. DT critical habitat has not been designated within the boundaries of the Action Area (Figure 4). However, the DNWR is located within the boundaries of the study area and is important for the conservation of the species. The DNWR has not been designated as critical habitat due to the fact that, as a refuge, it inher-

ently protects endangered species inhabiting the area. However, actions potentially impacting the DT on the DNWR still require formal consultation.

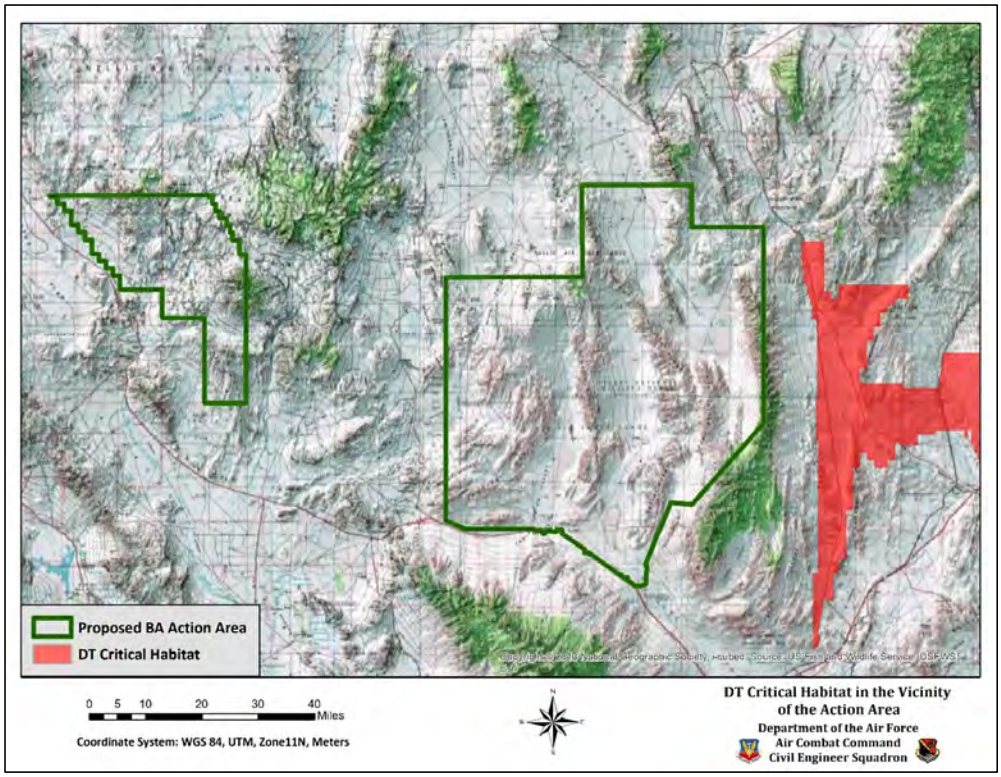


Figure 4. DT critical habitat located in the vicinity of the Action Area.

DESCRIPTION OF ACTIONS POTENTIALLY TAKEN BY THE USAF ON THE ACTION AREA

In the paragraphs that follow, actions potentially undertaken by the USAF in the Action Area on the current withdrawn land (NTTR South Range and Range 77) and potentially occurring under Alternative 2, and Expansion Alternatives 3A, 3B, and 3C will be described in sufficient detail to allow evaluation of potential effects and to identify minimization measures. Please note that the Action Area does not include most of the North Range of NTTR because it does not contain DT habitat per the previous programmatic BiOp (U.S. Fish and Wildlife Service, 2003). Habitat extending beyond the northern boundary of the Eastern Action Area falls in an area that is secure and classified and is not included in the Action Area. The small area of habitat lying north of the Western Action Area is included as part of this analyses and is subject to any recommendations for protection of the DT in those areas.

Baseline and Alternative 2 NTTR South Range Actions

Actions to be implemented on the current withdrawn land on the South Range of the NTTR will remain the same as described in the current BiOp, but volume, frequency, and duration of activity on existing target impact areas will increase, and infrastructure development and ground training activities will po-

tentially occur over a larger area. Details on the estimated acreage of impacts is described in the Direct Impacts section of this BA. Congress reserved the current withdrawn land for use by the Secretary of the Air Force for the following military uses:

- An armament and high-hazard testing area;
- Training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support;
- Equipment and tactics development and testing; and
- Other defense-related purposes.

The NTTR provides a premium location to test weapon systems and tactics to meet nationally directed missions. It also offers a secure environment where testing and training can be conducted free from outside interference. Actions on the South Range of the NTTR potentially impacting the desert tortoise are discussed below.

BASELINE OF CURRENT DISTURBED AREAS

Prior to the preparation of this BA, the Action Area has experienced soil disturbing activities caused by infrastructure construction and target use. These activities occurred under the current BiOp, past BiOps, or prior to listing of the DT under the ESA. Total acres of disturbed land in DT habitat, including roads currently found on the South Range is 12,252 acres (8,874 acres of disturbed or developed land and 3,378 acres of roads and trails) (Figure 5). Table 1 lists the current total acreages and DT habitat acreages of the South Range and expansion alternatives and those acreages further refined to roads and disturbed areas.

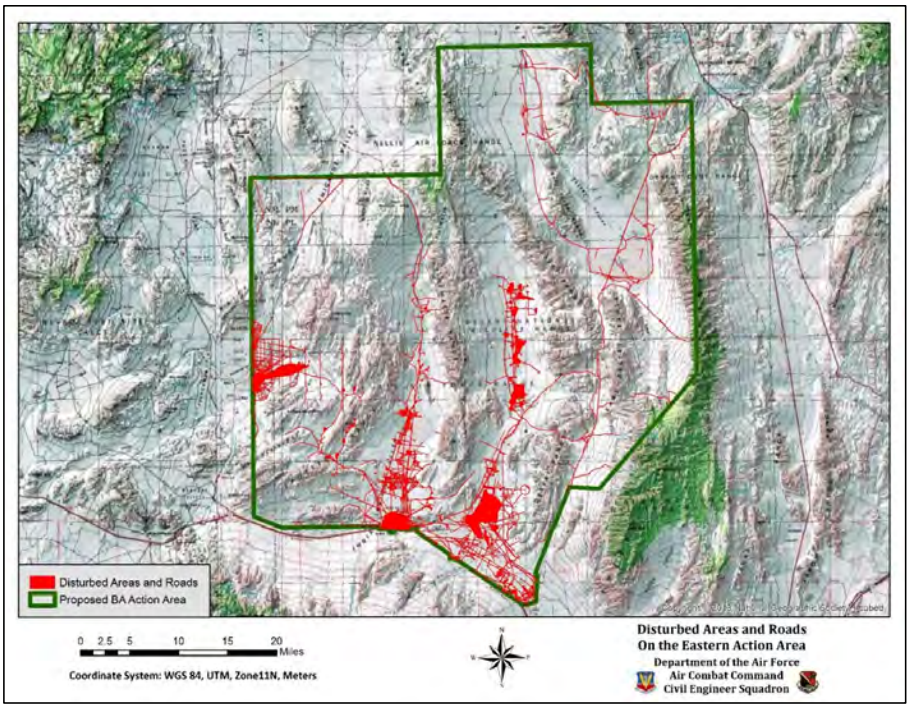


Figure 5. Disturbed Areas including roads and trails on the Eastern Action Area.

Table 1. Total acreages and DT habitat acreages of South Range and Expansion Alternatives, including roads and disturbed areas.

Action	Total Area (Acres)	Area in DT Habitat (Acres)	Total Linear miles	Linear miles in DT Habitat
Acres of DT Habitat				
South Range of NTTR	1,005,891	627,051	N/A	N/A
Expansion Alternative 3A	17,906	7,913	N/A	N/A
Expansion Alternative 3B	56,501	44,537	N/A	N/A
Expansion Alternative 3C	227,027	135,388	N/A	N/A
Range 77 + Northern Area*	244,203	54290	N/A	N/A
Total	**1,538,495**	**866,260**	N/A	N/A
Disturbed Areas Minus Roads				
South Range of NTTR	16,167	8,874	N/A	N/A
Expansion Alternative 3A	0.10	0	N/A	N/A
Expansion Alternative 3B	819	474	N/A	N/A
Expansion Alternative 3C	7.65	7.38	N/A	N/A
Range 77 + Northern Area*	231	56	N/A	N/A
Total	**17,225**	**9,411**	**N/A**	**N/A**
Roads and Trails				
South Range of NTTR	4,285	3,378	1,371	1,122
Expansion Alternative 3A	177	64	29	14
Expansion Alternative 3B	296	252	98	89
Expansion Alternative 3C	444	370	149	105
Range 77 + Northern Area*	1,099	417	213	80
Total	**6,301**	**4,481**	**1,860**	**1,410**

***Includes Range 77 plus DT habitat located beyond the northern boundary of Range 77**

READY ACCESS (Alternative 2)

Ready access is required for the desired implementation of the military mission on the Action Area. Ready access allows the USAF to have primary jurisdiction over lands within its boundary and the ability to access land and schedule activities at its discretion. It opens the entire range to use for military activities and operations. The North Range currently has Ready Access. The South Range is restricted by the current Memorandum of Understanding (MOU) with the USFWS. Under the MOU, the majority of the South Range is within the DNWR and managed by the USFWS as proposed wilderness. As a result, the USAF cannot access the areas of the South Range outside target impact areas for purposes of military training without permission of the USFWS. Placing the South Range Study Area under Ready Access would allow the same activities as the North Range Study Area. Thus, troops could conduct ground activities anywhere on the area. However, vehicles would be restricted to roads and trails. Bombing and live munitions would be restricted to existing weapons delivery areas and no new weapons delivery areas are being planned. Any soil disturbing activities in DT habitat would be avoided or minimized as is current USAF practice.

Ready access will mostly be occurring in the interstitial areas, which are areas located outside of target impact areas. These activities generally involve squads of Special Operations Forces (SOFs) or regular service personnel, conducting ground training in support of the military mission. These activities would typically involve groups of no more than twelve personnel. Ready access may include use of fixed- and rotary-wing aircraft to insert or extract troops and equipment or conduct personnel drops (paradrops) onto established drop zones or landing zones. Training would not involve large forces.

Airdrops (ADs) involve the insertion of personnel via release of troops or equipment over land-based drop zones. This activity would support training activities. Aircraft would fly at 1,250 ft. above ground level (AGL) for static line drops and up to 25,000 ft. AGL for free fall drops depending on personnel and

equipment type or requirements. During a paradrop, the aircraft typically makes first contact at the drop zone, flying between 500 to 1,000 ft. AGL, conducts the drop, and then moves to orbit at 5,000 ft. AGL, typically offset from the drop zone by about 5 to 10 miles with run-in typically at 130 knots indicated air speed. Items dropped may include approximately 15 cubic foot container of water (about 300 lbs.) and/or containerized delivery systems (about 500 lbs.).

As is its current practice, the USAF would strive to avoid direct impacts to DT and DT habitat. Impacts could be minimized by not establishing drop zones or landing zones in DT habitat. However, ready access would allow the USAF to manage all of the land area and evaluate potential uses for military training. This would not preclude the need to comply with regulatory requirements of the National Environmental Policy Act (NEPA), Clean Water Act (CWA), ESA, National Historic Policy Act (NHPA), or other regulations. As a result, uses involving ground disturbing activities could occur, but these would be limited to minor disturbances associated with emitter pad construction, existing road and trail improvements, and non-mechanized ground troop movements over land (any mechanized troop movements would occur on existing roads and trails). Under the current proposal for the land withdrawal, no new weapons delivery areas/live fire areas will be developed. Any actual site-specific, ground disturbing or construction activities would require additional formal or informal consultation with the USFWS, environmental assessment as required by NEPA, and compliance with the CWA, NHPA, and other regulations. Under the purview of this BA, and as with the previous BiOp, the direct impacts associated with incidental DT takes would likely be associated with non-mechanized ground troop movement over land as well as mechanized troop movement over roads and trails. These impacts will be minimized by compliance with the conservation measures discussed later in this BA.

For the purpose of analyzing the potential impacts associated with ready access and the increase in overall range utilization, a projected 30 percent increase is estimated for test and training activities. On the South Range Study Area, the 30% increase relates to aircraft activity only as compared to the current level. Therefore, aircraft operations, munitions expenditures, and motorized vehicular activity are projected to be 30 percent greater than current levels. The only new roads being proposed are those required for accessing new emitters. However, existing road use would increase by 30%. It is presumed that munitions usage and other operational equipment would increase at a level consistent with aircraft operations. Ground activity will be a new potential impact because it is currently not allowed on the South Range outside of existing target impact areas. Most of the activities will be foot traffic associated with small troops (less than 12 soldiers) and impacts are anticipated to be minimal with proper DT awareness training. Vehicular traffic will be restricted to roads and trails and is anticipated to significantly increase on the wilderness are of the DNWR and the expansion alternatives, since it is currently at minimal levels. Take of DT will be minimized by implementation of the conservation measures described later in this BA.

WEAPONS DELIVERY AREAS

Weapons delivery areas are targets that are used for live ordnance and munitions. The South Range of the NTTR contains five weapons-delivery target impact areas, which are subdivided into 74 target complexes containing approximately 1,363 targets. These areas were previously covered by the current BiOp for NTTR and will remain the same because no new target impact areas are being proposed for the renewal of the land withdrawal. The location of weapons delivery systems will remain the same, but the number of bombs dropped may increase by 30% over current baseline levels. The majority of weapons delivery areas in the South Range are located in playas (dry lakebeds) within the Indian Springs Valley and Three Lakes Valley outside of DT habitat and accommodate ground-disturbing military testing or training activities including live and inert ordnance. A full range of weapons including unguided ordnance, laser-guided bombs, air to ground missiles, small arms munitions, and self-protection devices

(flares and chaff) are used at targets. Targets range from airfields, bridges, command and control bunkers, weapons storage facilities, mobile air defenses, tactical missile systems, tanks, armored vehicles, and troop concentrations. These targets impact the DT mostly by ground disturbing actions caused by exploding and non-exploding ordnance and small arms bullets. Clearing, excavation, and construction of targets also entails soil disturbing actions. Target impact areas, totaling 111,291 acres, have been designated on the South Range and include all areas that could potentially be impacted by weapons delivery actions (Figure 6). These areas were designated as areas under the jurisdiction of the USAF according to the MOU. The amount of this acreage in DT habitat is discussed in the Direct Impacts section of the BA.

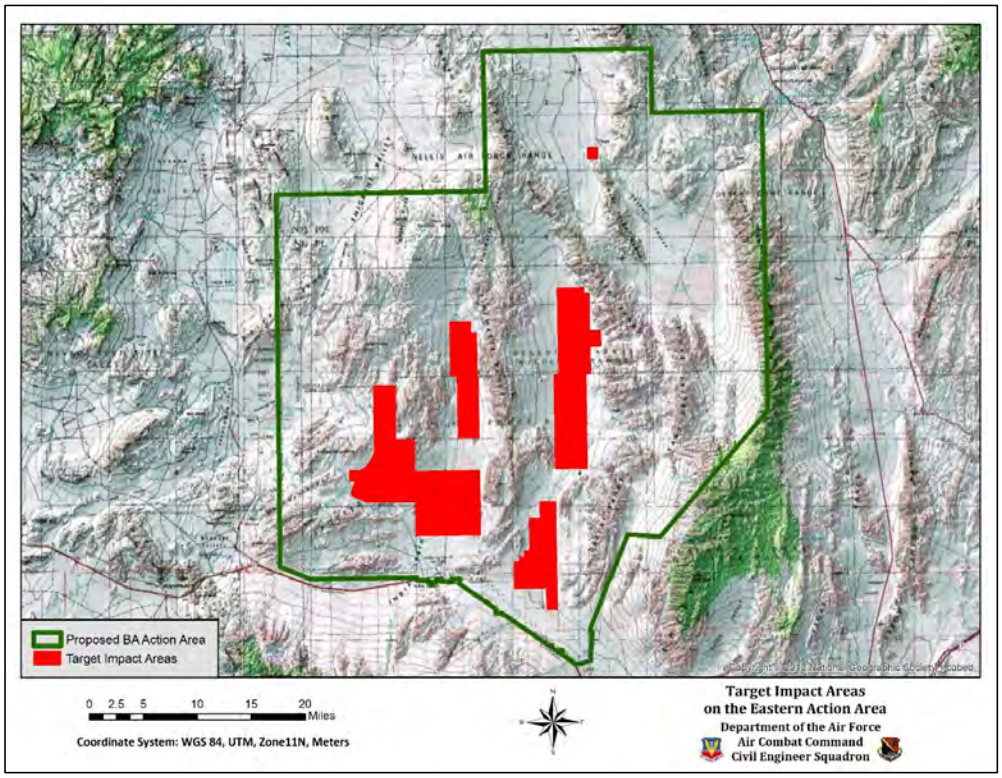


Figure 6. Target impact areas located on the Eastern Action Area.

Weapons used on the South Range on the NTTR include various caliber hand guns, rifles and machine guns, grenades, incendiary devices, shoulder-launched missiles, and light vehicle mounted weapons. Ammunitions include depleted uranium rounds, dummy bombs, live bombs, explosive incendiary rounds, and bullets.

Targets include the following items or structures:

- Enemy items: Trucks, tanks, heavy equipment, vehicles (Fuel removed as well as lubricants, fluids, glass, and gauges)

- Cities, houses, air fields, and factories usually constructed of wood, aluminum, or stacked Conex storage units
- Roads, runways, and tarmacs usually constructed by blading areas to represent their use
- Simulated railroads, scud and other missile launchers, radar and antenna sites, and other launching devices
- Moving targets simulating convoys and other enemy troop equipment movement

The current BiOp estimates that 971 acres of DT habitat would be impacted by target activity. No new targets are anticipated to be installed on the South Range or expansion alternatives as part of the land withdrawal action. If a new target is installed in the future, separate consultation with the USFWS would be required. Discussion of the anticipated impacts of ordnance on DT will be discussed later in the BA.

WEAPONS DELIVERY AREAS CLEANUP

Weapons delivery areas are periodically cleaned and repaired or removed. This requires personnel to remove unexploded ordnance and debris from the weapons delivery areas on foot and in vehicles. Heavy equipment is used to remove larger material and to grade the target site. Live and spent munitions are removed and unexploded ordnance is detonated. Destroyed targets are removed from the area. If depleted uranium rounds were employed, spent rounds are located and properly disposed. The weapons delivery areas are cleaned, graded and targets are usually replaced and/or rebuilt. All of these actions involve soil disturbance and concentrated vehicular/heavy equipment activity. The original BiOp estimated 971 acres of DT habitat would be impacted by target use and cleanup in the South Range. No new weapons delivery areas are currently being planned for live ordnance use on the Action Area.

THREAT EMITTERS

The USAF has specific selection standards for the placement of conceptual threat emitters. Threat emitters (e.g., radars) must be located within topography that will permit advanced detection to the east and north, which is required to implement the two-axis concept. To reduce overall impacts, the USAF would, to the extent possible, locate threat emitters along existing roads or unpaved two-tracks to minimize the need to construct new access roads. New emitters would only be placed in the South Range and potentially in alternative 3C. Soil disturbance would involve clearing an area approximately 150 ft. by 150 ft. Up to 15 emitters are anticipated to be constructed on the Action Area on the South Range or Alternative 3C. This, coupled with up to four acres of road improvements, would cause up to 11.5 acres of DT habitat being destroyed if all emitter pads and roads were placed in DT habitat. However, emitters and roadway construction/disturbance will be located outside of DT habitat where possible. Each emitter requires a 1.5 kilovolt generator to operate. Electromagnetic radiation (radio waves), microwaves, or lasers may be emitted by some of the emitters.

INFRASTRUCTURE CONSTRUCTION AND MAINTENANCE

Buildings, roads, and equipment staging/storage areas require periodic maintenance or re-configuration (change in the design or layout within existing developed areas and weapons delivery areas in the South Range). New facilities may be constructed. At the present time, the type or location of such facilities is not known, but any new facilities constructed in DT habitat would require formal consultation with the USFWS. The goal would be to locate new facilities in previously developed areas or outside of DT habitat. Improved roads may require repair and the shoulders must be periodically graded to remove invasive weeds and to provide a level surface. Unimproved roads also require periodic grading and repair, especially after significant storm events. Buildings and other infrastructure may require maintenance and even replacement. Other infrastructure requiring maintenance and installation include:

- Scoring towers
- Siting and measurement devices
- Security equipment, fencing, and buildings
- Communication Towers
- Emitters and antennas
- Electrical lines (above and below ground)
- Communication Lines (above and below ground)
- Wells (Ground water)
- Generators
- Convoy turn points

NTTR manages invasive plants in developed areas and along improved roads by periodic mowing, grading and herbicide application. Manual cutting and stump treatment with herbicides is the common method used for controlling salt cedar (*Tamarix ramosissima*). Currently, cleaning of equipment after soil disturbing activities before moving to another site is not required on NTTR.

BORROW PITS

Borrow pits are areas that are excavated to obtain fill material and gravel to maintain roads and support infrastructure. Borrow pits may be installed in various locations on the South Range of the NTTR, but none are currently being planned. These areas tend to be relatively small in area, but involve extensive excavation and heavy equipment movement. The Action Area has 25 borrow pits totaling 536 acres and ranging in size from 1.5 to 130 acres in size (Average of 21 acres) (Figure 7). Of those borrow pits, 21 are in the South Range impacting a total of 494 acres. Soil disturbance and vehicular movements are the major activities involved with this action.

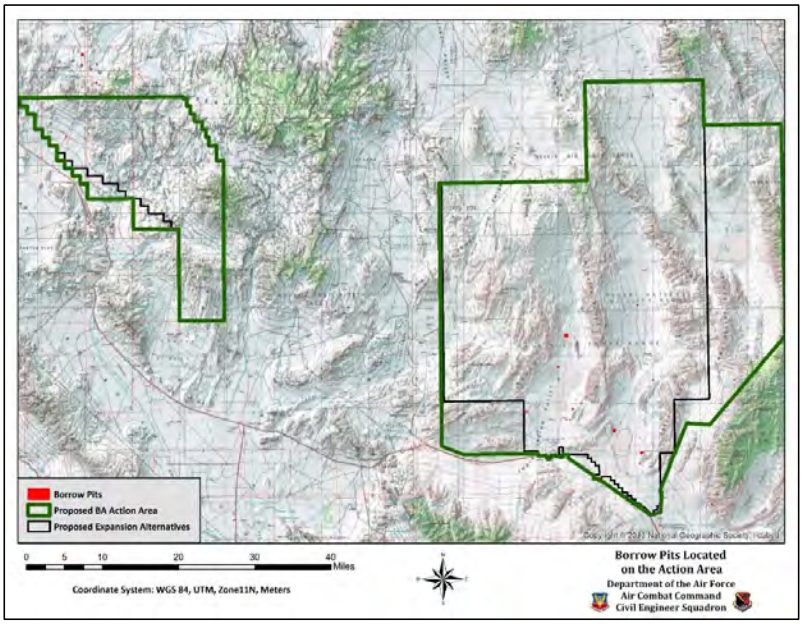


Figure 7. Location of borrow pits on the Action Area.

TEST AND EVALUATION (T&E)

T&E tests and evaluates equipment to determine whether the equipment meets the specifications outlined by government contracts. T&E also determines how the equipment can be used and the environment and tactics best suited for the equipment. These T&E capabilities include an electromagnetic environment that is free of interference, test infrastructure available to measure critical Time-Space-Position Information (TSPI) of weapons and various platforms, and the ability to measure and reproduce T&E environments. Depending on the equipment being reviewed, impacts can vary from soil disturbances to electromagnetic emissions. Most of these activities would be staged in areas that have already been cleared for specific use (emitters, radar, targets, etc.).

BATTLEFIELD TRAINING

Typical battlefield training includes both ground training with the use of air and vehicle operations support. Ground training includes a number of activities, but is generally the movement of small groups of soldiers through interstitial areas (areas between roads, infrastructure, and targets). Troop movements are typically stealthy as units transition from one objective to another. These troops are usually Special Forces teams operating in groups of one to twelve soldiers. To increase the realism of the training events, some training ammunition (blank small-arms), hand flares, smoke grenades, or other training munitions (such as paint balls) are expended during certain operations. In almost all cases, ground training on foot involves movement under covert, clandestine conditions without leaving any evidence of troop presence. Troop movement is usually in small groups and large troop movements impacting large areas would not occur. Land navigation training may occur during daytime or nighttime and usually involves the use of a compass, maps, and GPS. Troop movement on foot may also be used for training in search and rescue, personnel recovery, and reconnaissance. Personnel movement usually occurs on established roads, along mountainous terrain, and washes. Movements would occur in such limited frequency over the same area that the physical impact on the ground would be negligible. All troops potentially encountering DT during movements and operations in DT habitat receive DT awareness training prior to those activities.

Typical troop movement activity includes the following:

- Road march (conducted on existing roads for extended lengths of travel)
- Six-to-twelve-man team insertion/extractions from varying methods (parachute, airplane insertion, and helicopter). Insertions are clandestine activities and regardless of how an insertion is accomplished, personnel would most often walk out of the insertion area
- Clandestine movement by foot to training objective sites (most often culminating at an Urban Operations Complex (UOC))
- Foot movement to an UOC through the interstitial areas and on existing roads

Ground support vehicles are occasionally integrated into the training to deliver and retrieve the participating troops or provide support and logistics. Ground vehicle movement is normally restricted to the existing road and trail network, but some training integrates the use of all-terrain vehicles (ATVs).

INSERTION/EXTRACTION (DROP ZONE/LANDING ZONE) AND OVERLAND NAVIGATION

As part of battlefield training, troop insertion and extraction points and overland navigation in level, rolling and mountainous terrain is required. Insertion points are established for user groups that conduct training and testing that integrate ground and air operations. Overland navigation between insertion/extraction points may be conducted with or without unmanned aerial systems. Insertion/extraction points are usually unimproved surfaces or clearings located for inserting/extracting paratroops or para-

dropping equipment or palletized supplies. These equipment or supplies are palletized and rigged with multiple automatically deploying parachutes.

Airborne operations associated with these activities include the use of rotary or fixed-wing aircraft for the insertion, extraction, movement, or supplying of ground troops. This could include the delivery or extraction of special forces via an aircraft to an insertion/extraction point or para-drops (delivery of equipment or supplies using parachutes). Some insertion points are used for touchdown and takeoff of fixed-wing and rotary military aircraft. Under the proposed action in Alternative Area 3C this would involve one runway that would be a mockup location to provide special operations personnel a location to practice tactics, while a second runway would be an austere (i.e., unpaved) active runway, providing more realistic insertion training. Each runway would be 6,000 feet long and 90 feet wide. It is anticipated that ground disturbance activities associated with construction of the runways would be less than 13 acres. The mockup runway would not be used for aircraft operations. However, it is anticipated that the active runway would be a dirt runway. The training activities would be associated with various aircraft conducting Forward Area Arming and Refueling Points (FAARP) during the training activities. As the name indicates, FAARP consists of two training activities (refueling and munitions loading of aircraft) that occur in austere areas. Current plans are for runways to be located on playas outside of DT habitat, thus impacts to DT and DT habitat are highly unlikely.

Insertion and extraction activities cannot be conducted safely in areas that may contain UXO, so those impact areas on the South Range of the NTTR cannot be used for insertion/extraction activities. Thus, active targets cannot be used for insertion and extraction areas. Areas opened by allowing ready access will allow for these activities to be conducted on the South Range of the NTTR and would potentially occur in DT habitat.

FIRE SUPPRESSION

All of the Action Area is subject to wildland fires ignited by natural or artificial sources. Regardless of the cause of fires, the fires will be suppressed as soon as possible. A wildland fire management plan was prepared by the NTTR which includes a discussion of constraints for fire suppression with respect to the DT (99 Civil Engineering Squadron, 2011). These will be summarized in the Conservation Measures section of this BA.

Alternative 3A

Actions proposed for Alternative 3A (not including Range 77) that could potentially impact DT populations include the following:

- Surface area currently impacted by roads and trails is 177 acres of which 64 acres is in DT habitat (Figure 8, Table 1). Less than 0.1 acres of the alternative has been impacted by other disturbances.
- Construction of up to 25 miles (30.3 acres) of fencing on the proposed boundaries that do not abut the current NTTR boundary. The fencing would be constructed to meet BLM fencing requirements dependent on the topography and wildlife present as outlined in BLM's H-1741-1 Fencing Manual, and the objective of the fencing would be to provide a physical barrier to prevent public access while allowing wildlife passage. For example, if the topography in an area supports bighorn sheep predominantly, fencing would be constructed using BLM H-1741-1 Fencing Manual conducive to bighorn sheep passage. In order to conduct programmatic analysis, the following fencing specifications were used. The fencing would consist of four strands of wire. The bottom strand would be smooth while the three upper wires would be barbed. The maximum fence height would 40 inches. Wire spacing from the ground up would be 16 inches and then spacing between wires would be 6 inches, 6 inches, and 12 inches (i.e., 16 inches, 22 inches, 28 inches,

and 40 inches above ground level) which is the standard for BLM antelope fencing. This action would involve soil disturbance associated with moving equipment to the boundary to install the fence and clearing areas for fence installation, where required. The level of soil disturbance would likely be minimal. The fence would not impede movement of DT. This is the only construction anticipated for this alternative.

- Munitions would not be used in the area
- Road construction and maintenance
- Safety buffer for live weapons deployment on the interior of Range 77
- Ready access as described for the South Range of the NTTR
- Battlefield training as described for the South Range of the NTTR
- Insertion and extraction activities as described for the South Range of the NTTR

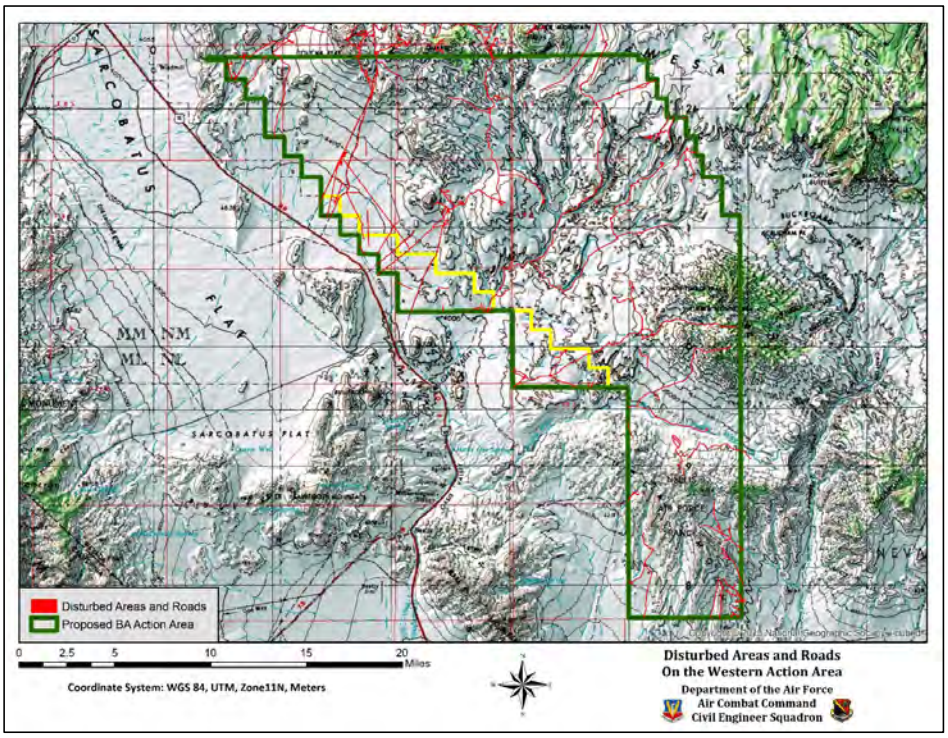


Figure 8. Disturbed areas and roads on the Western Action Area

Range 77

Actions occurring in Range 77 that could potentially impact DT populations include the following:

- Infrastructure maintenance and construction, including monitoring wells, roads, and detention basins. Currently, approximately 473 acres of DT habitat are disturbed in Range 77 of which 417 acres are roads and trails, and 56 acres are other soil disturbances (Figure 8, Table 1).
- Live munitions may be used in the area
- Ready access as described for the South Range of the NTTR

- Threat emitters as described for the South Range of the NTTR
- Test and evaluation as described for the South Range of the NTTR
- Battlefield training as described for the South Range of the NTTR
- Insertion and extraction activities as described for the South Range of the NTTR

Alternative 3B

Actions occurring in Alternative 3B that could potentially impact DT populations include the following:

- Currently, approximately 726 acres of DT habitat are impacted by soil disturbance of which 252 acres are impacted by roads and trails and 474 acres are impacted by other soil disturbances (Figure 8, Table 1).
- Depending on topography, construction of up to 30 miles (36.4 acres) of fence along the proposed boundaries of Alternative 3B that do not abut the current NTTR boundary, similar to that described for Alternative 3A. This action would involve soil disturbance associated with clearing areas for fence installation, where required, and a DT monitor would be required if the activity occurred in DT habitat. Holes for the fence posts would be excavated using augers. If the holes remain open overnight or during times when a DT monitor is not present, covers will be placed on them to prevent DT from falling in the hole. Equipment will be transported to the boundary to install the fence via established roads and trails, where possible. Otherwise, off highway vehicles (OHV) would be used. If OHV were required in area supporting DT habitat, applicable avoidance or minimization measures would be used. The level of soil disturbance would likely be minimal. The fence would not impede movement of DT because the first strand of wire is at least 16 in. above the ground surface. This is the only construction anticipated for this alternative.
- Live munitions would not be used in the area
- This alternative will serve as a safety buffer for live weapons deployment on the South Range of the NTTR
- Ready access as described for the South Range of the NTTR
- Battlefield training as described for the South Range of the NTTR
- Road construction and maintenance
- Insertion and extraction activities as described for the South Range of the NTTR

Alternative 3C

Actions occurring in Alternative 3C that could potentially impact DT populations include the following:

- Currently, approximately 2,322 acres are impacted by soil disturbance of which 370 acres are impacted by roads and trails and 7.38 acres are impacted by other soil disturbances (Figure 8, Table 1).
- Depending on topography, construction of up to 60 miles (72.7 acres) of fence along the proposed boundaries of Alternative 3C that do not abut the current NTTR boundary, similar to that described under Alternative 3A. This action would involve soil disturbance associated with moving equipment to the boundary to install the fence and clearing areas for fence installation, where required. The level of soil disturbance would likely be minimal. The fence would not impede movement of DT. This is the only construction anticipated for this alternative.
- Insertion and Extraction as described for the South Range of the NTTR. The insertion point would include one runway that would be a mockup location to provide special operations personnel a location to practice tactics, while a second runway would be an active runway, providing more realistic insertion training. Each runway would be 6,000 feet long and 90 feet wide. It is anticipated that ground disturbance activities associated with construction of the runways would be less than 13 acres. The mockup runway would not be used for aircraft operations.

However, it is anticipated that the active runway would be a dirt runway and operational levels would occur at a tempo of 520 take-offs and landings annually. The runway will likely be located outside of DT habitat in a dry lake.

- Road construction and maintenance
- Ready access as described for the South Range of the NTTR
- Battlefield training as described for the South Range of the NTTR. Additionally, the training activities would be associated with various aircraft to include: A-10, C-17, C-130, CV-22, HH-60, and AH-64. FAARP would be used during the training activities. FAARP consists of two training activities (refueling and munitions loading of aircraft) that occur in austere areas such as a dry lake bed.
- Up to 15 threat emitters (as described previously) may be placed in the South Range Action Area, including in Alternative 3C, resulting in an impact of up to 11.5 acres if all emitters and roadways are constructed within DT habitat. As with other actions, an emphasis will be made to place emitters outside of DT habitat.
- Live munitions would not be used in this alternative.

Action Area Description

Topography

The Action Area lies in the Basin and Range physiographic region consisting of a series of north-south trending mountain ranges and intervening basins (Fenneman, 1931). Most of the Eastern Action Area lies in the Mojave Desert with most of the Western Action Area falling in the southern Great Basin Desert (Figure 9). The basins and valleys between the mountain ranges increase in elevation from south to north such that elevation as well as latitude contributes to the decline in thermal regimes to the north and the consequent vegetation change along the basins. This is evident across the entire Action Area where plants communities are dominated by creosote bush (*Larrea tridentata*) in the southern basins and joshua tree (*Yucca brevifolia*)/blackbrush (*Coleogyne ramosissima*) in the northern basins. General landforms are found within the Action Area and include playas, valleys or basins, foothills or bajadas, and mountain ranges.

The South Range and Alternatives 3B and 3C are found in topography characterized by mountains and valleys running in a north-south direction (Figure 10). Mountain ranges include the Buried Hills, Spotted Range, Pintwater Range, Desert Range, East Desert Range, and Sheep Range. Basins or valleys found in these areas include Frenchman Flat, Indian Spring Valley, Three Lakes Valley, Tikaboo Valley, and Desert Valley. Most of the valleys and bajadas in this portion of the action area support potential DT habitat with the exception of playas and dry lakes. Most notable of the playas in this area include Dry Lake in Alternative 3C, Dogbone Lake and Frenchman Lake in the South Range.

Elevations range from 3,000 ft. MSL in the valleys to over 6,000 ft. MSL in the mountains. Most of Alternative 3A lies in the Sarcobatus Flats. Oasis Valley cuts through the middle of Alternative 3A and Beatty Wash flows southeast of the southern boundary (Figure 11). Major topographic features found in Range 77 include Thirsty Canyon, the Timber Mountains, and the Yucca Mountain Range. Sarcobatus Flats lies along the western edge of Range 77 and Beatty Wash flows through the southern part of Range 77 just north of the Yucca Mountain Range. Most of this area is not topographically attractive to the DT, but potential habitat may be found in Sarcobatus Flats, the Oasis Valley, and Beatty Wash.

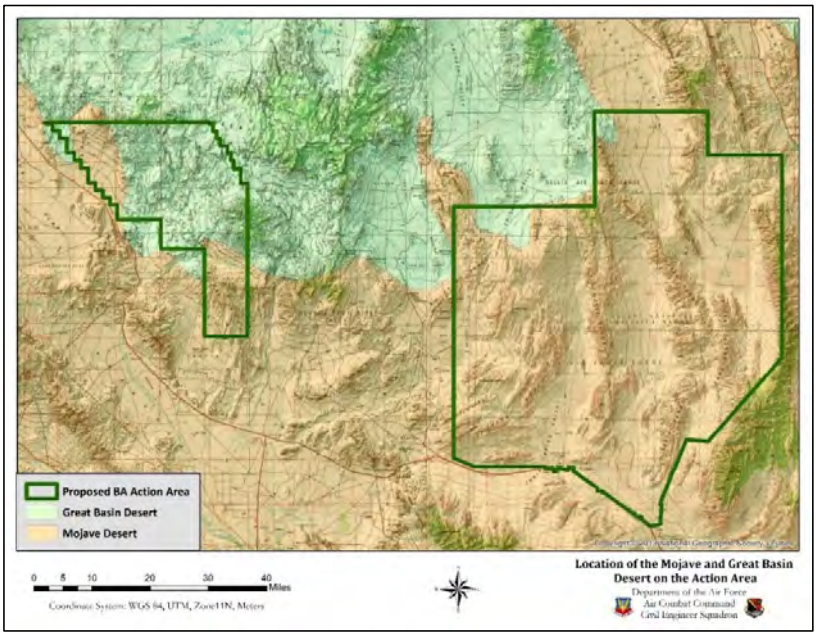


Figure 9. Location of the Mojave Desert and Great Basin Desert on the Action Area

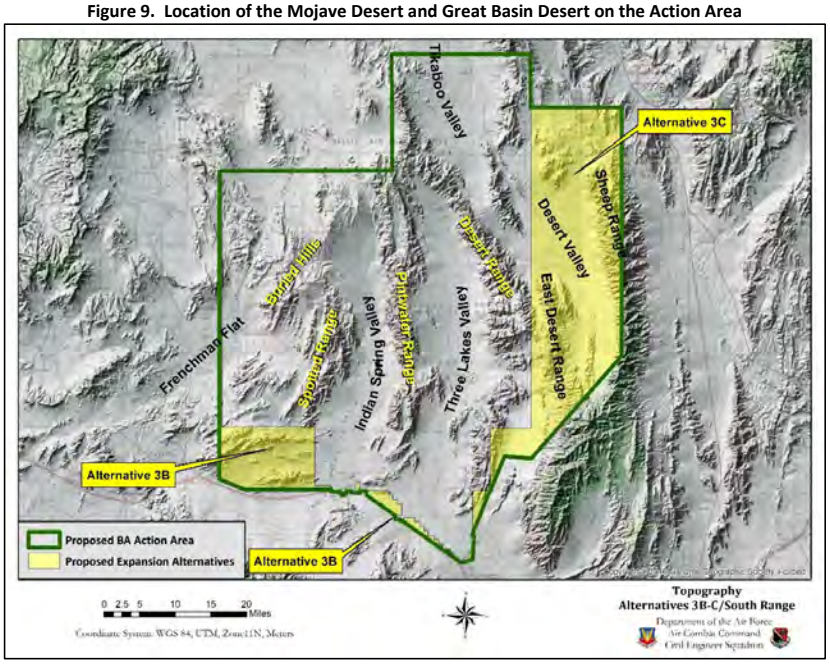


Figure 10. Topographic features found in Alternative 3B, 3C, and the South Range of the Action Area.

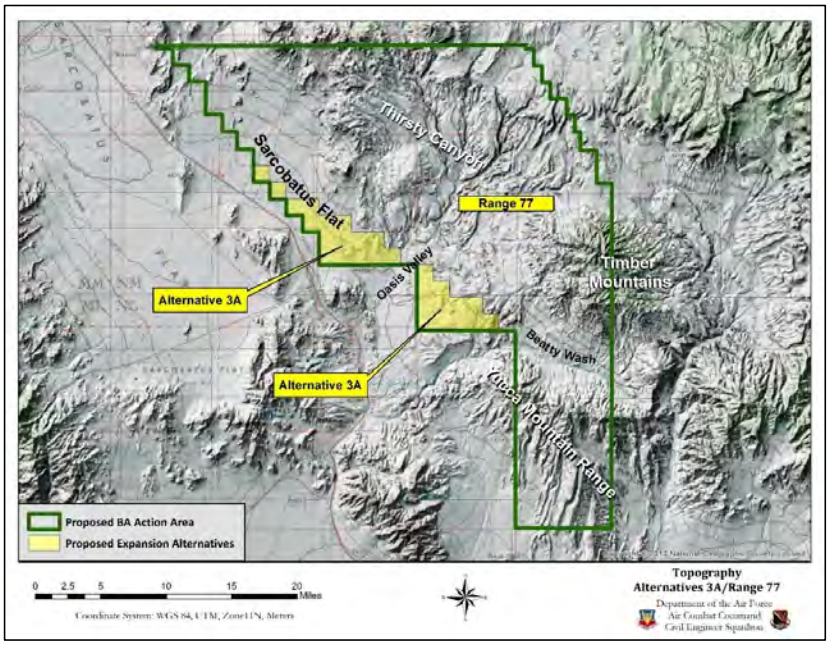


Figure 11. Topographic features found in Alternative 3A and Range 77 of the Action Area.

Climate

Indian Springs (average over 1961-1990) had average high temperatures that range from a 58.5°F in December to a high of 102.6°F in July (Desert Research Institute, 2017). Lows ranged from 21.8°F in December to 65.0°F in July (Figure 12). Alternative 3A and Range 77 are more characteristic of Beatty, which has a mean annual temperature of 59°F. Daily maximum temperatures in the valleys or basins across the Eastern and Western Action Areas often exceed 100°F in the summer months. The project area is very dry with humidity generally ranging from 10-20%.

Precipitation is limited throughout the Action Area (Figure 8). At Indian Springs, the average annual precipitation is about 3.9 in. (Desert Research Institute, 2017). As shown in Figure 8 the mountains receive significantly more precipitation than the valley floors. Annual precipitation ranges from 0-4 in. in the valleys to 14-16 in. on the upper elevations of the mountains. About half of the rainfall occurs in April through September (U.S. Air Force, 2002A). Thunderstorms can be highly concentrated with heavy rainfall and rapid runoff causing excessive erosion, especially on the alluvial fans or bajadas. Regular, strong winds, combined with low relative humidity, yield an annual evaporation rate that exceeds precipitation by as much as 10 times.

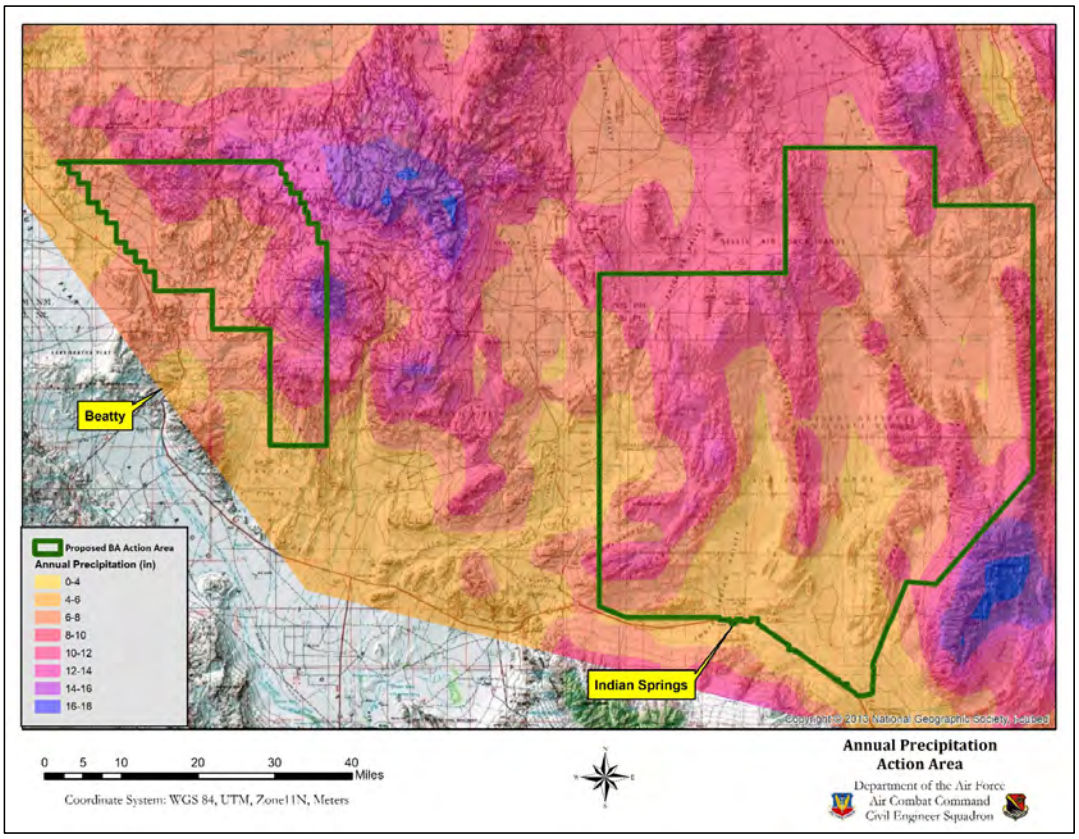


Figure 12. Annual precipitation on the Action Area.

Soils

In general, soils on the Action Area are predominantly alluvial soils derived from carbonate parent material. The B horizons, or subsoils, have a cumulic character due to the substantial influx of silt and clay-sized particles. The soils on the Action Area have not been mapped in detail; however, soils associations have been mapped by the NRCS using satellite photography and other sources and are shown in Figures 13 and 14.

On the Eastern Action Area, soil associations potentially supporting DT populations included the following:

- Cave-Ajo-Cave Family
- Tencee-Weiser-Colorock
- Keefa-Leo-Univega
- Canutio-Cave-Weiser

In the Western Action Area, soil associations that are likely to support DT populations based on their topographic location and structure include the following:

- Yerm-Gynelle-Greyeagle

- Rock Outcrop-St. Thomas-Tecopa
- Zibate-Zalda-Longjim
- Lower elevations of Stewval-Rock Outcrop-Gabbvally
- Handpah-Zadvar-Ratleflat

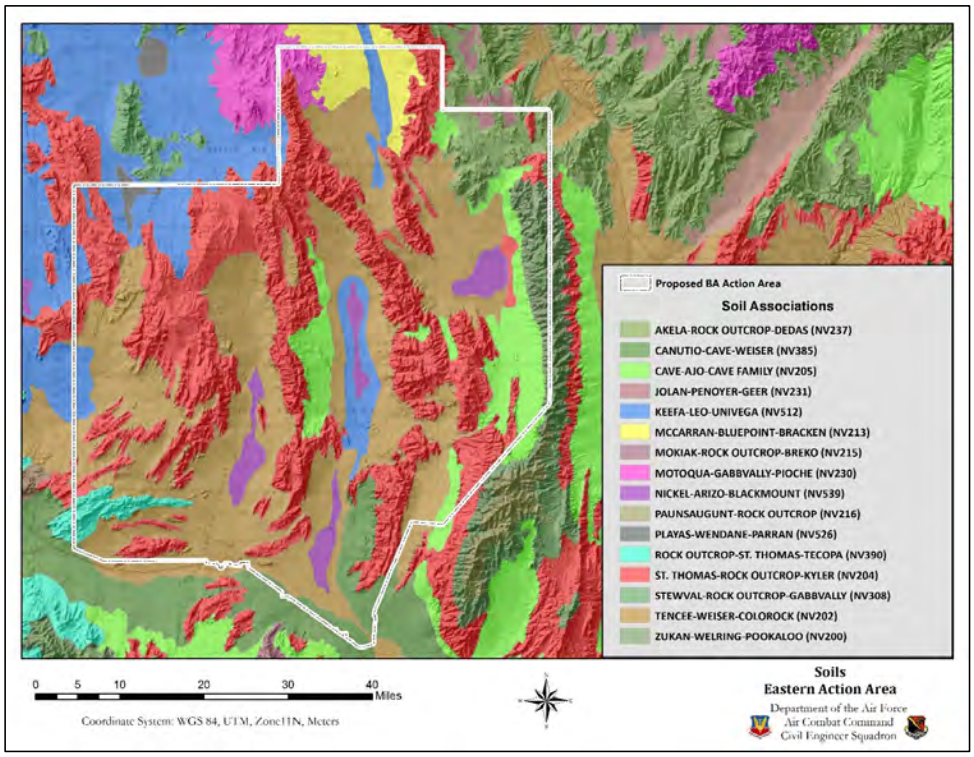


Figure 13. Soil associations found on the Eastern Action Area

Note that these are soils associations which contain several different soil mapping units having a wide variety of textures and structures. Thus, even though an association may be located in a topographically ideal area for the DT, it may not have the soil texture or structure for burrow excavation by the DT. Most of the soil associations that are not listed as likely to support DT populations are characterized by rocky surfaces and mountainous terrain. Soils in the dry lakes are often saline or contain thick accumulations of alkaline mineral salts at or near the surface resulting in areas of sparse vegetation. Desert pavement is also common on much of the Eastern Action Area.

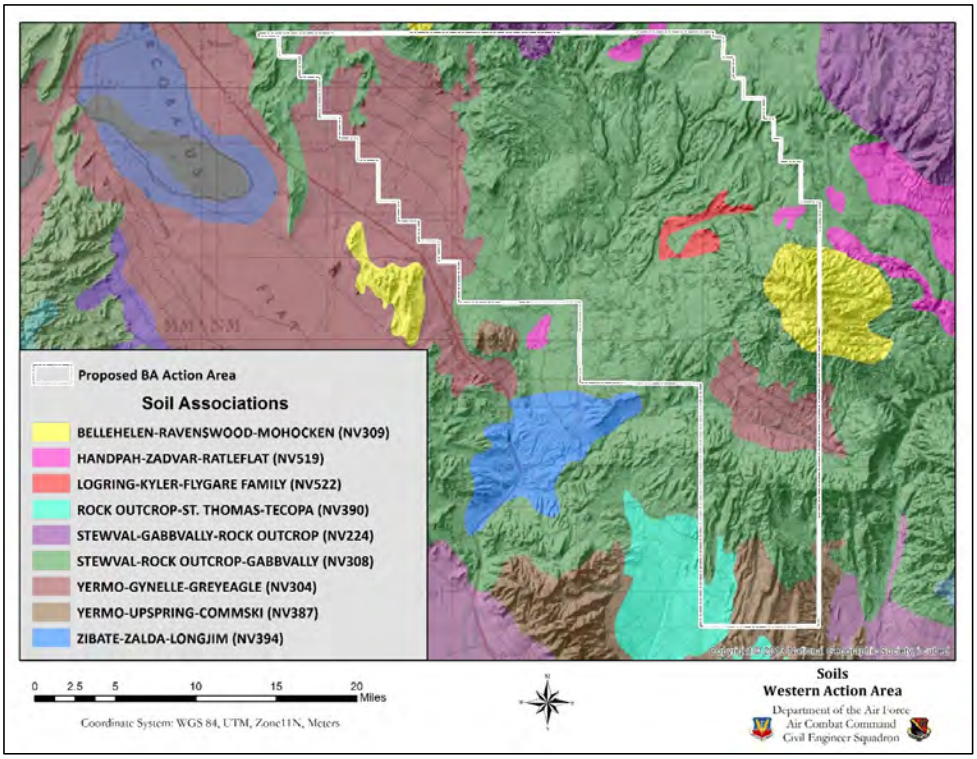


Figure 14. Soil associations found on the Western Action Area

Geology

The mountain ranges in the Eastern Action Area are dominated by Paleozoic carbonate rocks mixed with smaller amounts of quartzite, sandstone, and shale. Valleys in this area contain thick deposits of alluvium originating from erosion of adjacent mountain ranges. Sedimentary rocks originating from lakes and rivers have been deposited in shallow basins and outcrop in several locations within the Action Area, particularly in the southern Spotted Range, the Pintwater Range, and the Desert Range. Older Tertiary valley-fill sediments which were uplifted with the underlying Paleozoic bedrock are exposed on the flanks of the mountains (Nevada Bureau of Mines and Geology, 1997) (Longwell, Pampeyan, Bowyer, & Roberts, 1965).

Volcanic rocks dominate the geology of the Western Action Area. The Timber Mountain Caldera and Black Mountain are the centers of volcanic activity found in the Western Action Area (Cornwall, 1972; Nevada Bureau of Mines and Geology, 1997). The geologic outcrop most likely to support DT on the Action Area are alluvial deposits that dominate the Eastern Action Area and are also found on the west side of the Western Action Area. This formation is typified by relatively deep sedimentary deposits of loam or silt loam soils. They are usually found from the edges of playas to the base of mountain ranges and comprised of alluvial fans or bajadas.

Hydrology

The Action Area is located in a mountain and basin drainage system where most of the hydrology is internally drained. The only areas on the Action Area that drain externally and are connected to navigable waters making them fall under the jurisdiction of the U.S. Army Corps of Engineers are shown in Figures 15 and 16. The Eastern Action Area is almost completely internally drained with the exception of a small portion of the southeastern corner which drains into the Las Vegas Wash and, eventually, the Colorado River (Figure 15). Much of the Western Action Area drains into the Amargosa River, but about one third of the area is internally drained into Sarcobatus Flats which is a closed basin (Figure 16). Local drainage patterns are comprised of alluvial fans having complex networks of braided channels. Surface waters are all ephemeral and the source of hydrology is precipitation. Storm events can result in rapid accumulation of storm water in washes causing local flash floods and extensive erosion. Many of these washes cut through areas covered with rocks and coarse gravel, not conducive to burrowing activities of the DT. The channels often provide exposed banks free of rocks and gravel that are often used by the DT for burrows.

Water flows from the mountains and bajadas into the dry lakes, where it accumulates for short periods of time. Very few perennial water sources are found in the Action Area and most of those are springs and wildlife water developments located in the mountains. Detailed information on the hydrology of the Action Area is discussed in a summary report prepared for the LEIS (U.S. Air Force, 2017A).

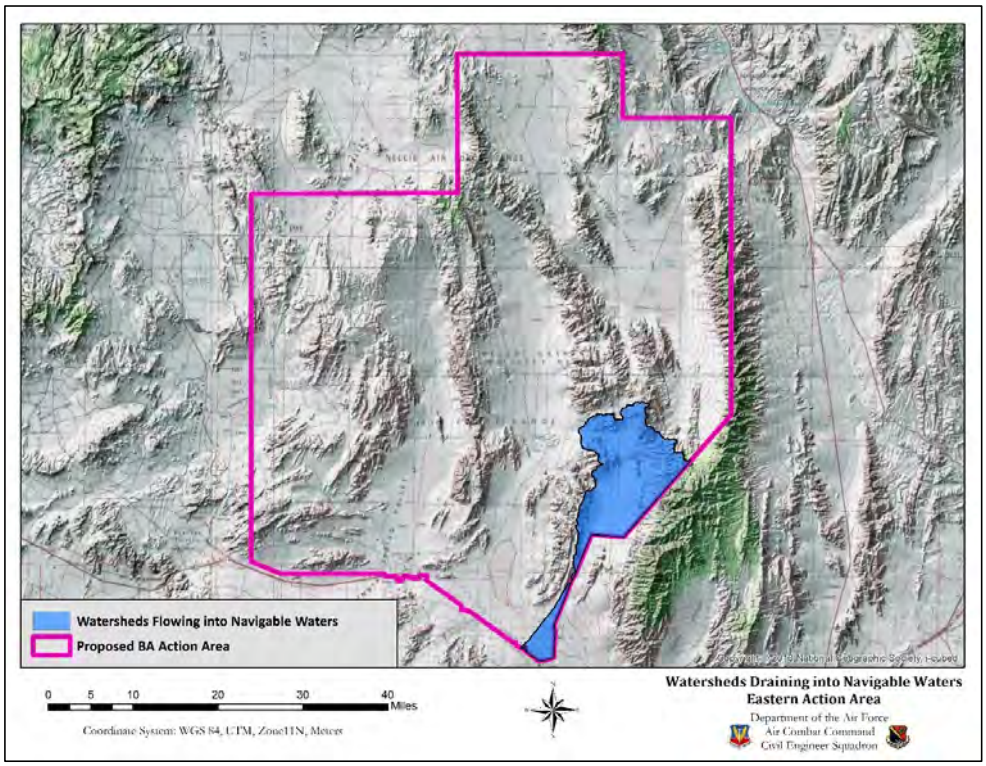


Figure 15. Watersheds on the Eastern Action Area draining externally into navigable waters (Las Vegas Wash/Colorado River). All other watersheds drain internally in closed basin systems.

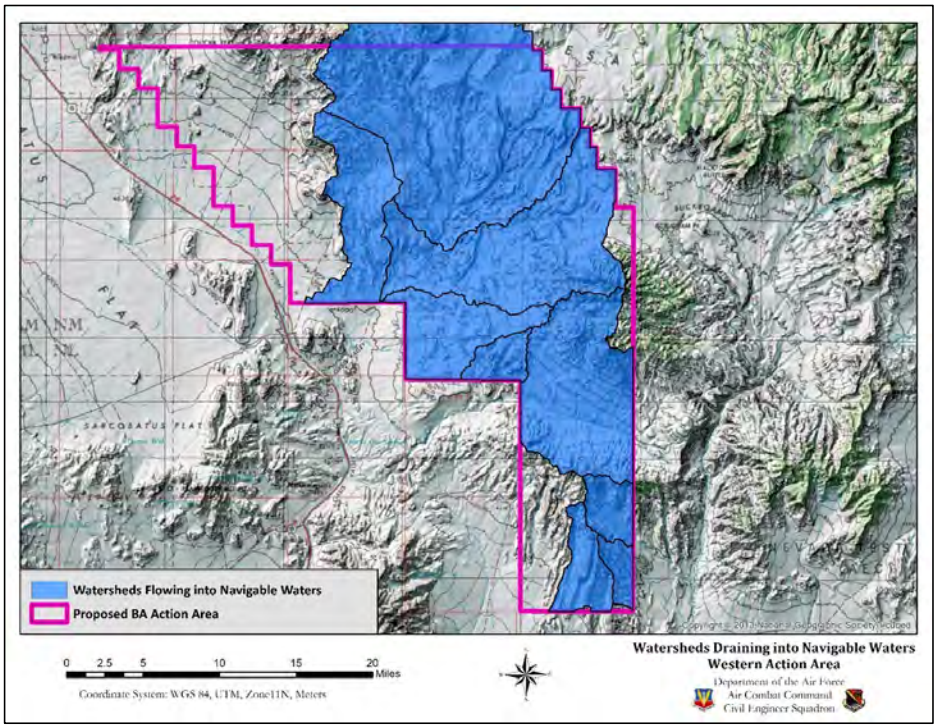


Figure 16. Watersheds on the Western Action Area draining externally into navigable waters (Amargosa River). All other watersheds drain internally in closed basin systems.

Vegetation

Plant communities have been tentatively mapped for the Action Area by the USAF which is provided in detail in a separate report (Figures 17 and 18) (U.S. Air Force, 2017B). This discussion only highlights the plant communities found on the Eastern and Western Action Areas.

Eastern Action Area

The Eastern Action Area mostly lies in the Mojave Desert, where creosote bush (*Larrea tridentata*)/white bursage (*Ambrosia dumosa*), and saltbush communities are the most common vegetation communities on the South Range of the NTTR. Where soils are especially alkaline and clay-rich, as on the margins of dry lake beds (playas) at the lowest elevations, saltbush species, including four-wing saltbush (*Atriplex canescens*) and shadscale (*A. confertifolia*), dominate the vegetation. Saltbush communities, especially near playas, may consist exclusively of these species.

Vast areas of the basins and bajadas in the Mojave Desert, below approximately 3,940 ft. MSL, support plant communities dominated by creosote bush and white bursage. Saltbush species, joint firs or Mormon teas (*Ephedra* spp.), brittlebush (*Encelia farinosa*), desert mallow (*Sphaeralcea ambigua*), cacti (especially prickly pears and chollas [*Opuntia* spp. and *Cylindropuntia* spp.]), and Mojave yucca (*Yucca schidigera*) may also occur in this community.

At higher elevations (approximately 3,940 ft. to 5,900 ft. MSL) blackbrush (*Coleogyne ramosissima*) often is the dominant plant in the community. In addition to blackbrush, this plant community includes joint

firs, turpentine-broom (*Thamnosma montana*), and littleleaf ratany (*Krameria erecta*). Joshua tree (*Yucca brevifolia*) is another plant establishing significant populations at higher elevations of the creosote bush-white bursage and at most elevations of the blackbrush communities. While it is rarely the dominant species in terms of numbers or cover in these communities, the Joshua tree contributes a significant proportionate biomass in the local area, and its mature height of up to 20 feet contributes to its visual domination over the surrounding low shrubs, most of which grow to less than 3 feet tall.

The sagebrush/pinyon-juniper community comprises a woodland habitat that is present on parts of the Eastern Action Area and is distinctive of the higher elevations of the Mojave and Great Basin Deserts. At these higher elevations, increased precipitation and lower temperatures facilitate the development of this woodland habitat. The dominant species include big sagebrush (*Artemisia tridentata*), single leaf piñon pine (*Pinus monophylla*), and Utah juniper (*Juniperus osteosperma*) in habitats with deeper soils, and black sagebrush (*Artemisia nova*) or dwarf sagebrush (*Artemisia arbuscula*) in areas with shallow, rocky soils. On the Eastern Action Area, scattered populations of Utah juniper may be found. Mormon tea (*Ephedra viridis*), snakeweed (*Gutierrezia* spp.) and rabbitbrush species (*Chrysothamnus* spp.) are common sub-dominants in this woodland. On the Eastern Action Area, the blackbrush and sagebrush/pinyon-juniper communities are more limited in distribution, being restricted to higher elevations than the creosote bush/white bursage and saltbush communities.

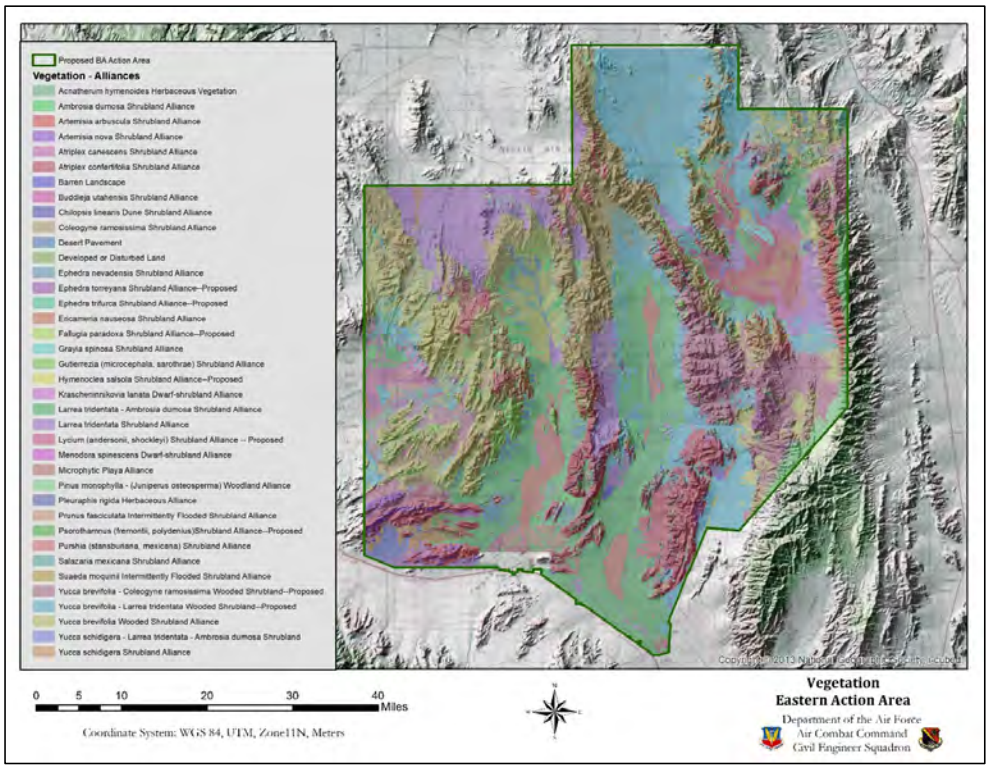


Figure 17. Plant alliances found on the Eastern Action Area.

Western Action Area

The vegetation on the southern half of the Western Action Area is similar to the Eastern Action Area. However, on the northern half of the Western Action Area, vegetation of the basin floors is typified by shadscale and greasewood (*Sarcobatus vermiculatus*). Both salt-tolerant shrubs may occur in relatively monotypic stands, or may be co-dominant with winter fat (*Krasheninnikovia lanata*) and green molly (*Kochia americana*). Intermediate elevation slopes are dominated by various species of horsebrush (*Tetradymia* spp.), rabbitbrush (*Chrysothamnus nauseosus, C. viscidiflorus*), hopsage (*Grayia spinosa*), greasewood, shadscale, and budsage (*Picrothamnus desertorum*). With increasing elevation to the north and around the Timber Mountains, Utah juniper and pinyon pine become the dominant overstory with an understory of various species of sagebrush. Other species that occur in this community include rabbitbrush, joint fir, and occasional Joshua tree. Greasewood may occur as a co-dominant with sagebrush. The blackbrush vegetation occurs in the southerly portions of the Western Action Area at intermediate elevations between the shadscale community and sagebrush-pinyon-juniper community.

A vegetation transition zone found between the Mojave and Great Basin deserts occurs on the Action Area, and includes plants from both deserts distributed in a mosaic pattern. Specific indicators of this transition might also be identified. In the existing scientific and technical literature, the author who most directly addressed this issue was Janice Beatley (Beatley, 1976). Beatley identified and described a vegetation transition zone dominated by blackbrush and other plants, such as boxthorn (*Lycium* spp.),

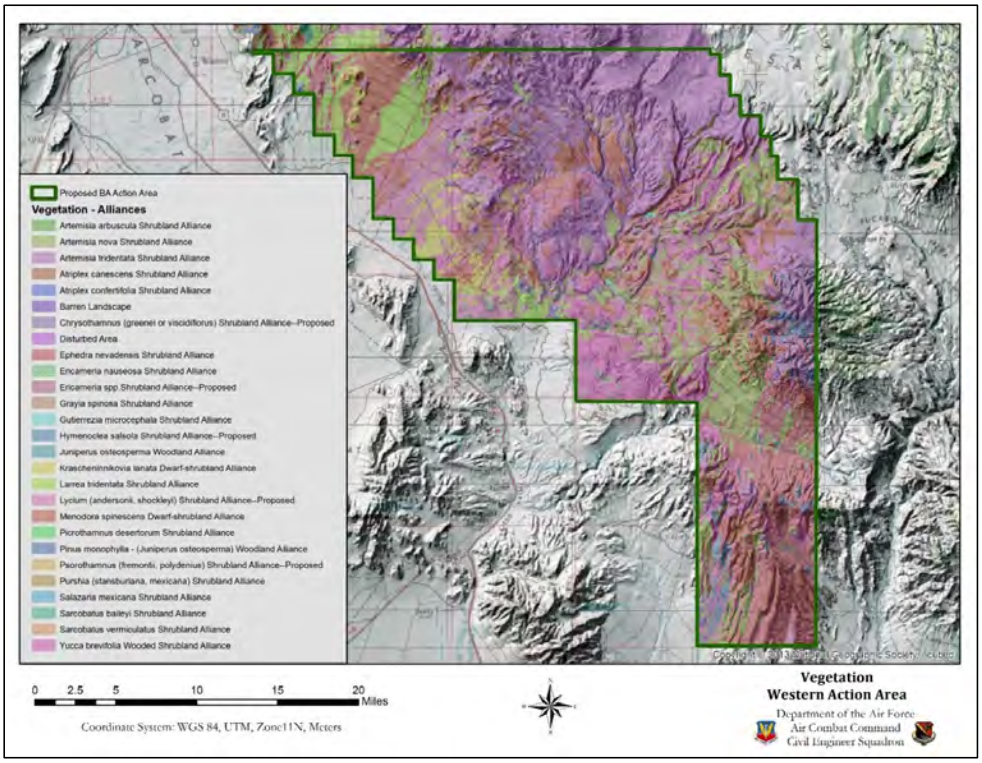


Figure 18. Plant alliances found on the Western Action Area.

hopsage, and saltbush species, located largely on the Nevada Test Site (see also (Beatley, 1975; El-Ghonemy, Wallace, & Romney, 1981)) and occurring on the Western Action Area.

This transition zone represents an important region on public lands because it supports species from different biotic regions. A greater diversity of plant and animal species is likely to be found there, and may harbor unique species. Transition zones serve as corridors for some species and as barriers for others, because the transitional habitats can be optimal for some species while being inhospitable for others.

Wildlife

Beginning in 2005, the NNRP initiated extensive surveys to provide baseline information on wildlife populations on the NTTR. The DNWR also conducted a limited number of surveys on the refuge outside of the South Range of the NTTR. In 2016, golden eagle and migratory bird surveys were conducted by Leidos on the alternative expansion areas. Summary reports of historic and recent surveys that were prepared for the LEIS for the renewal and expansion of the withdrawn land include the following:

- Migratory Birds (U.S. Air Force, 2017C)
- Large Mammals (U.S. Air Force, 2017D)
- Golden Eagle and Raptors (U.S. Air Force, 2017E)
- Special Status Wildlife Species (U.S. Air Force, 2017F)

In addition to these reports, annual project reports have been prepared for the NTTR by the Nellis Natural Resources Program (NNRP) to include large mammals, golden eagles, migratory birds, reptiles, small mammals, and bats. These are available upon request to the NNRP at NAFB.

Of importance to the DT are those species that compete with the DT for forage and species potentially preying on the DT. Probably the greatest competitor for forage is lagomorphs, especially the desert cottontail (*Sylvilagus audubonii*) and the black-tailed jackrabbit (*Lepus californicus*) which are common on the Action Area and forage on many of the succulent, herbaceous annuals preferred by the DT. Several small mammals are also common on the Action Area and may consume some of the forages used by the DT, but most are granivores and do not rely heavily on green vegetation. Predators of the DT (Boarman, 2002) that have been observed on the Action Area include:

- Raptors (Various species including the golden eagle)
- Common Raven (*Corvus corax*)
- Coyote (*Canis latrans*)
- Badger (*Taxidea taxus*)

Species Description

BIOLOGY

DT resting in the shade of a Mojave Yucca.

The DT is Nevada's official state reptile and is currently listed by the USFWS as "Threatened", and classified as a State Protected and Threatened Species by the Nevada Department of Wildlife (NDOW) (Nevada Department of Wildlife, 2012). The Mojave Desert population occurs in both the Mojave and Sonoran Deserts north and west of the Colorado River in southwestern Utah, southern Nevada, southeastern California, and northwestern Arizona (Nevada Fish & Wildlife Office, 2013) (Berry K. , 1989). Currently, five recovery units for the DT have been designated by the USFWS based on geographic boundaries and genetic differences between DT populations. Although the species is listed as merely distinct population segments, it is possible that future regulations may apply to separate subspecies (Digital West Media, Inc., 2013).

DTs are long-lived species that have a carapace length of 1.4 inches at birth and reach 11-16 inches when mature. Adult DTs weigh over 10 pounds. Adults have a domed carapace and relatively flat, unhinged plastrons. Their shells are brown to dark brown in color with orange to yellow scute centers. A gular horn is located on the anterior end of the plastron (bottom of the shell) and is pronounced in males. Males tend to have shorter claws, longer and thicker tails, a concave plastron, and large chin glands compared to females (Boarman, 2002).

DTs are slow growing, requiring 13 to 20 years to reach sexual maturity, and have low reproductive rates during a long period of reproductive potential (Turner, Medica, & Lyons, 1984) (Bury, Esque, DeFalco, & Medica, 1994) (Germano D. , 1994). Growth rates are greater in wet years when annual plant production is higher (Medica, Bury, & Turner, 1975). The number of eggs (1-10) as well as the number of clutches (1-3) that a female DT can produce in a season is dependent upon a variety of factors including environment, habitat, availability of forage, drinking water, and physiological condition (U.S. Fish & Wildlife Service, 2011) (Turner, Burge, Robertson, & Hayden, 1986) (Turner, Berry, Rabdall, & White, 1987) (Henen, 1997). As a desert species, DTs tolerate water, salt, and energy imbalances on a daily basis. This ability

DT found on South Range of NTTR

allows them to use unpredictable and ephemeral resources to meet nutritional requirements for survival (Peterson, 1996). However, these stresses can have long term reproductive consequences on individuals and populations.

The activity peak of Mojave DTs occurs in spring (Luckenbach, 1982), where they begin daily foraging around the last week in March or first week in April and are generally aestivating by mid to late June (Jennings, 2002). They are most active in April and May, with the level of summer activity being higher in eastern populations (Averill-Murray, Martin, Bailey, & Wirt, 2002). DTs in the western portion of its range likely spend more time aestivating during summer than those in eastern populations due to the lack of summer rains in the west (Devender, Averill-Murray, Esque, & Holm, 2002). DTs hibernate in their burrows during the winter. On a research site on the northern edge of the Mojave Desert in southwestern Nevada, 98% of individuals hibernated from mid-November to mid-February (Meyer, 2008). Nesting occurs in May and June in the Mojave Desert (Averill-Murray, Martin, Bailey, & Wirt, 2002) (Turner, Burge, Robertson, & Hayden, 1986) (Turner, Medica, & Lyons, 1984) (Wallis, Henen, & Nay, 1999), and slightly later in the Sonoran Desert (Meyer, 2008). Eggs hatch from September to October in the eastern Mojave Desert and August to September in the western Mojave Desert (Averill-Murray, Martin, Bailey, & Wirt, 2002).

Due to the DT being ectothermic (cold blooded), ambient temperatures strongly influence DT activity level. Although DTs can survive body temperatures below freezing (Bailey, Schwalbe, & Lowe, 1995) (Vaughan, 1984) to over 104°F, most activity occurs when body temperatures are 79°F to 93°F (Vaughan, 1984; Rundel & Gibson, 1996) . The influence of ambient temperature is reflected in daily activity patterns, with DTs active late in the morning during spring and fall, early in the morning and late in the evening during the summer, and occasionally becoming active during relatively warm winter afternoons (Vaughan, 1984; Rundel & Gibson, 1996).

The herbivorous diet of the DT is also highly variable, but is mostly comprised of grasses and forbs. Although non-native plant species generally do not comprise a major portion of their diet, some can be important components where populations have adapted to changes in vegetative communities caused by soil disturbances or wildland fires. Native or non-native dominant plants found in any location will comprise over 60% of the DT diet with less common plants comprising the remaining 40% (Meyer, 2008). As many as 79 plant species have been listed as part of the DT diet depending on the location (Jennings, 2002; Vaughan, 1984; Martin & Devender, 2002; Esque, 1994). Most of these species are annuals and herbaceous perennials. The forage mainly consists of leaves, stems, flowers, fruits and seeds of species. Within the Mojave Desert populations, diets may include plantains (*Plantago* spp.), milkvetches (*Astragalus* spp.), lupines (*Lupinus* spp.), threeawns (*Aristida* spp.), gramas (*Bouteloua* spp.), evening primrose (*Camissonia* and *Oenothera*), phacelia (*Phacelia* spp.), desert dandelions *(Malacothrix* spp.), big galleta (*Galleta* spp.), and smooth brome (*Bromus tectorum*) (Jennings, 2002) (Vaughan, 1984) (Esque, 1994) (Martin & Devender, 2002) (Oftedal, Hillard, & Morafka, 2002) (Ernst, Lovich, & Barbour, 1994). Spurges (*Euphorbia* spp.) and narrowleaf silverbush (*Argythamnia lanceolata*), as well as desert shrubs and the pads or fruits of the prickly pear *(Opuntia* spp.*),* are occasionally important components of the DT diet (U.S. Fish & Wildlife Service, 2011).

DTs spend the majority of their time in a shelter. However, movements of up to 660 ft. per day are common and long-distance movements do occur. The common, comparatively short-distance movements presumably represent foraging activity, traveling between burrows, and possibly mate-seeking or other social behaviors. Long-distance movements could potentially represent dispersal into new areas and/or use of peripheral portions of the home range (Meyer, 2008). Estimates of DT densities vary from less than 13 DT/sq.mi. on sites in southern California (Berry K. H., 1986) to over 800 DT/sq.mi. in the western Mojave (Meyer, 2008). The often-overlapping home ranges of DTs generally average from 10 to

100 acres, although average home ranges are as small as 2.2 acres and as large as 131 acres. Variations in home range sizes are likely due to differences in gender, season, and the availability of resources (Meyer, 2008).

HABITAT DESCRIPTION AND REQUIREMENTS

DT occupying a burrow

Optimal habitat for the DT has been characterized as creosote bush scrub in which precipitation ranges from 2 to 8 inches (Nussear, et al., 2009) (Germano, Bury, Esque, Fritts, & Medica, 1994) (U.S. Fish and Wildlife Service, 2009). These plant communities have a relatively high diversity of perennial plants, and high productivity of herbaceous plant (Luckenbach, 1982) (Turner R. , 1982) (Turner & Brown, 1982). Soils must be sufficiently friable for digging burrows, but adequately firm to prevent collapsing of burrows (U.S. Fish and Wildlife Service, 2012). DTs occur from below sea level to an elevation of 7,300 ft. MSL, but the most favorable habitat occurs at elevations of approximately 1,000 to 3,000 ft. MSL (Luckenbach, 1982). In addition, they occur in cheesebush scrub, blackbrush scrub, hopsage scrub, shadscale scrub, Mojave saltbush-allscale scrub, and scrub-steppe vegetation types of the desert and semi-desert grassland complex (U.S. Fish and Wildlife Service, 1994B).

Within these vegetation types, DTs potentially can survive and reproduce where their basic habitat requirements are met. These requirements include a sufficient quantity and quality of forage species; shelter sites for protection from predators and environmental extremes; suitable substrates for burrowing, nesting, and overwintering; various plants for shelter; and adequate area for movement, dispersal, and gene flow (U.S. Fish and Wildlife Service, 2012). Throughout most of the Mojave Region, DTs occur most commonly on gently sloping terrain with sandy-gravel soils, scattered shrubs, and abundant inter-shrub space for growth of herbaceous forage plants (Nussear, Esque, Haines, & Tracy, 2007) (W.B. Jennings, 2015). Throughout their range, however, DTs can be found in steeper, rockier areas (Gardner & Brodie, 2000) (U.S. Fish and Wildlife Service, 2012) .

Status of the Desert Tortoise in the Action Area

Previous Activities and Disturbances Affecting the Species

South Range of the NTTR

Previous activities and general disturbances that have occurred on the South Range of the NTTR include weapons delivery areas (targets), target cleanup, threat emitters, infrastructure construction and maintenance, and test and evaluation. The current BiOp covers all the actions that occurred after 2003 (U.S. Fish and Wildlife Service, 2003). Activities prior to 2003 were approved through individual consultation and BAs specific to those actions. Specific disturbances occurring on South Range of the NTTR include the following:

- 1994: Installation of 15 waste disposal sites
- 1994: Relocation of a cluster bomb unit weapons delivery areas (U.S. Fish and Wildlife Service, 1994A)
- 1999: Installation of borrow pits for road construction and maintenance
- 2002: Construction of a bypass road for accessing a target on the western edge of Dogbone Lake (U.S. Fish and Wildlife Service, 2002)
- 2002: Construction of a High-Technology Test and Training Complex (One sq. mi. footprint)
- 2006: Construction of an equipment pad in the southern part of the South Range of the NTTR
- 2006: Construction of an equipment pad in the central part of the South Range of the NTTR at the Urban Combat Training Center
- 2007: Construction of the Creech Air Force Base (CAFB) bypass road.
- 2008: Construction of new training facilities at Silver Flag Alpha(SFA) on the southeast corner of the South Range of the NTTR
- 2008: Installation of training markers for the Thunderbirds
- 2010: Additional expansion of the training area at SFA
- 2010: Remediation of depleted uranium
- 2015: Demolition of buildings on the east side of CAFB
- 2015: Installation of a new fence for the Mile Range Equipment Storage Area.

Range 77

Previous activities and general disturbances on Range 77 include the following:

- Infrastructure maintenance and construction, including monitoring wells, roads, and detention basins
- Test and evaluation

Alternative 3A

The only actions that have occurred previously on Alternative 3A were road construction and maintenance and public access.

Alternative 3B

Previous actions occurring on Alternative 3B were minor and have mostly occurred on the southern part of the alternative and were associated with the construction and maintenance of U.S. Highway 95 (borrow pits, access roads, etc.). The remainder of this alternative was protected as a potential wilderness area and was impacted by minor road maintenance on previously constructed roads.

Alternative 3C

Because this entire area is included in the DNWR, previous actions on this alternative were minor and associated with road maintenance and construction and public access.

HISTORIC SURVEYS

Presence/Absence Surveys

Sharp, B.E. 1989. Desert Tortoise Survey on the Desert National Wildlife Refuge 1989-1980. U.S. Fish and Wildlife Service, Portland, Oregon (Sharp, 1989)**.** A survey was conducted to determine the relative abundance of DT on the DNWR to update previous surveys conducted by Schneider and Turner in 1981. Surveys were conducted from October 16, 1989 to October 26, 1989 using the triangular survey methodology described by Berry (1984). The survey found 135 DT burrows, 20 scat, eight carapaces, and one live tortoise. All the DT and sign were found below 4,000 ft. MSL.

Zellar, B. L. 1990. Survey of Desert Tortoise Habitat on the Southern Desert National Wildlife Range May 1990. U.S. Fish and Wildlife Service. Las Vegas, Nevada (Zeller, Survey of Desert Tortoise Habitat on Southern Desert National Widlife Range May 1990, 1990)**.** Random triangular 1.5-mile survey transects were randomly conducted on the south side of the DNWR. During the survey, 20 burrows, two scat, and seven carapaces were observed during a total of 10 transects. It was concluded that the DT density was slightly higher on the southern part of the DNWR compared to the eastern part. Overall, DT density was considered low.

Zellar, B. L. 1994. Survey of Desert Tortoise Habitat near a Gravel Pit on the East Side of US 93. U.S. Fish and Wildlife Service. Las Vegas, Nevada (Zeller, 1994)**.** Four 0.5-mile transects were surveyed around a gravel pit located slightly north of mile marker 19 on US 93. During the survey, two scat and two burrows were observed. It was concluded that the DT density in the area was low and unlikely to be jeopardized by equipment operating in the area currently disturbed by the gravel pit.

Zellar, B. L. 1995. Survey of Desert Tortoise Habitat on the Southwest Boundary of the Desert National Wildlife Range. U.S. Fish and Wildlife Service. Las Vegas, Nevada (Zeller, 1995)**.** The DT survey was conducted along the unfenced boundary of the DNWR on May 10, 1995. The transect covered approximately 3.25 miles on a relatively flat bajada. During the survey, three burrows and one carapace were observed. Overall the DT's density was determined to be low.

Environmental Research Center, Barrick Museum of Natural History, UNLV-Las Vegas. May 1990. A Desert Tortoise Investigation of the Dogbone Lake Site, Range 62, Nellis Air Force Range for the Nellis Air Force Base, USAF (Pratt, 1990)**.** On May 5 and May 12, 1990, an approximate 720-acre area of the Dogbone Lake Site, Range 62, NTTR (located in Section 8, T13SA, R58E, Clark County, Nevada) was searched for the presence of DT activity. Search objects included live DT, DT scat, tracks, burrow entrances, pallets, and other evidence of species activity. Results of the survey uncovered twenty-five active burrows and pallets, fifteen inactive burrows, and eleven disused burrows and pallets. Additionally, five live specimens (two in burrows and three active individuals) and three DT carcasses were observed. In total, 57 signs were identified for a relatively low density of 0.1 signs per acre for the 720-acre project area.

Science Applications International Corporation. March 1, 1991. Mojave Desert Tortoise Survey at Range 63, Nellis Air Force Base, Nevada (Weinstein, 1991)**.** A survey was conducted on February 9th and 10th, 1991, to evaluate a 206-acre parcel of land located in Range 63 (South Range) of NAFB for the presence of DT sign. Range 63, located near Indian Springs, Nevada, is part of both the Desert National Wildlife Refuge (DNWR) and NAFB weapons testing grounds. The survey was conducted under the pro-

tocol recommended by the USFWS. Based on the results of the survey, no "live DT, burrows, carcasses, scat, or tracks" were identified within the surveyed area.

Dames & Moore. January 7, 1994. Report: Desert Tortoise Survey South Range Disposal Sites for Nellis Air Force Base (Dames and Moore, 1994A)**.** In December of 1993, Dames & Moore personnel conducted DT surveys in association with site characterizations of waste disposal sites intended to ascertain whether the presence of waste burial pits had resulted in impacts to soil or groundwater media. Of the fifteen total waste sites, it was determined that only nine site characterizations (all on NTTR South Range) had the potential to impact DT populations or habitat. Subsequent surveys and zones of influence surveys of these nine areas were conducted by qualified biologists, and DT sign was recorded. The surveys did not find any live signs of DT or active burrows; however, possible burrows were identified on two of the zone-of-influence surveys. The condition of the possible burrows indicated that neither had been used for several years, and the overall results of the survey activities indicated that this portion of the South Range of the NTTR was not presently being used by DT. These findings were in agreement with previous surveys which indicated that this particular region is either low-density or unsuitable DT habitat.

Dames & Moore. January 11, 1994. Biological Assessment of the Proposed CBU Target Site at the Nellis Air Force Base Range (Dames and Moore, 1994B)**.** Dames & Moore prepared a BA to address potential impacts to DT populations and habitat resulting from relocating the existing cluster bomb unit (CBU) target area approximately 1.5 miles southwest of its 1994 location. The report noted that previous studies identified in the literature review indicated that DT populations at NTTR are low to moderate (0-99 animals per square mile) and relatively stable under normal base operations. Potential impacts identified by the assessment included: 1) removal or destruction of habitat from explosive detonations; 2) loss of habitat features (i.e. burrows); 3) actual loss of animals from bombing activities; 4) degradation of potential habitat from soil disturbances and noise increases; and 5) disturbance of animals by blast pressures and ground vibrations.

The report further advises that compensation for losses of DT habitat could be off-set by rehabilitating the retired CBU range. Additionally, the assessment recommended that a DT education program be implemented for all employees working at the site and a protocol be implemented for reporting dead DT and transporting injured or ill animals to a veterinarian.

EG&G Energy Measurements. 1994. The Northern Boundary of the Desert Tortoise Range on the Nevada Test Site. U.S. Department of Energy. Las Vegas, Nevada (Rautenstrauch, Brown, & Goodwin, 1994)**.** A DT study was conducted in 1993 to determine the northern boundary of the range of DT on the NNSS. Approximately 210 Miles of transects were walked to make this determination. During the survey, 53 tortoise sign were recorded. Information was used to develop a map of the northern extent of DT habitat. A copy of the map is provided in in Figure 19.

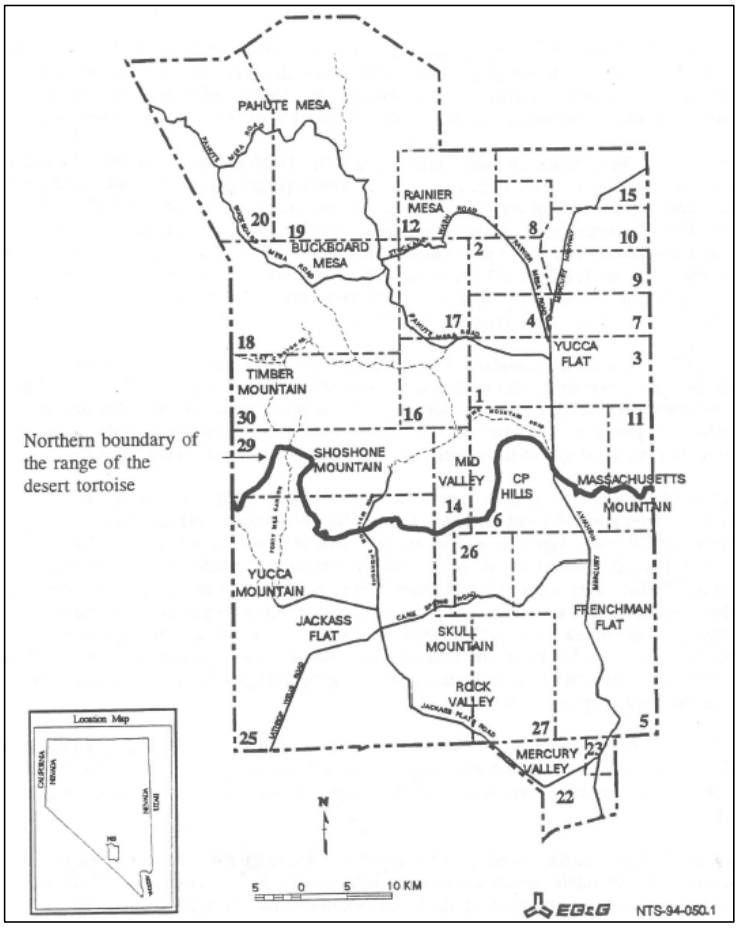


Figure 19. Map of the northern extent of DT habitat on the NNSS as determined in 1994.

U.S. Air Force. July 2002. Biological Assessment for Desert Tortoise (U.S. Air Force, 2002A)**.** This BA was prepared to evaluate whether impacts to DT habitat and populations would occur from implementation of one of three alternatives involving construction of a High-Technology Test and Training Complex (HTTC). The HTTC complex would have a surface footprint of approximately one square mile. Two alternatives (Alternatives 1A and 1B) as well as no-action alternative were evaluated. Alternative 1A (869 acres) is located within Range 62B and Alternative 1B (946 acres) is located in Range 64B; both of which are near the western boundary of the South Range of the NTTR and within the Desert National Wildlife Range (DNWR).

Survey activities at the Alternative 1A location indicated that the site supports a low-density DT population. Surveying activities identified three live DT, tracks, 40 burrows, 14 pallets, and two carcasses. The estimated DT density for this location was 5-10 DT per square mile. Minimal sign was recorded at the Alternative 1B project location. Identified sign included only several inactive burrows; however, suitable DT habitat was identified on the project area.

The BA concluded that while some impacts to DT habitat and populations would occur from implementation of the proposed action, based on the results of survey activities, Nellis training initiatives, and planned mitigation activities, the DT population would not be significantly impacted.

National Security Technologies LLC. 2008. Biological Assessment for the Effects of National Nuclear Security Administration Activities at the Nevada Test Site on the Desert Tortoise. Las Vegas, Nevada (National Security Technology LLC, 2008)**.** This BA was prepared to present potential impacts to DT as a result of activities on the NNSS over the next five years. Background information on DT distribution and relative abundance was provided in the BA. Additionally, the VA described proposed actions and mitigative measures to eliminate, reduce, or compensate for negative impacts. A map of DT habitat was provided in indicated that the northern extremity of habitat followed a line just slightly north of Beatty, Nevada. DT density on the project area ranged from very low or none (0-10 DT/sq. mi.) to moderate (44-90 DT/sq. mi.). The conclusion of the report was that the proposed activities would likely impact individual desert tortoises but would not threaten the continuing existence of the species on the NNSS.

Stantec Consulting Services Inc. 2012. US Ecology Nevada Facility—Biological Evaluation. Beatty, Nevada (Stantec, 2012)**.** This biological evaluation also included the results of a DT survey report for the project area, which was located north of Beatty, Nevada. According to both reports, no DT or DT sign were found in the action area. Because the facility itself is fenced and basically DT proof, it was recommended that no impacts to DT would occur and no further action to protect DT would be required.

NNSS. Annual. Ecological Monitoring and Compliance Program Annual Reports. Las Vegas, Nevada. Each year the NNSS prepares an annual report summarizing all of the ecological monitoring and compliance programs conducted for the NNSS. Part of this includes a summary of DT surveys and monitoring. DT populations are continually monitored and clearance studies are conducted for all activities potentially impacting DT populations. Annual reports indicate that DT populations are relatively stable and continue to be at a relatively low density similar to surrounding areas. The northern boundary of DT habitat is still considered the same as that mapped in 1994.

Monitoring/Clearance Surveys

L. Cunningham. May 26 to June 17, 2004. Nellis Air Force Range Desert Tortoise Monitoring Report. Construction of a target by personnel from DynCorp on the HTTC site was monitored for DT from 25 May 2004 to 17 June 2004. Almost all DT and signs were found along the eastern area of the HTTC, where a fan sloped down from low hills and mountain bases, and strips of Galleta grass (Pleuraphis torr.) alternated with desert pavement. Highest density appeared to be around the military barracks, where all live DT, active burrows, and a nest were observed. Tracks were common along canals on the east side and a few on dirt roads to the south and to the north of the main city. No DT or signs were found around the playa to the west where an airport and runway were constructed.

The following DT signs were recorded during the monitoring period: one adult female, one adult male, and one juvenile (live DT); one nest with five eggs; one dead DT; two areas of shell fragments; two active burrows; two inactive burrows; and seven sets of tracks.

NNRP. 2006. DT clearance survey for construction of an equipment pad for monitoring mission activities on NTTR in Range 63A. No formal report was written for this survey.

NNRP. 2006. DT clearance survey for construction of an equipment pad for the Urban Combat Training Center in Range 62B. No formal report was written for this survey.

NNRP. 2007. DT clearance survey for construction of the Creech Air Force Base bypass road. No formal report was written for this survey.

NNRP. 2008. DT clearance survey for construction of new training facilities at Silver Flag Alpha. No formal report was written for this survey.

NNRP. 2008. DT clearance survey for installation of Thunderbird training markers. No formal report was written for this survey.

NNRP. 2010. DT monitoring for expansion of Silver Flag Alpha on the NTTR. No formal report was written for this survey.

NNRP. 2010. DT monitoring for remediation of depleted uranium area on the South Range of the NTTR. No formal report was written for this survey.

Works, A. 2010. Desert National Wildlife Refuge Tortoise Survey Report for U.S. Fish and Wildlife Service. SNEI Biological and Botanical Services, Las Vegas, Nevada (Works, 2010)**.** SNEI was contracted by the USFWS to conduct a DT presence/absence survey for a fence line being installed on the southern side of the DNWR. This survey was not located on the action area. The fence was approximately three miles long. No live desert tortoises were observed during the survey, but one pallet and two burrows were observed.

Adams Ecology Inc. August 6-23, 2012. Installation of a Fiber Optics Cable on BLM Land in Indian Springs, Nevada to Service CAFB. The Indian Springs Fiber Optics Installation Project site was monitored for DT as required by the BLM for CAFB. Construction personnel were cooperative and alert to DTs during construction, and no negative incidents occurred. No live DTs or DT sign were observed within the bounds of the project during the time of the monitoring events. A preliminary survey of the project site indicated that the site did not appear to support DT populations. However, monitoring was conducted since the site was located in viable DT habitat. On August 6, 2012, DT biologists conducted a clearance survey to ensure that no DTs were on the project site prior to any vehicles or equipment being moved onto the area. No DTs were observed. Prior to each day's construction activities, the project area was surveyed for DTs. All personnel working on the site were given formal DT training and were required to complete a check list to document the topics covered by the training session. During the entire project life from August 6 through August 23, no DTs or DT sign were observed. Several burrows were identified, but were found to be created by other mammals and not created or used by DTs.

Adams Ecology Inc. January 21, 2015. CAFB Clearance Survey. On January 21, 2015, NNRP conducted a desert tortoise and burrowing owl clearance survey of a project area just outside of the boundaries of CAFB that previously supported a casino, gas station, small strip mall, and RV park. These areas were scheduled for demolition and eventual development and incorporation into CAFB. The clearance survey concentrated efforts on desert tortoise and burrowing owls to ensure that these species would not be impacted by construction activities. Four qualified biologists conducted the clearance surveys in compliance with current USFWS protocol. The biologists walked transects approximately 20 feet apart inspecting all ground surfaces for live desert tortoises, desert tortoise sign, live burrowing owls, and burrowing owl sign. This clearance survey successfully covered 100% of the project area.

During this survey, no live tortoises, tortoise sign, live burrowing owls, or burrowing owl sign were observed. The project area was heavily impacted by public use and development. None of the project area would be considered habitat conducive to either of these species. It was concluded that this area did not support burrowing owl or desert tortoise populations, and any construction activity planned for this project area would not impact desert tortoise or burrowing owl populations.

Adams Ecology Inc. April 28 to May 20, 2015. Mile Range Equipment Storage Area DT Monitoring. The NNRP provided DT monitoring for the installation of a new fence around the equipment storage area in Range 64C, which is located on the South Range of the NTTR. The project began on April 28 and contin-

ued through May 20. Because the site was located in an area adjacent to DT habitat, a monitor was requested to ensure no take of DT. During the monitoring event, all workers were given DT training and the work areas were subjected to clearance surveys at the start of each work day. No tortoises were observed during the project and the work crew was cooperative and in full compliance with the 2003 Programmatic BiOp.

Density and Relative Abundance Surveys

Revegetation Innovations. May 1992. Fighter Weapons Center Range Complex Biological Assessment for the Desert Tortoise (Revegetation Innovations, 1992)**.** Between December 1991 and May 1992, standard transect surveys for DT were conducted at the Tactical Fighter Weapons Center Range Complex. A total of 431 sections comprising 459 square miles (293,760 acres) were surveyed. The BA was conducted to evaluate if expansion of air-to-ground ordnance impact areas would adversely affect DT populations. Surveyors searched for signs of DT activity including live specimens, pallets and burrows, scat, eggshells, drinking and mating areas, and DT tracks. Of the 431 transects performed, evidence of DT activity was present along 110. This number should be considered with caution, however, as the survey transects were conducted during a period of relative DT inactivity, and the survey data may underestimate the presence of DT within the project area. Though the study was unable to determine the precise DT population densities within the project area, survey data indicated that the population densities appeared to be consistent with other areas in southern Nevada. Potential direct, indirect, and cumulative effects to DT populations were unclear from the study; therefore, absent of further data collection, it was concluded that negative and significant impacts would be realized by DT populations in association with the proposed action.

TRW Environmental Safety Systems, Inc. 1997. The Distribution and Relative Abundance of Desert Tortoise at Yucca Mountain. U.S. Department of Energy. Las Vegas, Nevada (TRW Environmental Safety Systems, Inc., 1997)**.** This report summarized DT surveys that were conducted on the NNSS from 1981-1995. Past surveys had indicated that the northern boundary of the distribution of DTs was slightly north of the Yucca Mountain project. It was concluded that the relative density of DT was approximately 25-31 DT/sq.mi. overall, the relative abundance of tortoises was considered low compared to Southern Clark County but similar to that of Nye and Lincoln County.

Bechtel Nevada. September 1998. The Relative Abundance of Desert Tortoises on the Nevada Test Site within Ecological Landform Units (Woodward, Rautenstrauch, Hall, & Ostler, 1998)**.** DT sign–survey transects were conducted in 1996 to estimate the relative abundance of desert tortoises on the NNSS. Approximately 332 transects totaling 552 miles were conducted on 206 ecological landform units which are small areas that are uniform or homogeneous in ecological characteristics. During the survey, 281 DT sign were counted. Results of the survey indicated that 70% of the area sampled was low DT abundance, 29% was low abundance, and 1% was moderate abundance. A map showing the relative abundance of DT on the NNSS was provided.

CURRENT STATUS

NTTR South Range DT Surveys

Methodology

Initiated in 2010 and continuing through 2016, transect surveys were conducted to determine the presence/absence and relative abundance of the DT population on the South Range of the NTTR, as required by the INRMP and the Programmatic Biological Opinion for the NTTR (NPBO). The INRMP will require updating based on the outcome of the withdrawal process. Applicable programmatic BiOp requirements will be incorporated into the INRMP. According to the current programmatic BiOp for the NTTR,

the action area for consultation included only the South Range of the NTTR and not the North Range of the NTTR because "the North Range occurs outside the range of the DT" (USFWS File No. 1-5-02-F-522). This is the same assumption associated with this BA. The goal of the survey was to provide the USAF with a map showing the relative abundance and general location of DT populations on the South Range of the NTTR. With the exception of project specific surveys as required by the current programmatic BiOp for the NTTR and summarized in the "Historic Surveys" section of this BA, the last comprehensive DT surveys that were conducted for the NTTR were located on the South Range in 1992. These surveys were relative abundance surveys that indicated that the DT population was low density in areas that supported DT. The current relative abundance surveys are being conducted for the preparation of the Range Renewal in 2021 and to re-evaluate suitable habitat in accordance with the current programmatic BiOp for the NTTR. These surveys were a modification of the protocol issued by the USFWS DT Recovery Office, titled 2010 USFWS DT Pre-Project Survey Protocol using relative abundance transects as described by Berry and Nicholson (1984). The methodology was developed with informal coordination and approval by the Las Vegas Office of the USFWS and the Natural Resources Manager of NAFB. All surveys were conducted during the active season of DT (Table 1), but scheduling was unpredictable and was subject to access approval by the USAF based on security and safety issues inherent on a secured USAF facility.

The survey method is used to classify areas according to abundance categories, which are 0-20, 20-50, 50-100, 100-250, and greater than 250 DT/sq.mi. For the surveys on the South Range of the NTTR, the first class was further divided into 0-5 (DT populations are very low density or may not be present) and 6-20 (Low abundance). Past surveys by Woodman indicate that this method is a reasonable measure of the actual abundance category for areas (Woodman, 2006; Berry & Nicholson, 1984). The method involves two steps:

1. Observing and recording the types and numbers of sign along a transect
2. Conversion of sign counts to DT density

For this method, two parallel 0.75-mile belt transects that were 30 ft. wide and approximately 100 ft. apart were walked by qualified DT biologists. Thus, approximately 2.5 acres were surveyed per transect (Total of 5.0 acres). The survey was designed to cover all DT habitat previously mapped by the USAF and approved by the USFWS as DT habitat in 2009. Each group of two transects totaling 1.5 miles of transect were walked per square mile. The square miles covered by each group of two transects were arranged by Section, Township, and Range as designated on USGS topographic maps. Thus, within each section, 1.5 miles of transects (5.0 acres) was surveyed. During the survey, all DT sign was recorded including live DTs, scat, burrows, pallets, and DT carcasses. Photographs of all live DT were taken, along with any other sign that was noteworthy. If necessary, an adjustment was made to convert total sign to Total Corrected Sign (TCS). For example, if a live DT was observed and it was in a burrow with scat, this was listed as three total sign (live DT; scat; burrow) and one TCS. This rarely occurred on the South Range of the NTTR due to the apparent low density of the DT population.

A Garmin GPS unit was used to record the location of the start, middle, and end of each transect in WGS 1984 UTM Zone 11N Meters projection. Additionally, the location of any observed sign was recorded on the GPS. The GPS was also used to ensure that the transect was walked in a relatively straight line, usually in a north/south direction. Some townships and ranges were smaller and oddly shaped if they occurred near the edge of the mapped DT habitat, usually near mountains. This resulted in the shape of the transect being modified to fit the area.

Calibration transects were not used for this study. According to Woodman (2006), most biologists have a range of calibration coefficients from 8.9 to 12.1. Woodman has been using a calibration coefficient of 10 since 1983 and the same coefficient of 10 was used for these studies. Estimated DT abundance was

calculated by multiplying the TCS by the calibration coefficient, providing an estimate of DT per square mile. Transects were walked during the active season of DT (April to May; September to October) with the dates being modified each year to compensate for seasonal differences in temperature. Transects were initiated in 2010 and were nearly completed by 2015. Table 2 and Figure 20 show the surveys conducted each year of the project.

To approximate the density of DT for the South Range of the NTTR, the length of transects (592.5 miles) was multiplied by the average width of the transect (30 ft.) to provide a total area surveyed (2,155 acres or 3.37 sq.mi.). Density was then estimated by dividing the total live DT observed by the area surveyed and adjusted by assuming 90% detection (U.S. Fish and Wildlife Service, 2016). This is a raw estimate that was used for a rough comparison to densities determined for the Eastern Mojave Recovery Unit. Methodology used for this project did not provide the information required to calculate density using standard procedures described by the USFWS (U.S. Fish and Wildlife Service, 2016) because the study was not designed for that purpose.

Table 2. General information on the DT surveys conducted on the South Range of the NTTR

Year	Dates of Surveys	Miles of Transects Surveyed
2010	April 24-25 May 9 May 16 October 9-11	138
2011	October 9-10	67.5
2012	April 14-15 April 21-22 September 22-23 October 6-8	138
2013	April 28 September 21-22	57
2014	April 5 April 12 April 27 September 27-28	63
2015	April 4-5 April 12 April 18-19 May 23-25 September 26 October 10-12 October 24-25	129
2016	April 2-3 May 15 May 21-22 September 3 September 11	57
Total	**47 Days**	**649.5**

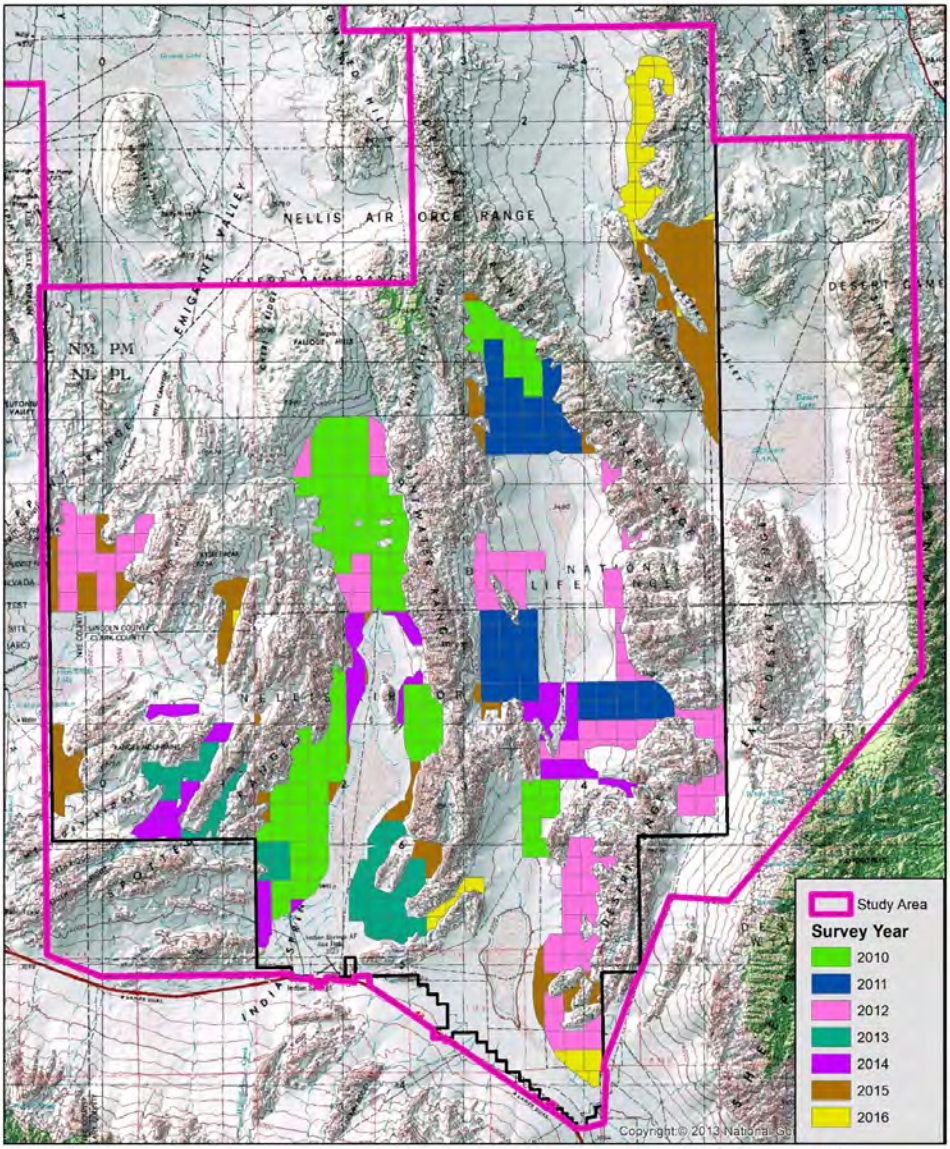


Figure 20. Years that DT surveys were conducted on the South Range of the NTTR.

Burrows and pallets were evaluated according to condition as follows:

1. Active w/live DT or recent DT sign
2. Good Condition; Definitely DT and recently used
3. Deteriorated; Definitely DT
4. Deteriorated; Possibly DT
5. Good condition; Possibly DT

Scat was evaluated as follows:

1. Wet or freshly dried; Obvious odor
2. Dried w/ glaze; some odor; dark brown
3. Dried, no glaze or odor; Signs of bleaching, tightly packed
4. Dried; Light, light brown to pale yellow loose material; scaly appearance
5. Bleached; or consisting only of plant fiber

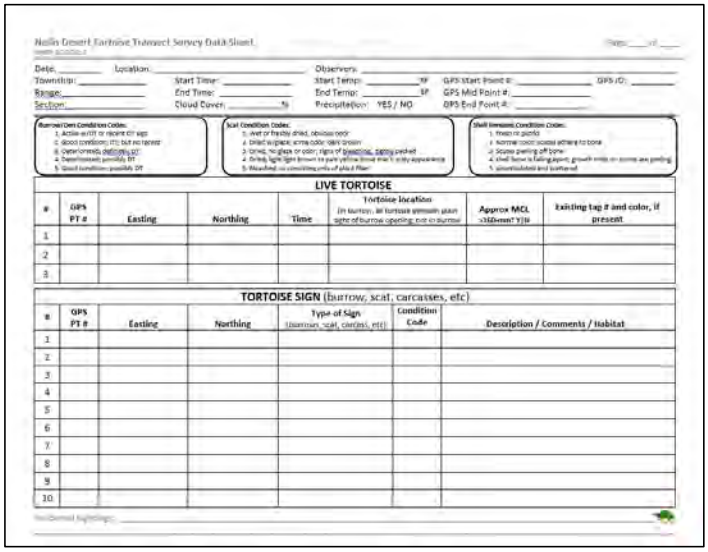
Carcasses and time of death were evaluated using the following criteria as modified from Woodman and Berry (1984) and Averill-Murray (2000):

1. Fresh or putrid (Time of Death <1 year)
2. Normal color; scutes adhere to bone (Time of Death <1 year)
3. Scutes peeling off bone (Time of Death = 1-2 years)
4. Shell bone is falling apart; Growth rings on scutes are peeling (2-4 years)
5. Disarticulated and scattered (>4 years)

If a live DT was encountered, the following parameters were measured:

1. Median carapace length
2. Sex
3. Approximate age
4. Condition

An example of the field form used for DT surveys is provided in Figure 21.


Nellis Desert Tortoise Transect Survey Data Sheet

Date: _____ Location: _____ Observers: _____

Township: _____ Start Time: _____ Start Temp: _____°F GPS Start Point #: _____ GPS ID: _____

Range: _____ End Time: _____ End Temp: _____°F GPS Mid Point #: _____

Section: _____ Cloud Cover: _____% Precipitation: YES / NO GPS End Point #: _____

Burrow/Den Condition Codes:
1. Active w/live or recent DT sign
2. Good condition; DT, but no recent
3. Deteriorated; definitely DT
4. Deteriorated; possibly DT
5. Good condition; possibly DT

Scat Condition Codes:
1. Wet or freshly dried, obvious odor
2. Dried w/glaze, some odor, dark brown
3. Dried, no glaze or odor; signs of bleaching, tightly packed
4. Dried; light, light brown to pale yellow loose material; scaly appearance
5. Bleached; or consisting only of plant fiber

Shell Remains Condition Codes:
1. Fresh or putrid
2. Normal color; scutes adhere to bone
3. Scutes peeling off bone
4. Shell bone is falling apart; growth rings on scutes are peeling
5. Disarticulated and scattered

LIVE TORTOISE

#	GPS PT #	Easting	Northing	Time	Tortoise location (in burrow, at burrow entrance, plain sight of burrow opening, out in burrow)	Approx MCL >160mm? Y/N	Existing tag # and color, if present
1							
2							
3							

TORTOISE SIGN (burrow, scat, carcasses, etc)

#	GPS PT #	Easting	Northing	Type of Sign (burrow, scat, carcass, etc)	Condition Code	Description / Comments / Habitat
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Additional Sightings: _____

Figure 21. Form used for entering data collected during the relative abundance surveys on the South Range of NTTR.

RESULTS

As of the end of 2015, approximately 73% of the DT habitat of the South Range of the NTTR had been surveyed. Of the remaining 27%, 24% is inaccessible to surveyors due to safety and security issues. Thus, only 3% of the habitat remains to be surveyed. A total of 270,860 acres were to be sampled on the South Range of the NTTR. As of the end of 2015, 196,441 acres have been sampled. Figure 20 shows the areas that were surveyed each year of the project.

Table 3 shows the condition class of burrows that were observed during the South Range surveys. Seventy-nine active burrows (451 inactive or abandoned) were observed during surveys on the South Range of the NTTR. During the surveys, 39 carcasses of various age classes were observed and recorded (Table 4).

Table 3. DT burrows observed during relative abundance surveys on the South Range of the NTTR

Condition Class	Description	Number of Burrows
1	Active w/live DT or recent DT sign	79
2	Good Condition; Definitely DT and recently used	209
3	Deteriorated; Definitely DT	141
4	Deteriorated; Possibly DT	61
5	Good condition; Possibly DT	40

Table 4. DT carcasses observed during relative abundance surveys on the South Range of the NTTR

Class	Time of Death	Number of Carcasses
1	<1 year	1
2	<1 year	6
3	1-2 years	6
4	2-4 years	9
5	>4 years	17

This indicates a relatively even distribution of mortality over time. However, no real conclusions can be made since the surveys were not designed to determine mortality rates.

Seventeen live tortoises were observed during the 2010-2016 surveys (Figure 22). The locations of observed DT sign other than live DT and carcasses as recorded for the South Range of the NTTR are shown in Figure 23. Figure 24 shows the areas that have been completed and the areas remaining to be surveyed as of the end of 2015 (2016 data is not available). The areas shaded in red represent areas that are inaccessible to surveyors due to safety and security issues. The relative abundance surveys indicate that the majority of the South Range of the NTTR supports a low abundance of DT based on the density classes developed for the survey (Figure 24 and Table 5). Of the areas that have been surveyed thus far, approximately 88% were classed as habitat with a low abundance (6-20 DT/Sq.mi.) or areas where DT may not be present (0-5 DT/sq.mi.). The remaining 12% supports moderate to high abundance of DT. If the total number of live DT is divided by the total area surveyed (30 ft. x 592.5 mi. or 3.37 sq.mi.), the estimated density of DT on the South Range of the NTTR is approximately 5.2 live DT/sq.mi or 5.8 DT/sq.mi. correcting for 90% detection. This is lower than the average density for the Eastern Mojave Recovery unit where the average DT density in 2007 was estimated to be 15 live DT/sq.mi. (U.S. Fish and Wildlife Service, 2010). However, the density is comparable to the estimates for 2015 and 2016 for the Eastern Mojave Recovery Unit, which were 4.9 and 7.0 DT/sq.mi., respectively (U.S. Fish and Wildlife Service, 2016). These field surveys support past surveys conducted in 1991-1992 that indicated that most of the South Range of the NTTR supported low density populations of DT (Revegetation Innovations, 1992). The 1992 survey found evidence of DT in 110 of 431 (26%) transects. The 2010-

2016 surveys found 201 of 443 transects (45%) showing evidence of DT. This indicates that, based on observed DT sign, the DT population on the South Range of the NTTR is showing a trend towards an increase in size and is comparable in density to populations in the Eastern Mojave Recovery Unit.

Table 5. Relative abundance of DT on the South Range of the NTTR

Density (DT/sq. mi.)	Abundance Class[1]	Area (acres)	Percent of Surveyed Area (%)
0-5	DT May Not Be Present	105,649	53
6-20	Low Abundance	69,295	35
21-50	Moderate Abundance	18,903	10
51-100	Moderately High Abundance	4,653	2

[1]Abundance classes as described by Berry and Nicholson (1984) and modified by Woodman (2006).

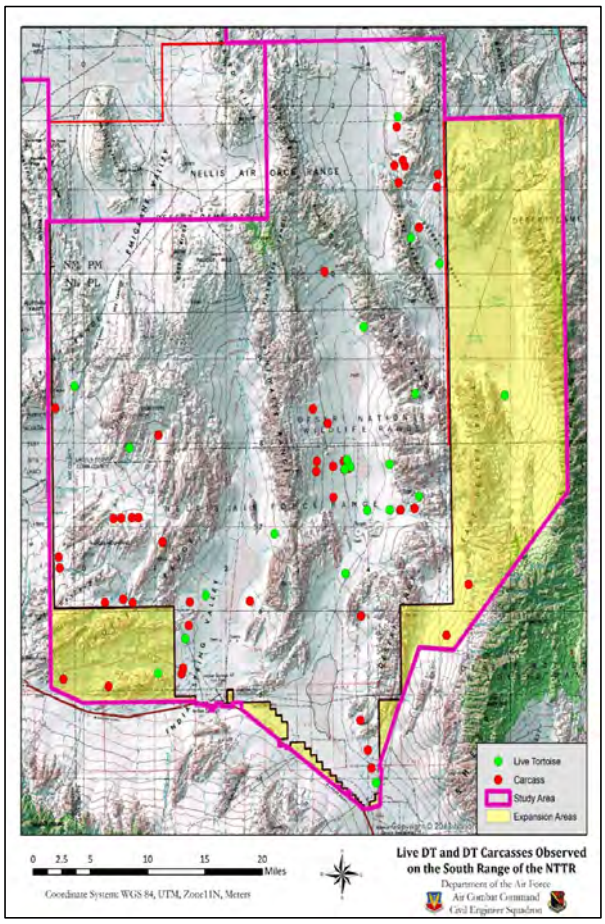


Figure 22. Live DT and DT carcasses observed on the South Range of the NTTR. Note that observations of DT in Alternative 3C were incidental during vegetation and migratory bird surveys.

It is important to note that these surveys were not designed to provide accurate estimates of DT density, but are only used to calculate relative abundance. The USFWS has developed standard methodologies to determine densities more accurately and those methods will be used on areas where the USAF activities result any disturbances (especially soil disturbance or habitat removal) that could impact DT. The method used for the South Range of the NTTR survey was the best that could be accomplished during the active DT season, in a large survey area, and with issues involved in scheduling surveys within the constraints of safety, security, and military activities.

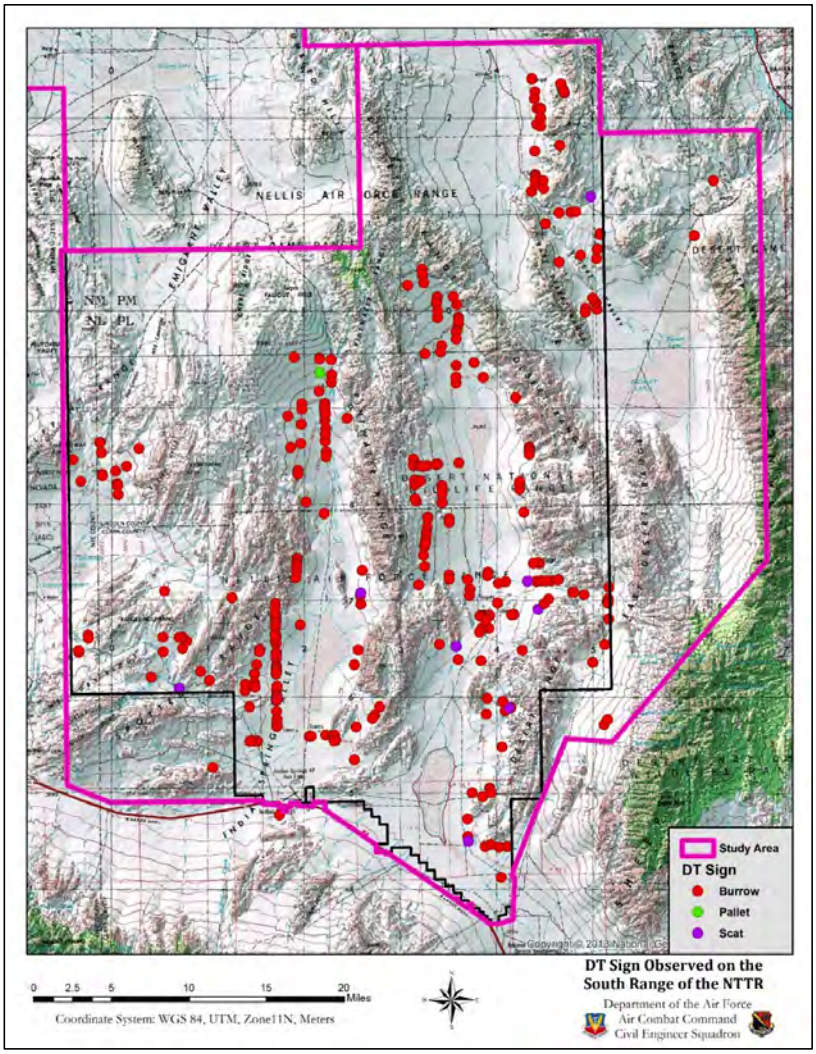


Figure 23. DT sign observed on the South Range of the NTTR. Note that observations of DT in Alternative 3C were incidental during vegetation and migratory bird surveys.

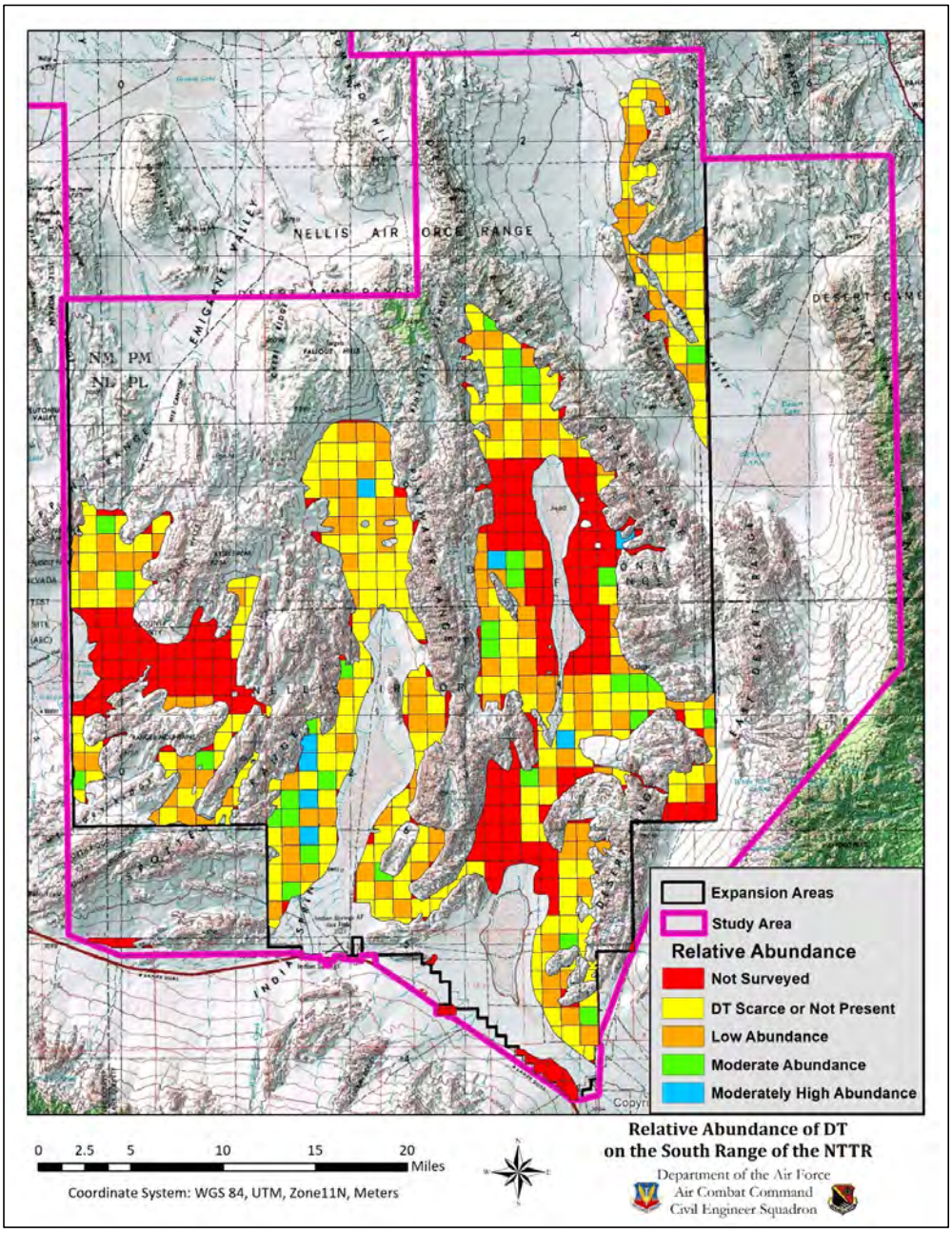


Figure 24. Relative abundance of the DT on the South Range of the NTTR.

DT Surveys on the Expansion Alternatives

Formal DT surveys have not been conducted in the expansion alternatives. Because of the size of the area encompassed by the expansion alternatives, the USAF has coordinated with the USFWS to develop habitat models based on vegetation and other parameters to determine the potential location of DT populations and to measure potential impacts to those populations. This information is provided in the Model Section of this BA. If the expansion alternatives are incorporated into the withdrawn land, field surveys (100% coverage) will likely be required by the USFWS for actions by the USAF that may affect DT or its habitat. While other wildlife and vegetation surveys were being completed on the expansion areas in 2016, incidental sightings of DT and sign were recorded. When such sightings occurred, a GPS point was taken along with condition and any other information that could be gathered. During vegetation surveys and migratory bird surveys in Expansion Alternatives 3B and 3C, two live DT were encountered, while 5 carcasses and 6 burrows were observed (Figures 18 and 19). No DT or DT sign were incidentally observed in Expansion Alternative 3A during vegetation and migratory bird surveys conducted in 2016.

USFWS Approved DT Habitat Map for the South Range of NTTR

Beginning in 2005, the NNRP conducted several helicopter surveys to map and characterize DT habitat on the South Range of the NTTR. Habitat was determined as a factor of various features including geology, soils, and vegetation as well as slope and topography. The map was finalized in 2009 and reviewed by the USFWS at that time. Later, the USFWS accompanied the Natural Resources Manager on a helicopter tour of the South Range of the NTTR to finalize the map, which was officially approved by the USFWS on August 27, 2009. Figure 3 is the map approved by the USFWS. It was agreed that any military mission activities impacting areas shown as potential DT habitat would require the following:

- Provide desert tortoise awareness training to anyone working in, or traveling through potential desert tortoise habitat.
- Impose a speed limit of 25 miles per hour in desert tortoise habitat and that speed limit signs be posted on roads that enter tortoise habitat. Ensure that these speed limits are enforced.
- Rehabilitate disturbances of desert tortoise habitat and/or pay a per-acre remuneration fee.
- Conduct clearance surveys for desert tortoises or construct tortoise exclusionary fencing for actions in potential tortoise habitat.

All other actions not in DT habitat would not require monitoring or coordination with the USFWS.

Range 77

No DT surveys have been conducted in Range 77. This area will be included in the DT modeling effort using recent vegetation maps created for the area.

Desert Tortoise Habitat Range Model

Two different habitat mapping models were completed for this BA to delineate areas where military operations could potentially impact DT populations. The intent of the modeling effort was to develop a map to determine areas where DT surveys would be required if DT habitat was potentially affected by military actions. One of the habitat models was a habitat suitability model, where information for the model is derived from documented data on the habitat preferences of each species. The second model was a probabilistic model, Maxent, which uses actual observation points of a species to determine suitability of habitat. Available GIS layers were used to measure the suitability of the cumulative environment to accommodate the habitat preferences of DT. Details on the development of each of these models and the final model used to predict potential DT habitat are provided in a separate report (Nellis Air Force Base, 2017).

A meeting was held on July 18, 2018 at the Las Vegas Office of the USFWS to discuss the model parameters. Changes were made in the parameters and the Habitat Suitability Model was selected for use in the BA.

HABITAT SUITABILITY MODEL RESULTS

The initial habitat suitability model for the Action Area scored habitat from 1 to 84 with 84 being very good habitat. To tighten the results, scores of 0-48 were considered not suitable habitat and the resulting model for the Eastern and Western Action Areas is shown in Figures 25 and 26. This model was comparable to the original DT habitat map approved for the South Range of the NTTR and the Nussear model, but indicated more DT habitat around the edges of playas where *Atriplex confertifolia* and *Atriplex canescens* were dominants and extended the habitat to higher elevations (5,000 ft. MSL compared to 3,600 ft. MSL for the previous map). Additionally, some habitat was designated in areas further north than the range of the DT, since the current model did not use current known range of the DT as a criterion. This allowed the map to accommodate observations of DT and DT sign at the northern boundary of the action area. The northern extent of DT habitat on the Action Area closely matches the northern boundary of habitat previously designated on the NNSS in 1994 (Rautenstrauch, Brown, & Goodwin, 1994). Surveys should be conducted around the boundary of the Action Area and the NNSS to further validate the northern boundaries of DT habitat in both areas.

ACCURACY ASSESSMENT

The models prepared for the BA have not been subjected to a formal accuracy assessment, but observations of DT that have been made in past surveys were overlaid on the model results of the Eastern Action area to assess accuracy. The model was adjusted by scoring to accommodate all observations to date. Field surveys are still required to further assess and even modify the map as required.

CONCLUSION

The habitat suitability model appears to be an excellent prediction of potential DT habitat on the Action Area. It is recommended that this map be used to determine where actions imposed by military operations may potentially impact DT populations. The Maxent model was also a good model, but qualitative accuracy was slightly less (based on past observation points lying within the modeled habitat) and the model provided less protection for the DT compared to the Habitat Suitability Model. If a military action has direct or indirect impacts on DT or DT habitat within the mapped DT habitat of this model, formal or informal consultation with the USFWS as required by the programmatic BiOp would be initiated to determine if DT populations are present and the mitigation measures required.

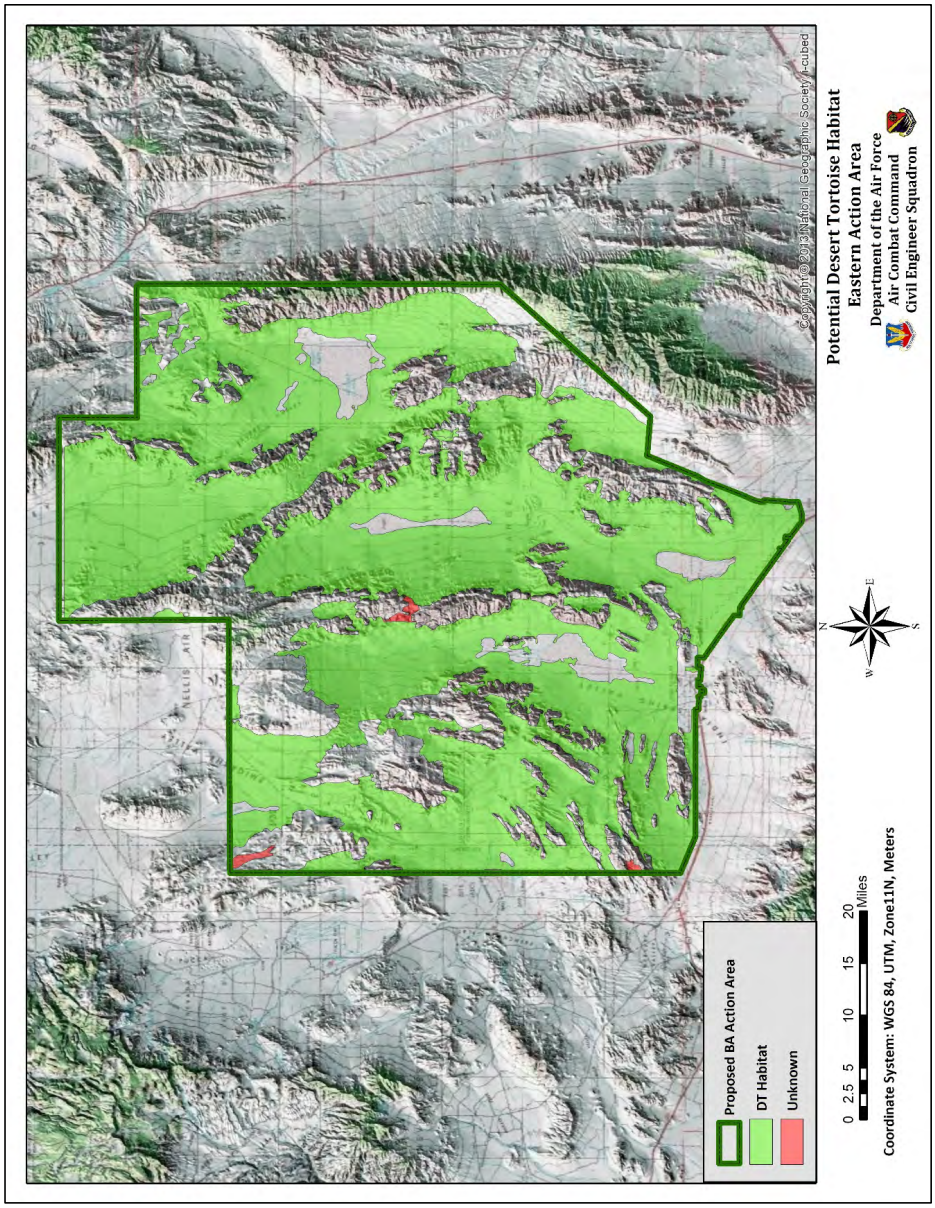


Figure 25. DT habitat on the Eastern Action Area as determined by a Habitat Suitability Model.

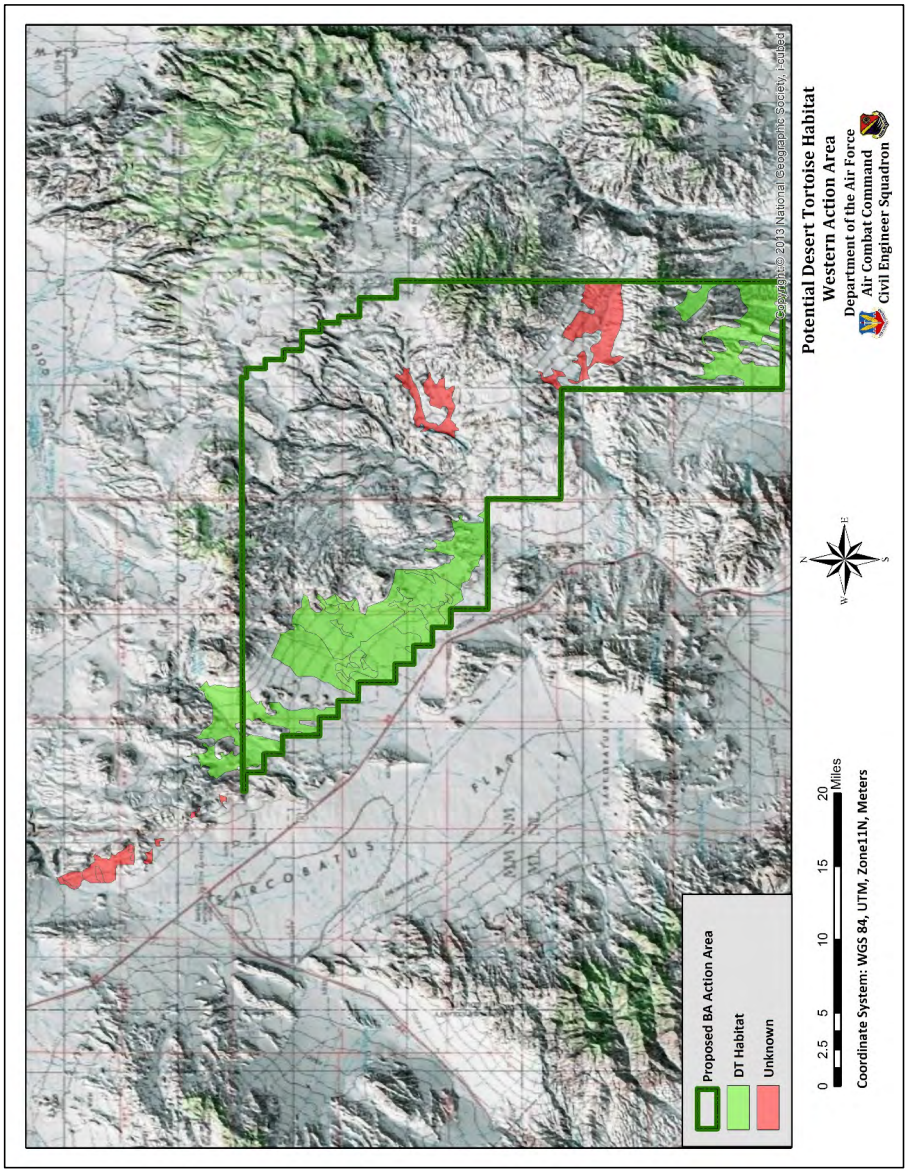


Figure 26. DT habitat on the Western Action Area as determined by a Habitat Suitability Model.

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Physical, Biological, and Chemical Effects of the Action

DIRECT IMPACTS

Directs impacts include the immediate effects of the proposed action on the DT or its habitat. New weapons delivery areas in the South Range or expansion areas are not part of the actions covered by this BA, and use of existing weapons delivery areas have been covered under previous consultation. Impacts to those areas were compensated in most cases by remuneration fees. Three sites were closed in the past and are no longer used for military activities. These sites were discussed in the 2002 BO for the NTTR (File No. 1-5-02-F-522) and included Targets 64-5, 63-1, and an abandoned army camp on Range 65. The sites were initially planted with native vegetation in 1997. These areas are still in the restoration process, but the latest surveys of those areas indicate that the vegetation has almost completely recovered by natural encroachment of vegetation. Planting of native species at these sites was not successful, but natural restoration has progressed quite well (Nellis Natural Resources Program, 2014).

For this BA, direct impacts will be discussed according to the actual operations planned for the Action Area and the actions listed in the "Description of the Actions Potentially Taken by the USAF on the Action Area". In general, the actions associated with this BA are similar to those discussed by the original programmatic BiOp. The USAF estimates that overall activities on the Action Area will increase by about 30%. The USAF will encourage activities to be located in areas outside of DT habitat, but some impacts to habitat are anticipated. The new DT habitat map includes areas not previously designated as DT habitat. Actions occurring within DT habitat will be located in previously disturbed or developed areas to minimize impacts to higher quality habitat, where practical. This will not preclude required monitoring and pre-project surveys, but will assist in minimizing impacts to DT.

Ready Access

Ready access would be provided for the entire Action Area, but minimization measures will be implemented to decrease impacts to the DT. Ready access especially impacts the Eastern Action Area, most of which is currently protected by the proposed wilderness area designation and managed in de facto as such within the boundaries of the DNWR. Depending on the method implemented for acquiring ready access, requirements for managing the South Range as potential wilderness may be removed or lessened, thus resulting in the potential for increased take of DT since DT are currently fully protected by the proposed wilderness designation. Direct impacts anticipated from ready access include the following:

- Direct Physical Impacts: DT could potentially be physically harmed or killed as a result of troop activities in interstitial areas currently protected as proposed wilderness. These activities can result in direct contact of humans with DT and may involve crushing, trampling, or collision of DT with troops resulting in DT death or injury.
- Harassment of DT: The presence of troops, troop noise, and troop movements could significantly disrupt the normal behavior of DT, such as breeding, foraging, and resting in burrows and other cover. Use of flares, smoke bombs, and paint balls in troop activities can result in harassment of DT. Live munitions are not used in these activities. Burrows could be damaged or destroyed by foot traffic and troop activities causing the DT to relocate. Additionally, foraging by DT may be interrupted by the presence of troops causing DT to move to other foraging areas that may be less desirable.
- Habitat impacts: Because troops will be in small groups and infrequent, impacts to habitat are anticipated to be minimal. Some temporary loss of vegetation from trampling and other activi-

ties may occur. Soil disturbance or long-term impacts are not anticipated as a result of ready access.

- Chemical residue from blank munitions and pyrotechnics has the potential to impact DT if accidentally ingested in soils and vegetation. This will be minimized by requiring cleanup of munition cartridges and other debris after training is completed.
- Predators: Ravens and other predators may be attracted to areas by trash and food left behind by troops. This will also be minimized by training troops to properly dispose of trash and food before leaving an area. Spent munitions and other items will also be removed from areas.
- Increased potential for take would be minimal because troops will be in groups of less than 12 soldiers that have been provided with DT awareness training.
- Vehicles are currently not allowed on trails and unimproved roads on most of the Eastern Action Area. Under ready access, vehicles, including jeeps, ATVs, would be used to transport personnel and equipment on all roads including unimproved roads and trails. Ready access will open these areas to estimated 30% increase in use by vehicles. Although most activity by vehicles will be restricted to roads and trails, DT can be crossing these areas in habitat potentially supporting DT.
- Ready access is also projected to result in a 30% increase in aircraft operations in the existing NTTR airspace, and the corresponding increase by 30% in the use of munitions as outlined in Table 6. However, live munitions will not be used outside of target impact zones and firing ranges (Figure 6). These weapons delivery areas and firing ranges were previously constructed under the current BiOp or other consultations.

Table 6. Current and projected levels of aircraft sorties and live munitions on the NTTR, NNSS, and expansion alternatives.

Impact Description	Current	Projected
Aircraft Activity (Sorties)	24,898	32,367
Large Caliber Munitions (No.)	10,915	14,190
Small Caliber Munitions (No.)	1,600,746	2,080,970

Note: Large caliber includes weapons in the following categories: AGM, CBU, GBU, LUU, M206, MK, 2.75" rockets
Small caliber includes .50 Cal, 20mm, 30 mm, 40 mm,5.56 mm, 7.62 mm

Weapons Delivery Areas

Weapons delivery areas are directly impacted by use of live munitions including unguided ordnance, laser-guided bombs, air to ground missiles, small arms munitions, and self-protection devices (flares and chaff). Most of the weapons delivery areas are located in playas and dry lakes outside of DT habitat. No new weapons delivery areas will be established on Range 77. Only those weapons delivery areas already established in Range 77 and the South Range of NTTR will be used. Most of the potential DT habitat in Range 77 is located on the west and southern boundary where weapons delivery areas will not be located. Weapons delivery areas can be initially cleared for DT prior to and during construction if they are found in potential DT habitat. However, clearance surveys prior to weapons delivery is not practical and DT take may occur. No new weapons delivery target impact areas are being planned for the proposed expansion alternatives, Range 77, and the South Range of NTTR. Those areas are either being used as a weapons safety footprint buffer or to address safety and security concerns.

Two different areas of impact are associated with weapons delivery areas. One area is associated with soil disturbance caused directly by the explosion of a munition or cleaning the area after explosions. The second area is the area potentially impacted by explosive fragment dispersal. Soil disturbances currently associated with target sites were evaluated by reviewing high resolution satellite imagery at each target site and delineating a boundary around the areas where soil disturbance could be observed. Note

that no current or proposed weapons delivery areas are in DT habitat in the Western Action Area, thus, it is not being considered in this discussion. Weapons delivery areas may be implemented in Range 77, but they will be located a significant distance (probably over one mile) outside of DT habitat. Acreage of DT habitat according to the new habitat model directly impacted by soil disturbance at active and inactive weapons delivery areas is the following (Figure 27):

- Active Weapons Delivery Areas: 2,207 acres
- Inactive Weapons Delivery Areas: 1,045 acres
- Total: 3,252 acres

Please note that these acreages are being used to establish the baseline of weapons delivery areas that have been impacted in the past either during other BiOps or before DT was listed.

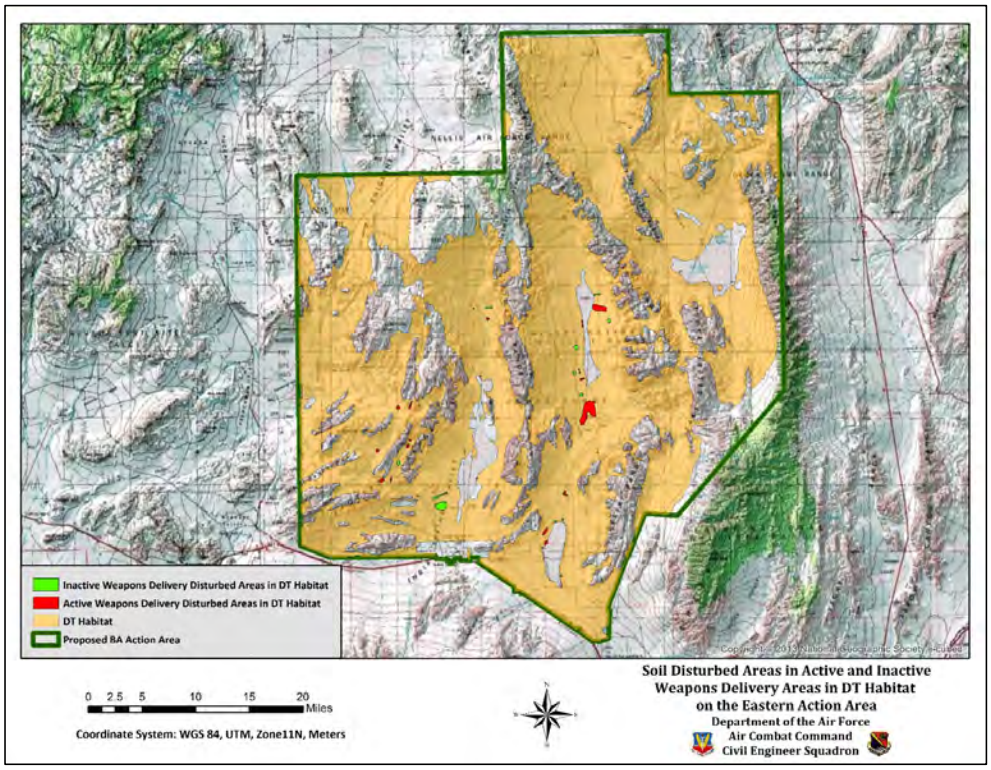

Figure 27. Area directly impacted in the past by soil disturbance associated with active and inactive weapons delivery areas on the Eastern Action Area.

For this BA, an important consideration in analyzing the hazard associated with explosion of ordnance is the effect of the fragments generated by the explosion. A hazardous fragment is defined as one having an impact energy of 58 foot-pounds or greater (Department of the Army, 1999). Bombs and similar ordnance used on the targets at NTTR would probably be classed as 1.1 materials where hazardous fragment density is defined as one or more hazardous fragments per 600 square feet. This equates to a 1% probability of hitting a 6 ft. tall man with a face-on surface area of 6 square feet. Considering these two

factors, the minimum fragment distance for ordinance used on the NTTR is estimated to be 1800 ft. from the point of impact for humans. The U.S. Army uses 1250 ft. as the fragment distance for stored 1.1 class explosives (The Army Institute for Professional Development, 1992). However, for the NTTR, the point of impact of bombs within a target is variable, therefore, the fragment distance is estimated as 2000 ft. from the center of the target. Using this fragment distance and the DT habitat map, the total acreage of DT habitat potentially impacted by explosive fragments from targets is estimated to be the following (Figure 28):

- Active Weapons Delivery Areas: 6,156 acres
- Inactive Weapons Delivery Areas: 5,293 acres
- Total: 11,449 acres

Inactive weapons delivery areas are included in this analysis because they may be potentially used in the future. These areas are the radius around the center of a target where the probability of a standing 6 ft. tall human being hit by a fragment is greater than 1%. Obviously, the probability of fragments hitting a DT that is about 8 in. tall and a face-on surface area of less than one sq. ft. would be much less and a much smaller area.

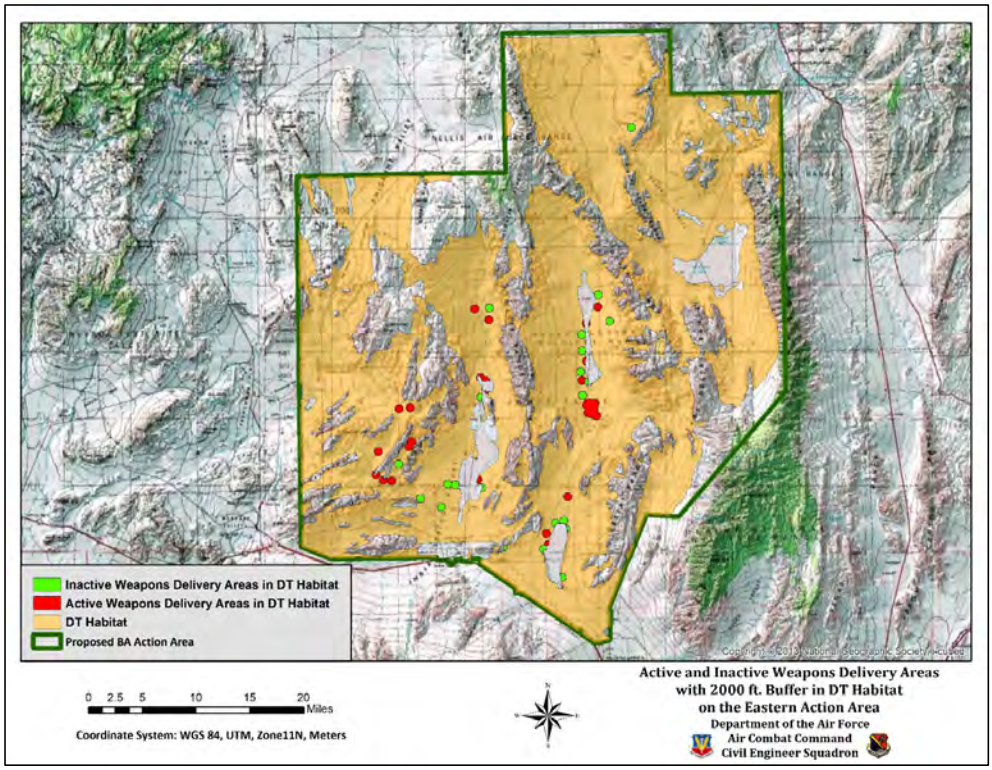

Figure 28. Area potentially impacted by explosive fragments associated with active and inactive weapons delivery areas on the Eastern Action Area. Areas were determined by a 2000 ft. radius from the centroid of each weapons delivery area.

The USAF is currently using target impact areas to delineate areas that have the potential to jeopardize the safety of humans and equipment during target use. A majority of these areas will never be impacted by target use, but have been designated to ensure protection and safety of USAF personnel. Figure 29 shows the location of these impact areas with respect to DT habitat. Approximately 111, 291 acres are located in target impact areas, of which 84,309 or 76% is located in DT habitat.

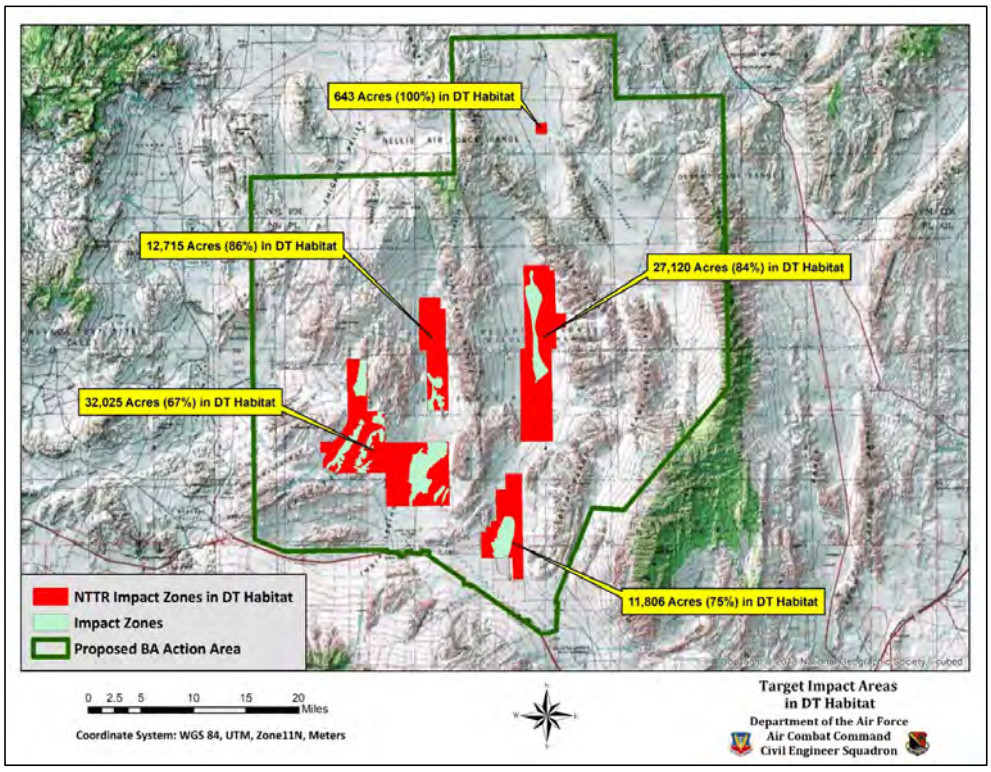

Figure 29. Target impact areas (per MOU with the USFWS) in DT habitat in the Eastern Action Area.

Most of the weapons delivery areas or targets are reused on a relatively frequent basis, which makes them less desirable for DT, although DT may traverse the areas in transit to other locations. DT can be killed or harmed if they are within the weapons delivery areas when they are in use. As discussed, weapons delivery areas are projected to experience a 30% increase in live munitions use in association with the proposed action. Direct impacts in weapons delivery areas include the following:

- Soil disturbance: Disturbance of soils can be caused by several different aspects of weapons delivery maintenance and use including excavation and clearing activities during construction of the area, movement of heavy equipment and targets on the area, construction and repair of targets, and exploding ordnance. Such activities can result in destruction of burrows, mortality of DT, removal of vegetation, and encroachment of invasive, undesirable plant species.
- Noise and vibration: Exploding ordnance, live munitions, aircraft and other weapon delivery systems, and heavy equipment used for maintenance and repair of targets can produce noise that may impact DT. Noise levels produced by vehicles, dropping of ordnance, and other sources of

noise can alter DT behavior or cause hearing loss, but actual noise effects on DT are difficult to assess and are not well documented. Noise can cause temporary displacement of DT or physiological stress, which will cause unnecessary increase in metabolic function. These noises may simulate that of natural sounds (i.e. thunder) to which many animals may be adapted to respond (United States Geological Survey (USGS) , 2007). Noise can cause temporary displacement with the tortoises fleeing and can also cause physiological stress (U.S. Department of Interior, 2012). Noise can also mask the sounds of approaching predators resulting in impediment of proper responses and potentially increasing predation (U.S. Fish and Wildlife Service, 1994B). Increased noise levels may cause a loss of auditory function in DT, which could lead to a loss of ability to detect and avoid predators (United States Geological Survey (USGS) , 2007).

- Vegetation removal: Exploding ordnance, vehicle and heavy equipment use, and target construction and maintenance can result in removal of vegetation or alteration in the plant community. These areas are often invaded by undesirable species of plants resulting in habitat degradation. Recovery of vegetation in the Mojave Desert can take long periods of time, especially without assistance by seeding or planting and irrigating impacted areas. Estimates of full, natural restoration of plant communities to the original state range from 33 to over 215 years (Vasek, Johnson, & Eslinger, 1975; Abella, 2010). Changes in the plant community can impact forage and cover for the DT and cause movement of DT out of impacted areas.
- Wildland fire: Fires can be initiated by exploding ordnance, flares, and chaff. These fires can potentially destroy or alter DT habitat and may result in mortality or take of DT.
- Dust and particulate air pollution: Exploding ordnance and soil excavation can result in the release of dust and an increase in particulate air pollution. This impact could be minimized by avoiding military operations on high wind days. Recent studies on surface dust impacts on plant gas exchange in Mojave Desert shrubs showed that dust reduced the photosynthetic rate and decreased the water-use efficiency of plants, which may result in decreased biomass production of plants during the growing season. Dust was also shown to increase leaf and stem temperatures (Sharifi, Gibson, & Rundel, 1997). Decreases in photosynthetic rates and biomass production can potentially impact DT populations by decreasing the availability of food and cover. It is doubtful that dust would directly impact the DT since it is a burrowing animal that is in contact with soil and dust during its excavation activities. Based on these premises, impacts of dust deposition on DT would likely be minor.
- Water: To minimize dust and particulate air pollution, water trucks are used to wet soil surfaces. This action can result in attraction of DT to weapons delivery areas. Direct impacts to the DT by this action can be one of the largest sources of DT mortality due to the additional attraction of DT to roads by water and the potential to be killed by vehicular traffic. This can be minimized by careful application of water to roads, which will prevent accumulation of water in depressions, potholes, etc. USAF personnel should be made aware that this action can result in encroachment of the area by DT.
- Depleted uranium: DT may be exposed by ingestion, inhalation, or dermal contact with low levels of depleted uranium that is used in some munitions. It is currently unknown if this has any effect on DT (U.S. Air Force, 2002A). Research on the effects of DU on wildlife and humans is minimal, in spite of its widespread use in the Gulf Wars. However, a significant amount of research has been conducted on the health effects of natural and enriched uranium. Because DU contains uranium at lower doses, one can assume that if uranium has effects, then DU has the potential for effects on organisms. Conversely, if uranium does not have epidemiological effects on humans and wildlife, then depleted uranium does not have those effects. Harley et al. (1999) completed an extensive review of the literature on the potential effects on DU on human

health, including soldiers with fragments embedded in their tissue or organs, and found that no evidence of epidemiological effects. In fact, no overall increase in population mortality has been observed due to exposure of humans and wildlife to natural uranium and harmful medical "effects from DU exposure" are not expected (Office of the Special Assistant to the Deputy Secretary of Defense for Gulf War Illnesses, 2000). In a later review, a small group of Gulf War veterans wounded with DU still excreted higher than normal levels of uranium in their urine, but no adverse health effects could be attributed to DU or the elevated uranium levels in the urine (McDiarmid, et al., 2004).

Other research has shown general information about negative effects of DU on health of other species. The effects appear to be dependent on the exposure pathway, duration, frequency, magnitude to a given life stage of the species. Miller et al. (2017) demonstrated that "non-DU exposed cells are influenced by their proximity to DU exposed cells." The bystander effect was determined to be real and can cause death of other cells that were not initially in contact with radiation. Other studies indicated that when animals were exposed to water soluble uranium compounds, high doses cause kidney damage, may affect the brain and other neurological functions, and adversely affect normal functioning of the liver, lungs, and heart (Katz, 2014). Other negative effects on humans and animals include developmental issues, altered behavior, and bone structure (Briner, 2010). The major route of exposure appeared to be inhalation of dust created by the explosion of DU munitions (Almuqdadi & Al-Ansari, 2013; Briner, 2010). Most of the research showing detrimental effects of DU focused on the release of radioactive dust following deployment and explosion of DU munitions. Hon et al. (2015) found that there is minimal risk associated with the handling and storage of DU, but toxicological and radio-toxicological effects result for inhalation or ingestion of dust particles "produced by the burning of the core of the anti-tank ammunition."

An environmental assessment was conducted at one of the ranges on the South Range Study Area (Range 63) and concluded that DT would not be detrimentally affected by use of depleted uranium on the target (Nellis Air Force Base, 2006). The assessment stated that research on the impacts of depleted uranium on wildlife is minimal, but based on the low population of DT in the area, no effect on the DT population was anticipated. In summary, exposure to DU appears to not have detrimental health effects on humans and animals, but dust particles inhaled or ingested after the burning of the DU core in weaponry can have detrimental effects. DU may be deployed to a limited extent on weapons delivery areas and some areas may be used to store targets exposed to DU munitions. Based on these studies and reviews, DU may potentially adversely affect individual DT as a result of this proposed action, but due to the limited use and the fact that exposure must occur during weapon deployment, it is unlikely to adversely impact the DT population on the Action Area.

- Hazardous materials: Weapons delivery areas are periodically cleaned and hazardous or unexploded materials are removed at that time. A project was conducted on NTTR to determine contaminants found in soils of bombing targets (Nellis Air Force Base, 1996). The conclusion of the project was that bombing and strafing activities on the NTTR generally do not cause surface soil contamination levels that would pose risks to on-site workers or the public. If the area is considered safe for humans, it is probably safe for DT populations. Therefore, it is unlikely that DT traversing a target site would come in contact with unsafe levels of metals or explosive materials.
- Vehicular traffic: Vehicles and heavy equipment are periodically used on weapons delivery areas for maintenance, repair, and observation. Potential take of DT could occur by these moving vehicles. In all cases, the vehicles would be restricted to access roads and the actual weapons

delivery area. Off road vehicle use may occur if ordnance or target materials are deposited off target by explosions, etc.

In general, some take of DT would likely occur as a result of weapons delivery systems. Take of DT can be minimized by encouraging use of targets in areas not potentially supporting DT populations. Additionally, with proper precautions and education of USAF personnel, take can be minimized.

Weapons Delivery Area Cleanup

As previously discussed, weapons delivery areas are periodically cleaned, repaired, or removed. If a target is located in DT habitat, activities could be monitored by a DT biologist to avoid impacts to DT populations. Other cleanup activities that could impact DT populations would include aircraft crash sites and off target ordnance explosions. Direct impacts potentially caused by weapons delivery areas cleanup include the following:

- Soil disturbance: During the cleanup operation, weapons delivery areas are often graded and individual targets may be replaced. Most of these operations require shallow excavation and minor soil disturbance. Because this occurs in areas that are repeatedly impacted, potential for DT to be present is less than in surrounding, undisturbed areas.
- Noise and vibration: Use of heavy equipment during the cleanup operation produces noise and vibration that may have minor and temporary impacts on DT populations.
- Dust and particulate air pollution: Excavation and soil disturbance associated with weapons delivery areas cleanup can result in the release of dust and increased particulate air pollution. Direct impact to the DT population would be minimal.
- Hazardous materials: Hazardous materials are removed from the target site during weapons delivery areas cleanup and impacts by these materials to DT would not be expected.
- Vehicular traffic: Vehicles and heavy equipment moving on access roads and on the weapons delivery area could potentially impact DT and result in DT mortality. This can be minimized by proper training of USAF personnel.
- Water: To minimize dust and particulate air pollution during weapons delivery area cleanup, water trucks are used to wet soil surfaces. This action can result in attraction of DT to weapons delivery areas. Direct impacts to the DT by this action would be considered minor.

Threat Emitters

Threat emitters are generally located along existing improved or unimproved roads. Approximately 15 emitters may be constructed as part of this action. Impacts associated with threat emitters include the following:

- Soil disturbance: Soil disturbance would only occur during the construction of an emitter site and any roads. Soil disturbance would involve clearing an area approximately 150 ft. by 150 ft. for each emitter; it is currently unknown the exact needs for roadways because that would be dependent on emitter placement within proximity to current roads, access needs, etc. For analysis purposes, it is assumed that approximately four acres of roadway would need to be constructed or improved for emitter site support. If the emitter and/or roadway is located in DT habitat, impacts can be avoided by construction monitoring and clearance surveys conducted by a qualified DT biologist. The roads may require periodic maintenance, usually on an annual basis. DT monitoring and other preventive measures may be required where roads are located in DT habitat. The potential maximum area of soil disturbance caused by this action in DT Habitat would be a total of approximately 7.5 acres for emitters (about 0.52 acres per emitter) and four acres for roadways, equaling 11.5 acres total.

- Vegetation removal: Vegetation would be permanently removed during construction of the emitter site. Because of the small area involved, loss of DT habitat (if located in DT habitat) would be considered minor.
- Vehicular traffic: Vehicular traffic would be increased slightly by the presence of a threat emitter for maintenance and use of the facility. Impacts to DT by this increase would be considered minimal, especially if personnel are trained in DT awareness.
- Noise and vibration: Each emitter requires a 1.5 kilovolt generator to operate. These generators produce noise that likely would not impact local DT populations. A study was conducted in the late 1990s that concluded that short term exposure to subsonic and supersonic aircraft noise do not appear to cause hearing loss or physiological changes in DT (Bowles, et al., 1999). The study did not determine the effects of chronic exposure to noise and noise in natural conditions (study was conducted in a lab). Noise originating from the generators would be much less than that of aircraft.
- Electromagnetic radiation, lasers and microwave transmissions: Electromagnetic radiation (EMR) and microwaves would be produced by some emitters and communications equipment utilized on the NTTR, and targeting lasers may also be used on the NTTR. At the present time, little is known about the impact of these emissions on DT. RF energy is absorbed by an animal in the form of heat. At relatively low RF energy intensities, the heat induced can usually be accommodated by a body. Thus, any effects produced would generally be reversible. At high intensities, the thermoregulatory capabilities of any given species may be exceeded, which could lead to thermal distress or even irreversible thermal damage.

  The impact of these emissions on wildlife was reviewed in a programmatic EA prepared for EMR at Eglin AFB in Florida. The EA indicated that EMR and microwave transmissions would have no effect on small mammals at ground level because of the exposure requirements and operational parameters of the emitter sources (i.e., actual emission sources are well above ground level, directed outward and upward, and are not static), which result in negligible emissions at ground level and minimal chance for extended exposure (U.S. Air Force, 2002B).

  The radar units are normally placed on an elevated surface and then emit skyward, with the beam constantly moving to either find or track moving objects. They are not pointed at the ground or placed along public roadways. Most radars have "elevation locks" which prevent them from aiming the detector/emission beam below the horizon. The safe separation distances between the emitters and people or other equipment are provided in feet based on the emitter type and power requirements, with the greatest distance under 1,000 feet (Bechtel SAIC Company, 2007). Human safety indicators are established for those personnel that conduct maintenance, testing or training with the emitters who may be in close proximity to the emitters for extended periods. Negative impacts to animal species would require exposure to the emitter beam for extended periods of time, which is unlikely given that the beam is not static and moves to either find or track an object.

  Balmori (2009) conducted research on the effect of continuous microwave and radiofrequency radiation from wireless telecommunication towers on wildlife. The research did not include reptiles, but amphibians were adversely effected, resulting in behavioral changes, decreased natality, and increased mortality. In studies investigating the effect of electromagnetic radiation on the African clawed frog (*Xenopus laevis*), no effects on the behavior, reproduction or mortality of the species was observed (Redlarski, et al., 2015). The article basically stated that claims of negative impacts of electromagnetic radiation on living organisms are unjustified and require

"systematic scientific verification." Further research, especially DT, is definitely required to make any definitive determinations on impacts.

Because DT are very close to the ground (below the emitter's "line of site" and horizon lock), it can be assumed that EMR and microwaves would have no effect on the DT. DT would need to be in direct contact with the emitter beam for an extended period of time to experience negative impacts, and this is unlikely to occur. Lasers would have potential impacts to vision and skin on small mammals and may have similar adverse effects on the DT. Impacts of lasers on wildlife has not been studied or documented and impacts are only assumed because of adverse effects observed in humans. However, the probability of a DT being exposed to a laser is extremely low because of their low profile. Thus, lasers are not likely to adversely affect the DT.

- Predation: Threat emitters may be placed on towers or other structures that provide a location for natural predators of DT such as ravens to nest and perch (Boarman, 2002). If raven nests are observed at an emitter site, they should be removed, but a Migratory Bird Treaty Act permit would be required. Perching or roosting can be discouraged with various methods commonly used at airports for bird management.

Infrastructure Construction and Maintenance

Buildings, roads, and equipment staging/storage areas require periodic maintenance and new facilities may require construction. These activities can definitely impact DT populations if they occur in potential DT habitat. Impacts can be minimized by construction monitoring and clearance surveys conducted by qualified DT biologists. Any trenches or holes excavated during operations should be covered or protected to exclude DT with temporary fencing. Most of these activities require environmental assessments (EA) or environmental impact statements (EIS) and formal or informal consultation with the USFWS. As previously discussed in the Action Description Section, up to 115 miles of security fences, depending on topography, (approximately 140 acres, based on a 10 ft. right-of-way (ROW)) may be constructed on the outer boundaries of the alternative expansion areas. Portions of this fence will likely cross DT habitat.

Impacts potentially caused by infrastructure construction and maintenance include the following:

- Soil disturbance: Soil disturbance is probably the major impact associated with infrastructure construction and maintenance. Construction activities can involve extensive shallow or deep soil excavation depending on the project. Impacts can be restricted to a building or infrastructure footprint or may involve extensive excavation along rights-of-way for installation of power lines, pipelines, or communication lines or construction of new roads. These structures may be constructed above or below ground. In all cases, soil disturbances would be significant and could result in take of DT and destruction of DT burrows if the activity occurs in DT habitat. Soil disturbance is also associated with maintenance of roads, parking areas, and utility rights-of-way. In many cases, these activities result in permanent removal of vegetation and, potentially, DT habitat. Any holes or trenches should be covered or temporarily fenced to prevent DT from falling into the hole. DT monitoring during activities will also prevent DT from falling into trenches or holes.
- Noise and vibration: Use of heavy equipment during construction and maintenance of infrastructure generally produces noise and vibration that may have temporary, minor impacts on DT populations in the immediate area.
- Vegetation removal: Most construction and maintenance activities associated with infrastructure results in permanent removal of vegetation and potential loss of DT habitat. In some cases, such as utility rights-of-way, native vegetation will be allowed to return to an impacted area.

- Dust and particulate air pollution: Construction activities and some maintenance activities can result in release of dust and particulate air pollution. This is minimized by application of water to the soil surface. However, dust and particulate air pollution probably has negligible impacts on DT.
- Hazardous materials: Hazardous materials may be used for construction of various infrastructure. Additionally, petroleum products and other fluids may be accidentally released during the operation of heavy equipment. Generally, these are quickly remediated and impacts to DT would be negligible.
- Vehicular traffic: Vehicular traffic in and around infrastructure construction would be temporarily increased. Depending on the location, this may impact DT populations. Training personnel on DT awareness would decrease the potential for take of DT by vehicular traffic. Depending on the infrastructure being constructed, an increase in traffic may be permanent.
- Water: Application of water to minimize dust production during construction can result in attraction of DT to an area. Construction personnel should be made aware of this potential, thus minimizing impact to DT populations.
- Predation: Accumulation of trash in and around construction sites can result in attraction of certain predators including ravens and coyotes that also prey on DT. Construction personnel should be instructed to properly dispose of trash and food wastes to prevent this from happening. Additionally, fences can provide perches for predators such as ravens.

Borrow Pits and Landfills

The construction of borrow pits and landfills causes significant impacts to DT. Approximately 539 acres of borrow pits are found on the Action Area of which 528 acres or 98% are in DT habitat. Loss or destruction of habitat can occur and DT can be displaced or harmed during the construction of borrow pits or landfills. Careful monitoring and clearance surveys during construction activities would minimize direct impacts to live DT. Landfill sites have the potential to increase numbers of predators, especially ravens and coyotes, due to accessible food (U.S. Fish and Wildlife Service, 1991). Landfills have been documented to impact DT by loss of habitat, introduction of hazardous materials, increased road mortality and attraction of predatory species, such as ravens (Boarman, 2002). Generally, on USAF lands, landfills and borrow pits require EAs and formal or informal consultation with the USFWS (if listed species are impacted) prior to construction. Specific impacts to the DT include the following:

- Soil disturbance: Construction and maintenance of borrow pits and landfills entails extensive excavation and grading. Additionally, monitoring wells may be required. These types of activities can result in destruction of burrows and potential mortality to DT. While they are in operation, borrow pits and landfills result in loss of DT habitat. Clearance surveys and construction monitoring by qualified DT biologists, as well as DT awareness training of personnel can minimize take of DT at these facilities.
- Noise and vibration: Heavy equipment and other vehicles on landfills and borrow pits produce noise that could have some minor impact on DT populations in the area. Vibrations caused by use of heavy equipment may impact DT populations in close proximity to the facility.
- Vegetation removal: Daily maintenance and construction result in relatively permanent removal of vegetation and DT habitat. If properly closed, some of these facilities may be restored to natural vegetation depending on permit requirements and other regulatory issues.
- Dust and particulate air pollution: Excavation activities in and around landfills and borrow pits typically produce dust and particulate air pollution. This would probably have little effect on DT populations in the area. Current air pollution regulations would also decrease the potential for impacts.

- Hazardous materials: Depending on the type of landfill, hazardous materials may be present. Also, fuels and lubricants can be released during excavation activities. Current regulations require that these be remediated or disposed immediately. Impacts to DT populations are not expected.
- Vehicular traffic: This type of facility would result in increased vehicular traffic which could result in take of DT. Proper awareness training of personnel can minimize this impact.
- Water: During excavation and daily cover activities, water may be applied to soil surfaces to decrease dust production. This can, in turn attract DT to the area. Personnel should be made aware of this potential event and how to respond.
- Predation: As previously mentioned, predators such as ravens and coyotes, may be attracted to trash and garbage on landfills. Current landfill regulations require that waste be covered on a daily basis, which should minimize attraction to predators. These predators can impact DT populations in the area.

Test and Evaluation

This action generally involves test and evaluation of various types of equipment including aircraft, ground equipment, enemy detection equipment, communication equipment, and others. Most of these activities will be staged in areas that have already been cleared for a specific use and additional impacts to DT populations would not be expected. However, the following are potential additional impacts that could be associated with this action depending on the equipment being evaluated:

- Noise and vibration: Testing of new aircraft and certain types of weapons delivery systems could result in noise and vibration emanating from flyovers at normal or supersonic speeds. Such actions could temporarily disorient DT populations, but overall impact would be expected to be minimal. As previously discussed, the effect of noise on DT populations is not well understood, but disorientation and loss of hearing are potential impacts.
- Electromagnetic radiation, lasers and microwave transmissions: Electromagnetic radiation (EMR) and microwaves would be produced by some emitters and communications equipment utilized on the NTTR, and targeting lasers may also be used on the NTTR. As previously discussed, this action is not likely to affect DT or DT habitat.

Battlefield Training

Battlefield training includes ground troops as well as the use of air and vehicle operations. This action may include para-drops, which is discussed in the "Insertion/Extraction and Overland Navigation" section that follows. Tortoise densities have been shown to decrease with the addition of military training but if training times were altered, impacts were minimized (Kristin H. Berry, 2016). As previously discussed, the actual number of activities and operations is not known at this time, but battlefield training conducted in DT habitat will be at a sufficiently low occurrence to ensure that effects to DT populations and habitat will not be adversely affected. Impacts associated with this action are discussed in detail in the Ready Access section and include the following:

- Soil disturbance: Soil disturbance would be considered minimal with this action. Most soil disturbances would be localized and small. This would usually be associated with trampling of soils by soldiers and soil displacement by vehicles.
- Noise and vibration: Battlefield training includes use of vehicles, blank small arms, hand flares, and smoke grenades which produce noise in some vibration in localized areas. Impacts to DT would be minimal, local, and temporary.
- Vegetation removal: Movement of troops and vehicles across interstitial areas (areas located between roads and trails) could result in damage to vegetation and DT habitat. In a desert setting, recovery from these impacts can take several years and can also result in encroachment of

invasive plants. Judicious location of troop activities in areas not potentially supporting DT populations and restoration of habitat following troop activities can minimize these impacts.

- Wildland fire: Battlefield training often involves use of flares and other munitions potentially causing wildland fires. Such fires can significantly impact DT habitat and vegetation depending on the size and temperature of the fire. This impact can be minimized by using proper precautions to prevent initiation of fires and rapid response to extinguish fires.
- Dust and particulate air pollution: Movement of troops can result in the production of dust and particulate air pollution. However, this would be considered minor and probably not impact DT populations.
- Vehicular traffic: Troop activities usually involve small groups of soldiers and not vehicles. However, movement of soldiers to an area would involve use of vehicles. Implementation of DT awareness training for troops would minimize impacts to DT by this action.
- Predation: Battlefield training can result in deposition of trash and food in local areas. Predators, such as ravens and coyotes, can be attracted by the trash in food and can prey on DT in the area. Training of troops in proper cleaning of battlefield areas will minimize attraction of predators to areas after training and, thus, minimize impacts to DT.

Insertion, Extraction, and Overland Navigation

Insertion, extraction and overland navigation will typically be conducted in areas that are not designated targets or weapons delivery areas. Ready access will allow implementation of this action on areas currently supporting DT populations. Most of the activities will be similar to troop movement discussed in the Ready Access section and have similar impacts on DT populations. However, these activities may also include the following impacts:

- Soil disturbance: Some level of soil disturbance may result from para-drops, especially those involving equipment on pallets. Touchdown and takeoff of fixed wing and rotary military aircraft will usually occur on unimproved surfaces and may result in some soil disturbances. Insertion points may be constructed as runways that are approximately 6000 feet long and 90 feet wide. One such runway will potentially be constructed in the dry lake in Alternative 3C and will impact approximately 13 acres. This location is not in DT habitat and not expected to impact DT populations. Para-drops can potentially result in accidental take of DT. Additionally, touchdown and takeoff of fixed wing or rotary aircraft can result in soil disturbance and take of DT.
- Noise and vibration: Most of the noise and vibration associated with this action would be caused by fixed wing and rotary aircraft. Noise and vibration would be localized and impacts to DT populations would be minimal.
- Vegetation removal: Para-drops, touchdown and takeoff of fixed wing and rotary military aircraft and troop movements can result in impacts to vegetation communities and DT habitat. These impacts would likely be temporary, but recovery of vegetation may take several years.
- Dust and particulate air pollution: This action can result in the release of dust and particulates, especially around fixed wing and rotary aircraft that may be landing and taking off. However, impacts to DT would be considered minimal.
- Vehicular traffic: As with most of these actions, an increase in vehicular traffic in the area may occur. Impacts to DT can be minimized by proper training of personnel.

INDIRECT IMPACTS

Indirect impacts include actions that potentially impact the DT but are separated from direct actions by time or distance. Indirect impacts to the DT caused by actions associated with the land withdrawal include the following:

- **Ready Access:** The implementation of Ready Access is expected to increase the activity on the Action Area by 30%. This may result in a corresponding increase in vehicular and aircraft traffic outside of the boundaries of the action area. Off-site DT populations could be impacted to some degree by this increase in noise and potential mortality on highways and roads. However, this would probably be minimal because many preventive measures to protect DT have been implemented on the highways in the area. Also, entry into the Action Area will be through gated entrances monitored by security forces or electronic monitoring systems. This ensures that only properly trained personnel will be entering the Action Area.
- **Weapons Delivery Areas:** Construction, maintenance, use, and repair of weapons delivery areas results in significant soil disturbance and vegetation removal. This, in combination with increased noise and activity, would likely displace DT populations from the immediate area, forcing them to move to surrounding areas. This could result in a slight increase in DT densities in habitat surrounding the weapons delivery areas. If the habitat can support the populations, this may not be an issue. Because the population density is apparently low on the Action Area, this indirect impact would be considered minimal. If a weapons delivery area is no longer in use and not projected to be used in the future, an effort should be made to restore DT habitat and vegetation on that area.
- **Weapons Delivery Area Cleanup:** Target cleanup on weapons delivery areas will have the same indirect impacts as those listed for weapons delivery areas. However, off-target cleanup associated with aircraft crashes and off-target explosions can result in long-term loss of DT habitat and displacement of DT populations from those areas. This indirect impact can be minimized by ensuring that off-target areas are restored to natural vegetation as soon as possible.
- **Infrastructure Construction and Maintenance:** Most of the indirect impacts of infrastructure construction and maintenance is associated with the increased activity and vehicular movement in and around the facility that has been constructed. This impact is easily minimized by proper DT awareness training of personnel. Additionally, new structures and facilities often produce trash that must be deposited in landfills and may require fill and other materials from borrow pits. Although these activities are covered in direct impacts, increase in their use is an indirect impact from infrastructure construction.
- **Borrow Pits and Landfills:** The USAF has no plans to use off-site landfills and borrow pits for construction of facilities on the action area. Therefore, no indirect impacts involving these actions is anticipated.
- **Battlefield Training:** As previously mentioned, some battlefield training activities could result in damage to vegetation and potential degradation of DT habitat. This can be minimized by proper DT awareness training of personnel. Like soil disturbing activities, this can result in displacement of DT populations and changes in density and dynamics of the populations in the area. This impact can be minimized by avoiding DT habitat for battlefield training wherever possible.
- **Dust and Particulate Air Pollution:** Dust and particulate air pollution can indirectly impact vegetation communities and DT habitat in the vicinity of the source of dust and particles. This is especially evident along unimproved roads and construction areas. Significant deposition of dust on vegetation can result in injury and death of plants. Also, encroachment of invasive plants can occur by dissemination of seeds from disturbed areas to surrounding areas. With proper precautionary measures, such as light wetting of surfaces o ruse of other dust suppression methods prior to vehicle use or construction activities, to minimize dust production, this impact would be minimal. However, dust production due to ordnance and live munitions cannot be controlled and some impacts to DT populations may be realized.

- **Abandoned Borrow Pits, Berms, and Construction Areas:** These areas often attract DT for construction of burrows if they are abandoned for extended periods of time. This would be a positive impact if the abandoned areas remain unused. However, if they are placed back into use, proper precautions should be made to ensure that they are checked for active DT burrows and use.
- **Impacts that may occur outside the Boundaries of NTTR and the Expansion Alternatives:** Impacts occurring outside of the boundaries of the action area are not anticipated, with the exception of increased vehicle or and aircraft traffic which is discussed above.

CUMULATIVE EFFECTS

Cumulative effects are the impacts of future local, state or private activities (non-federal), that may occur within the action area of the Federal action subject to consultation. Most of the Action Area is located in the Eastern Mojave DT Recovery Unit which appears to support a low density of DT. According to general surveys conducted in 2015 and 2016 in the Eastern Mojave Recovery Unit, DT population densities ranged from three to five DT/sq.mi. (U.S. Fish and Wildlife Service, 2016). This indicates that the DT population in this Eastern Mojave DT Recovery Unit is low, but relatively stable (U.S. Fish and Wildlife Service, 2011). Currently no future actions by state, local, or private agencies are anticipated to occur in the Action Area. If any unanticipated actions occur in the future, they are subject to review and approval by the USAF and would likely require an EA or EIS and formal consultation with the USFWS.

Proposed Minimization and Mitigation Measures for Each Program

Previous BiOps and formal/informal consultation with the USFWS have provided past guidance regarding DT management practices on the NTTR. Many of the management practices and mitigation requirements outlined in the BiOps have been implemented on the current NTTR and would be continued on the Expansion Alternatives. Recommendations for DT management are listed below and are intended to further conserve, manage, and monitor DT within the context of the military mission on the NTTR.

An Official Representative will be an Authorized Biologist who is responsible for implementation and oversight of compliance with recommendations, mitigation measures, reasonable and prudent requirements stated in the final USFWS BiOp prepared for this BA. The Official Representative will also ensure that the NTTR complies with all review and reporting requirements and any re-initiation requirements of regulatory procedures or documents. The Official Representative will be responsible for interagency cooperation among (but not limited to) private contractors, the USFWS, base personnel, and the USAF.

PROGRAMMATIC APPROACH TO CONSULTATION

The intention of this programmatic approach to consultation is to provide all necessary reasonable and prudent measures to ensure minimization of impacts and incidental take of DT by the USAF operations on the Action Area. This programmatic approach is used because specific information on individual projects potentially implemented by the USAF is currently not available. Thus, for each USAF action that may result in incidental take in the future, and incidental take statement should be provided to the USFWS to determine if it falls under the programmatic approach or will require additional formal/informal consultation.

ANNUAL REPORTING

USAF will provide the USFWS an annual report documenting any actions or the absence of any actions taken in compliance with the conservation measures and terms and conditions included in the final BiOp

for this action. Any actions resulting in "take" of DT will be reported to the USFWS within 24 hours. If a dead, injured, or diseased DT is found, the Las Vegas office of the USFWS Ecological Services should be notified as soon as possible.

FORMS OF TAKE

To ensure that protective measures are effective and being properly implemented and to document DT take, the USAF will notify the USFWS Ecological Services Division immediately if a DT is killed or injured by a project action. If possible, the project action should be temporarily stopped until the USFWS and the USAF have reviewed the circumstances surrounding the incident to determine if additional protective measures are required. Project activities may continue pending the outcome of the review provided that protective measures are continued. The previous BiOp estimated no more than one DT injury or mortality per year would be caused by USAF actions. Because of the increase in activity and area, this estimate may need to be increased. On NTTR, no DT have been injured or killed by military actions from 1999 to 2017 under any of the formal consultations and the current BiOp.

Take can only be estimated for a programmatic approach such as this because locations of specific actions have not been determined. These actions may or may not be located in potential DT habitat. Consultation with the USFWS can be initiated when the specifics are defined and the action is known to be impacting DT habitat. Estimated impacts to DT habitat (assumes that all actions are in DT habitat) are as follows:

- Fencing: A total of up to 115 miles of fence totaling 140 acres based on a 10 ft. ROW. It is estimated that about 90% of this fencing (126 acres) will likely be located in DT habitat.
- Threat emitters: 15 emitters at 0.517 acres per emitter, plus approximately four acres of roadway construction/improvement, totaling 11.5 acres. It is estimated that about 50% of this acreage will be located in DT habitat.
- Weapons Delivery Areas: No new areas will be constructed and impacts are not expected to exceed those that have already occurred under past BiOps and prior to DT listing. However, take of DT will likely occur due to military activities in these areas. DT take has not been documented for these area by past actions and anticipated take is expected to be minimal. However, survey of weapons delivery areas by a qualified DT biologist should be conducted at least once annually during weapons delivery areas cleaning activities. Estimated areas of impact for this action is listed below and is based on the area already impacted by past actions.
    - Fragment Impacted Areas:
        - Active Targets: 6,157 acres
        - Inactive Targets: 5,293 Acres
        - Total: 11,450 Acres
    - Soil Disturbed Area:
        - Active Targets: 2,207 acres
        - Inactive Targets: 1,045 Acres
        - Total: 3,252 Acres
    - Target Impact Areas: 84,309 acres

All DTs found in harm's way in project areas may be captured and moved to a safe location by a qualified DT biologist. The previous BiOp estimated that no more than five DT would be taken per year through capture and movement. Again, because of the increase in activity in area, this estimate may need to be increased during formal consultation for the new programmatic BiOp. Also, ready access exposes more DT to activities and may require more capture and movement. Based on the 30% increase in activity and ready access, take is estimated to be no more than seven DT per year through capture or movement and two DT incidental mortalities per year.

DT eggs and nests may also be disturbed or destroyed during surface disturbing activities, especially at weapon delivery areas and during infrastructure construction and maintenance. The previous BiOp estimated that the number of eggs and nests affected by the USAF activities would be one per year. This BA is not anticipating a significant increase in soil disturbing activities and, therefore, the previous estimate is probably accurate.

Weapons Delivery Areas will be surveyed at least annually by a qualified DT biologist to identify any mortalities that may have occurred at the target during the year. This information will be used to provide a more accurate determination of take in those areas. If mortalities are identified, frequency of surveys may be increased and a more extensive plan of DT monitoring of the target to move DT from harm's way may be required.

As discussed in the action section of this report, DT may be taken through predation by ravens drawn to trash in the project area. With proper trash management and DT awareness training, this level of take can be minimized, but will occur to some degree. An increase in this type of predation is not anticipated.

PROPOSED CONSERVATION MEASURES

The following sections are devoted to a discussion of reasonable and prudent measures that can be taken to minimize and avoid impacts to DT populations on the Action Area. Mission actions will be planned and sited in a manner to avoid DT and DT habitat whenever possible. Actions most likely to adversely affect DT will be scheduled during the less active seasons of the year for the DT, when possible. Almost all of these measures are being administered by the USAF under the requirements of the current programmatic BiOp for NTTR (U.S. Fish and Wildlife Service, 2003). The measures are listed according to the type of impact. The actual USAF actions associated with these impacts are described in detail in the action description section of the BA. Conservation measures as well as informal/formal consultation with the USFWS for future site-specific actions would be required when the USAF actions occur within the boundaries of potential habitat as delineated by the current habitat suitability model. Actions occurring outside of DT habitat according to the model will not require conservation measures of consultation.

An annual report should be prepared for the USFWS summarizing all DT surveys and monitoring on the Action Area. Mortalities, injuries, and translocation of DT should be documented in the report. Data providing information on the location and disposition of DT and DT sign observed on the action area should be provided.

Movement of DT from Harm's Way

If DT or their sign are observed within the boundaries of the NTTR, facility personnel or operations contractors should immediately call NAFB Natural Resources Manager to request a biologist for further evaluation. The USAF activities that may endanger a DT will cease if a DT is found in harm's way as a result of the activity. Project activities will resume after NAFB Natural Resources Manager has been contacted and an authorized biologist removes the DT from danger. Relocation and handling of live DT will be conducted according to the recommendations found in most current version of the Desert Tortoise Field Manual (U.S. Fish and Wildlife Service, 2009) which may be found at https://www.fws.gov/nevada/desert_tortoise/dt/dt_auth_form.htm.

On a case by case basis, as determined by the NAFB Natural Resources Manager and the USFWS, and based on the size (acreage) and the type of activities that will be conducted on proposed action sites, DT found and removed from the sites and perimeter areas may be fitted with a radio transmitter. DT may be moved up to one mile away from the project site as required to be out of harm's way. DT fitted with a radio transmitter will be monitored and data collected until the project is completed to determine

movement and possibility of DT returning to the area of capture. Returning DT will continue to be moved from harm's way until completion of the project. Telemetry data will be collected during the project monitoring phase and for the life of the transmitter or until the transmitter is removed from the DT. Telemetry data collected on DT moved out of harm's way will be provided to the USFWS in the annual report.

DTs that are moved offsite and released into undisturbed habitat will be placed in the shade of a shrub, in a natural unoccupied burrow similar to the burrow in which it was found, or in an artificially constructed burrow (Desert Tortoise Council, 1999) depending upon the time of year and ambient temperatures.

DT moved in the winter (November 1 through March 1) or those in hibernation regardless of date must be placed into an adequate burrow. If one is not available, one will be constructed using the protocol for burrow construction (Desert Tortoise Council, 1999). During mild temperature periods in the spring and fall, DT removed will not necessarily be placed in a burrow.

If a DT is encountered and appears to be experiencing heat stress, it will be placed in a tub, by an authorized DT biologist, with 1 in. of water in an environment with an ambient temperature between 76°F and 95°F for several hours, until heat stress symptoms are no longer evident.

Upon locating dead, injured, or sick DT, proper notification shall be filed with the USFWS Las Vegas office. Only qualified biologists should handle live, sick, or injured DT. Dead DT should be handled with care to maintain the carcass in good condition for subsequent analyses of cause of death. Sick or injured DT will be delivered to any qualified veterinarians for treatment or disposal. A form for all DT that are handled (live and dead) will be completed by the Official Representative and the qualified representative shall be responsible for the handling, storage, and updating of completed forms.

Soil Disturbance

In areas where potential impacts and soils disturbance are likely to persist over a long period of time, the project site should be cleared of DT prior to construction. The current BiOp allowed for 971 acres of DT habitat to be removed by use of targets and other military activities. Therefore, the assumption is that the 971 acres was completely used during the duration of the current BiOp. Preconstruction DT clearance surveys should be conducted no more than 48 hours prior to earth-moving or vegetation-disturbing activities, unless the impacted area is secured from entry by DT. Clearance surveys should be coordinated with the Nellis Natural Resources Manager well in advance of any project. In addition, a perimeter around the project area should be cleared, as determined by the Nellis Natural Resources Manager and the USFWS. The determination to conduct perimeter clearance and the width of the perimeter will be made by Nellis Natural Resources Manager and will be based on the location of the project in DT habitat according to the current DT habitat map. A DT monitor will be present on the project sites during all project construction/earth-moving activities until the project is completed. Any DT or eggs found within the project area will be properly removed by a qualified DT biologist (Desert Tortoise Council, 1999).

For areas that would be temporarily disturbed or where restoration is proposed, the top 6 inches of soil will be excavated separately from deeper soils and stockpiled in a separate location. Any excavations should be backfilled with deep soils first, with the topsoil being backfilled as the final layer. This allows the site to have a final layer of soil that approximates original soil conditions and that contains a relatively healthy seed bank for regrowth of vegetation, thus rectifying potential soil displacement. Soils may be lightly rolled or compacted to reduce the potential for wind erosion. Excavated holes and trenches should be covered or surrounded with DT proof fencing until they are backfilled. A qualified DT monitor should be present during excavation activities to ensure that DT do not fall in holes or trenches.

Additionally, the USAF will implement other impact minimization procedures associated with permit-related requirements for construction. Most of these practices specifically target minimization of soil erosion and loss. Where practicable, the impacted surface will be brought back to original contours and erosion control measures will be used to maintain the soil in place. Sediment fences will be placed around the construction site to prevent movement of soils, sediments, and construction materials off-site during storm events. The excavated areas will be lightly wetted to minimize dust production. Application of water will be carefully controlled to prevent puddling and subsequent attraction of DT to the area.

Construction of roads, blading of existing roads, or other surface disturbance associated activities will be confined to the locations authorized by the Nellis Natural Resources Manager and will not exceed the minimum size required for safe usage. Roads will be lightly wetted to minimize dust production during maintenance activities and heavy use. Application of water will be carefully controlled to prevent puddling and subsequent attraction of DT to the area. Vehicular speeds will be maintained at 25 MPH in DT habitat.

Disturbance of DT burrows will be avoided from May 15 to September 30 to prevent impacts to buried egg clutches and emerging hatchlings. If this is not possible, active burrows impacted by the action must be carefully excavated or inspected with a fiber optic scope to determine if eggs are present. Eggs found in burrows must be removed and placed in a new burrow in suitable habitat according to the current recommendations found in *Guidelines for Handling Desert Tortoise during Construction Projects* (Desert Tortoise Council, 1999). Following the inspection of burrows for DT, all burrows must be collapsed to prevent future use.

All disturbance of DT habitat associated with existing targets and projects will be limited to the current acreage of target impact areas, not including roads. Remuneration fees or habitat restoration will only be required for new areas of soil disturbance based on the maps provided in Figures 5-8 and 27-29.

Any areas temporarily impacted by excavation and other activities will be returned to original contours and allowed to naturally return to the original habitat. Encroachment of weeds and invasive species will be managed and removed by mechanical, hand, and/or chemical methods in accordance with the Nellis AFB Pest Management Plan (Nellis Air Force Base, 2013). If logistics do not allow these procedures, the USAF will pay the remuneration fee for destruction of habitat based on the current rates determined by the Clark County DT Habitat Conservation Fund.

As an alternative to remuneration fees, the USAF may fund and implement DT habitat enhancement projects on the withdrawn land. The project cost should approximate the calculated cost of remuneration fees. DT habitat projects will be developed and approved by the USFWS prior to implementation of activities covered under this BA, but those habitat projects do not necessarily need to be completed before the covered activity begins. DT habitat projects and remuneration fees can be combined to mitigate impacts.

Vegetation Removal

Any vegetation temporarily impacted by excavation, maintenance, training, and other activities will be returned to original contours and allowed to recover naturally. Native plants may be seeded for germination following the first storm event after project completion. Initial irrigation may be used to stimulate germination of seedling plants but should not to be continued to prevent adaptation of the plants to an artificially wet environment with shallow surface moisture. If nursery stock is used for replanting, all plants should be native and endemic to the specific area. Natural recovery of areas is preferred to seeding and planting.

As previously discussed, the top 6 inches of soil will be excavated separately from deeper soils and stockpiled in a separate location. Any excavations should be backfilled with deep soils first, with the top-soil being backfilled as the final layer. Excavated areas will be brought back to original contours where practicable. Soils may be lightly rolled or compacted to reduce the potential for wind erosion.

Encroachment of invasive plants in disturbed or restored areas should be prevented, and any invasive plants that become established should be removed. Excavation and construction equipment should be cleaned thoroughly before traveling from one area to another on the NTTR. Off-road vehicle use should be minimized whenever possible to decrease the spread of invasive species such as red brome, Russian thistle, halogeton, and cheatgrass. Wherever possible, maintenance of road shoulders will be minimized to prevent the spread of invasive plants. Those areas should be managed to develop native plant populations.

Noise and Vibration

The USAF will minimize and avoid excessive noise and vibration associated with various construction and military operations where possible. However, impacts to the DT by this type of action are not well understood, but appear to be minimal at best.

Wildland Fire

The USAF currently has a wildland fire management plan in place for NTTR. This plan will be expanded to include the alternative expansion areas if they are included as part of the withdrawn land. As part of the wildland fire management plan, USAF personnel will be trained to properly respond to the incidences of wildland fire. Implementation of this plan will ensure that wildland fires will be minimized and impacts to DT due to wildland fires will also be minimized.

The USAF will adhere to the following DT management recommendations by the BLM with respect to fire suppression activities (USDI-BLM, 1998). While safety is paramount, the following guidelines for DT conservation should be considered for all fire suppression activities:

- Utilize the current Mojave Desert Initiative (MDI) guidelines.
- Minimize acres burned through rapid fire suppression.
- Avoid spreading non-native plants by ensuring that all firefighting equipment has been cleaned before entering the area.
- Use the current map for potential desert tortoise habitat as designated by the USFWS and mapped by the NNRP to determine where special consideration suppression tactics will be conducted.
- Fight wildland fires aggressively in order to minimize burned acreage. Actions will be compatible with appropriate suppression options.
- Minimize soil surface disturbances during fire suppression
- Limit the use of mechanized equipment when possible
- Restrict use of firefighting equipment/vehicles to existing roads and trails when possible.
- The use of aerial retardant is authorized in the BLM fire management plan and is the preferred method of fire suppression. Foam or fugitive retardant is preferable to iron oxide retardant in DT habitat.
- Establish fire camps, staging areas, and helispots in previously disturbed areas outside mapped DT habitat. If possible, this should be accomplished in consultation with a qualified resource advisor from BLM or NNRP.
- Provide all firefighters and support personnel with a briefing on DT and their habitat to minimize tortoise injuries and destruction, particularly those associated with vehicle use.

It is important to note that if the Eastern Action Area continues to be under the jurisdiction of the USFWS as a potential wilderness area, the general rule will be to not aggressively fight wildland fires un-

less they are jeopardizing land outside of the boundaries of the NTTR or important military assets located within the boundaries of the NTTR.

Dust and Particulate Pollution

Dust and particulate pollution is not expected to have significant impacts on DT populations. As discussed earlier, dust can impact vegetation, which in turn can affect the DT by decreasing the available forage. In an effort to minimize this potential, the USAF will comply with all regulations required for construction and military activities to minimize production of dust and other particulates into the air. It is recognized that use of water to decrease dust production can inadvertently attract DT to roads and construction sites. However, current particulate pollution standards require that dust be contained on construction sites and along roads. Therefore, the USAF will minimize use of water where practicable and when water is used for dust control, it will be used sparingly to avoid puddling and accumulation of water in a manner that attracts DT. Alternatives for dust control will also be explored and include implementation of dust abatement measures using a soil stabilizer (e.g., application of dust palliatives [e.g., polymer emulsion or synthetic fluid]) to reduce impacts from dust.

Vehicular Traffic

The USAF, contractors, and other personnel should check under their vehicles prior to moving if the vehicle has been parked for more than a few minutes in DT habitat. Additionally, signs in parking areas of projects or facilities located within DT habitat should be posted to remind personnel to check under their vehicles prior to moving them. Relocation of a live DT found by personnel will be conducted by a qualified DT biologist according to the recommendations found in most current version of the Desert Tortoise Field Manual (U.S. Fish and Wildlife Service, 2009).

Speed limit of 35 mph will be maintained on paved roads in DT Habitat. Speed limits of 25 mph will be maintained for all regular vehicle travel on gravel roads in DT habitat. Speed limit of 15 mph will be maintained on two-track roads and trails.

Signage will be posted to clearly delineate areas within potential or known DT habitat where off-road vehicle use is prohibited. If necessary, fences with appropriate signage should be implemented in problem areas. Signs should be posted no further than 300 feet apart and facing outward from restricted areas. Off-road vehicle use in DT habitat will be minimized or avoided where allowed by military operations and constraints.

Although DT activity at night is rare, convoys and other night vehicular traffic planned for the Action Area should be made aware to watch for DT on roads. The day after convoys are conducted, the routes should be inspected for mortalities and those reported immediately to the Nellis Natural Resources Program Manager.

Water

Minimization of dust production in and around construction sites and some military activities often involve application of water via water trucks and other methods. Accumulation of water can result in attraction of DT to those areas. The USAF, contractors, and visiting personnel will be made aware of this potential and to be more cognizant of the occurrence of DT in these areas to avoid impacts.

Water can also accumulate in depressions and potholes on roads and construction areas following the storm events. These also serve as attractants to DT and personnel should be aware of the potential occurrence of DT in those areas. The USAF will periodically maintain roads and parking areas to remove these depressions and potholes.

Electromagnetic Radiation

The impact of electromagnetic radiation on DT is not fully understood at this time. As more information is procured on this type of impact, the USAF will implement methods to minimize impacts to DT, if possible. However, current literature indicates that adverse impacts to the DT from threat emitters would be unlikely and discountable due to the fact that the DT remain close to the ground, out of the range and emission zone of emitters. Also, impacts from emitters are associated with chronic, long term exposures, which are not likely for the DT.

Predation

Signage, fencing, power poles, and antennas will only be installed where required to minimize elevated perches for predators. If raven nests are discovered in DT habitat they will be removed by a qualified biologist and in compliance with the Migratory Bird Treaty Act.

All trash and debris will be regularly collected and contained in covered containers to minimize attracting potential predators of the DT (ravens). This program will include the use of covered, predator-proof trash receptacles and proper disposal of trash in a designated solid waste disposal facility. Vehicles hauling trash to the landfill and leaving the landfill must be secured to prevent litter from being released along the road.

Landfills should be properly managed and maintained to reduce the potential for scavengers such as ravens, dogs, and coyotes to congregate in areas used by DT. Appropriate fencing maintained around these facilities would reduce the potential for terrestrial animals to access these facilities, and best management practices such as sorting trash with high organic matter (i.e. foodstuffs) and burying it immediately with sufficient cover will reduce the occurrence of potential predators of DT. At the present time, no municipal or hazardous waste landfills (as opposed to construction and demolition landfills) are located in DT habitat and none are planned to be constructed.

Hazardous Materials/Depleted Uranium (DU)

The USAF will comply with all state and federal regulations to accommodate or remove hazardous materials and DU from target sites, construction sites, etc. Based on this information, the effect of DU on DT is anticipated to be minimal as a result of the proposed action.

Fencing

Some construction projects (i.e. vehicle demolition areas, explosive demolitions ranges, equipment staging or storage areas, etc.) may involve installation of fences that can impede movement of DT into the areas. Following the installation of new fencing, enclosures should be searched for presence of DT or their sign using 100 percent coverage techniques. Any identified DT burrow will be inspected to determine occupancy. Surveys will be conducted for enclosed areas unless a prohibitive risk of surveyors to explosive ordnance or demolitions activities impedes surveying activities. Enclosed areas will be surveyed a total of three times unless the results of the second survey determine conclusively that DT are not present within enclosures.

The previous BiOp originally required DT proof fencing to be constructed around some of the targets located in the South Range of the NTTR. Because of excessive damage and difficulty of maintaining these fences around live munitions targets, this requirement was amended and the amendment is recommended for this BA. DT should be removed from harm's way following standard procedures delineated in this BA.

With respect to boundary fencing, direct removal of vegetation and ground disturbance should be minimized. Bulldozer clearing or other major soil disturbing methods should be avoided. In areas with heavy vegetation, irregularly shaped fence line clearings should be used rather than fence lines with uniform

clearing widths. Mechanical clearing can be used if accompanied by actions that minimize soil loss and allow restoration of native vegetation.

Periodic monitoring of the fence and maintaining the fence in a usable condition, consistent with the original as-built standards, could be conducted. In addition, the fence line and access roads should be monitored for invasive plant species and appropriate invasive plant control measures should be implemented when required. Measures to decrease use of fences for perching of predators should be implemented where required.

Awareness Training

Contractors, military personnel, and any visitors on site will be provided with DT awareness training to recognize DT and DT sign. The program will be presented by an authorized DT biologist for projects causing the greatest potential for destruction of DT habitat. A video or fact sheet, as approved by the USFWS, may be presented or provided in lieu of a presentation for projects with low impact potential as determined by the Nellis Natural Resources Manager. Records of training provided to each individual will be signed upon completion of training by each individual and those records will be maintained by the Nellis Natural Resources Manager. Contact information for the Nellis Natural Resources Manager shall be included on any fact sheets or handout materials.

Environmental staff will conduct awareness briefings for all personnel working in DT habitat. These briefings will be conducted either in person or via a video presentation of the briefing. At a minimum, the briefings will include discussions of:

- General provisions of the Endangered Species Act
- Necessity for adhering to the provisions of the Act
- Potential for civil and criminal penalties associated with violating the provisions of the Act
- Terms and conditions of the USFWS BiOp that are applicable to the activity
- The definition of “take”
- The exact boundaries of the site within which the project activities may be accomplished
- General behavior and ecology of the DT and its sensitivity to human activities
- Measures to protect DT
- Proper disposal of food and trash to avoid attracting predators of DT
- Personal measures employees can take to promote the conservation of DT
- Specific and detailed instructions will be provided on the proper techniques (preferably by a qualified biologist, if practicable) to capture and move a DT that may be in imminent danger (on a heavily traveled road, on an active project site, or under a vehicle) in accordance with the USFWS approved protocol.
- Instructions for personnel to inspect beneath their vehicles while in DT habitat prior to moving the vehicle. If a desert tortoise is found beneath the vehicle, it will be moved by environmental staff or by project personnel in accordance with guidelines provided to them during the awareness briefings.
- Reporting requirements when DT are observed, moved, injured, or killed

Conclusion

It is the conclusion of this BA that if the conservation measures delineated by the BA are properly administered, military activities described in this BA may adversely affect DT populations on the action area. Based on the low-density population of DT on the Action Area and the implementation of proposed conservation measures, DT take is anticipated to be minimal. Estimates of take are the following:

- Seven DT per year through capture or movement from harm’s way

- Two DT per year mortality
- Total of 11.5 acres of DT habitat for emitter/roadway construction
- Up to a total of 126 acres of DT habitat for fence construction
- No additional habitat will be destroyed for target construction or use over the current acreage in DT habitat. Acreage of DT habitat impacted by soil disturbance on weapons delivery areas is 3,252 acres.
- Area of DT habitat potentially impacted by bomb fragments is 11,450 acres.
- Area of DT habitat in target impact zones is 84,309 acres
- Total additional DT habitat taken by construction, excavation, and other activities (in excess of current baseline impacts) that is subject to remuneration: 150.5 acres

Total take of DT habitat anticipated by the proposed action above those areas that have been currently impacted or impacted in the past are shown in Table 7.

Table 7. Take of DT habitat anticipated as a result of the proposed action

Action	Current DT Habitat Impacted by Action (Acres)	Estimated DT Habitat Impacted by Action (Acres)	Increase or Change in Impacts (Acres)	Notes
Weapons Delivery Areas—Soil Disturbance	3,252	3,252	0	Activity at weapons delivery areas is expected to increase by 30%
Weapons Delivery Areas—Explosive fragments from munitions	11,450	11,450	0	Activity at weapons delivery areas is expected to increase by 30%
New Threat Emitters--Facility	---	7.5	7.5	
New Threat Emitters—New Roads	---	4.0	4.0	Established roads will be used, if possible
Borrow Pits/Landfills	528	528	0	No new borrow pits or landfills are planned.
Landing Zone (Alternative 3C)	0	13	13	
Fencing	---	126	126	Approximately 115 miles of new fence

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USFWS Biological Opinion

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Southern Nevada Fish and Wildlife Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130

IN REPLY REFER TO:
08ENVS00-2018-F-0028

August 16, 2018

Lieutenant Colonel Patrick J. Kolesiak
Department of the Air Force
99 CES Commander
6020 Beale Avenue
Nellis Air Force Base, Nevada 89191

Subject: Programmatic Biological Opinion for Activities and Expansion of the Nevada Test and Training Range

Dear Mr. Kolesiak:

This transmits the U.S. Fish and Wildlife Service's (Service) programmatic biological opinion (PBO) based on our review of programmatic activities proposed in your November 2017, programmatic biological assessment (BA). On May 9, 2018 we received complete information for consultation. This consultation evaluates potential effects on the federally threatened Mojave desert tortoise (*Gopherus agassizii*), in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act; 16 U.S.C. 1531 et seq.). Because no critical habitat will be affected by the proposed action, critical habitat will not be discussed further. The United States Air Force (USAF) did not identify effects to or request consultation for any other species listed under the Act.

BIOLOGICAL OPINION

In accordance with the Act and 50 CFR § 402 of our interagency regulations governing section 7 of the Act, this programmatic biological opinion was prepared in response to your November 29, 2017, request for formal consultation and biological assessment (USAF 2017a); December 2017 draft legislative environmental impact statement (USAF 2017b); Service guidance for programmatic biological opinions (Service 2003); Integrated Natural Resource Management Plan (INRMP) (Nellis Air Force Base [NAFB]) 2010); July 11, 2018, comments on the draft biological opinion; discussions and emails between Service and USAF staff; and our files. This PBO completely replaces the June 17, 2003, Programmatic Biological Opinion for Activities on the South Range of Nellis Air Force Base, Nevada Test and Training Range, and the Nevada Training Initiative, Clark and Lincoln Counties, Nevada (2003 PBO). A complete administrative record of this consultation is on file in the Southern Nevada Field Office, Las Vegas, Nevada.

CONSULTATION HISTORY

On June 12, 2003, we completed the Programmatic Biological Opinion for Activities on the South Range of Nellis Air Force Base, Nevada Test and Training Range, and the Nevada Training Initiative, Clark and Lincoln Counties, Nevada (2003 PBO). The consultation history for the Nevada Test and Training Range (NTTR) activities prior to June 17, 2003 is provided in the 2003 PBO for consultation File No. 1-5-02-F-0522. Based on the USAF's biological assessments, this consultation and a previous one in 1994 (1-5-94-F-162), analyzed disturbance for only 971 acres of the current target impact areas within the NTTR South Range; the 971 acres were only the discrete targets and did not include the additional disturbance created beyond the discrete target (i.e., the entire target impact area). The USAF estimates 3,252 acres of desert tortoise habitat was disturbed as a result of target impact areas over the past 23 years (USAF 2018).

On May 10, 2004, we received your request to amend the PBO to modify Term and Condition 1 of the PBO and Condition 1 with desert tortoise monitoring and clearing in lieu of exclusionary fencing. On June 30, 2004, we issued amendment 1-5-02-F-522.AMD1.

On July 28, 2009, we received your July 20, 2009, letter requesting our concurrence with your delineation of desert tortoise habitat on the NTTR provided on the May 12, 2009, map that accompanied your request. On August 27, 2009, we concurred that the habitat map, at that time, provided the best information to represent desert tortoise habitat at NTTR, however because habitat delineations can only provide an estimate of such areas, it is likely that areas mapped as potential habitat are not occupied at this time by desert tortoises and tortoises may occur outside areas identified as potential desert tortoise habitat on the map.

On August 3, 2010, we received the August 2, 2010, USAF request to append the 2003 PBO (File No. 1-5-02-F-0522) with the Expedition Readiness Training Course Expansion. On August 18, 2010, we issued an append (84320-2010-F-0422).

On December 5, 2011, the Service contacted the USAF for a reporting request of take under the PBO. The USAF reported take as H1, M=0, and acreage=640 (H is harm or harass, M is mortality and acreage is the area of disturbed habitat). On March 1, 2012 we spoke with USAF representatives.

On January 26, 2012, we requested (File No. 1-5-96-F-278) a take report for Weapons Testing/Training on the Weapons and Tactics Center Range Complex (Reinitiation of Biological Opinion 1-5-94-F-162). On March 1, 2012, it was reported by the USAF that there was no information available on desert tortoise take. Consultation File No. 1-5-96-F-278 is a reinitiation for 1-5-94-F-162. Due to the lack of information on the action the Service assigned take as the maximum allowable over the 9-year activity period of this biological opinion: H90, M-l=18, and 971 acres.

On February 9, 2017, the Service met with USAF representatives to discuss the biological assessment, proposed actions, and section 7 consultation.

On July 18, 2017, the Service met with USAF representatives to review and discuss a desert tortoise model for the NTTR and section 7 consultation. A draft BA was submitted to the Service to review.

On September 8, 2017, the Service provided comments on the first draft BA to USAF representatives.

On September 18, 2017, the Service and USAF representatives discussed comments on the BA in a conference call.

On September 29, 2017, the USAF provided a second version of the BA to the Service for review. On November 15, 2017, the Service provided comments on the second version of the BA.

On November 30, 2017, the USAF requested formal consultation.

On March 1, 2018, the Service met with USAF representatives to discuss and clarify the proposed action.

On March 15 and May 9, 2018, the USAF submitted errata clarifying the proposed action and conservation measures in the BA.

On June 18 and August 9, 2018, the Service submitted the draft PBO to the USAF for review. We received comments from the USAF on July 11, and August 14, 2018 respectfully.

PROGRAMMATIC CONSULTATIONS

This PBO was prepared to address potential adverse effects to the Mojave desert tortoise as a result of programs described in the USAF's BA and 2017 draft NTTR legislative environmental impact statement. This PBO analyzes the potential effects of implementing USAF actions, or actions funded or authorized by the USAF. This biological opinion addresses mixed programmatic actions which means, for purposes of an incidental take statement, a Federal action that approves action(s) that will not be subject to further section 7 consultation (hereafter, referred to as mixed programmatic), and also approves a framework for the development of future action(s) that are authorized, funded, or carried out at a later time and any take of a listed species would not occur unless and until those future action(s) are authorized, funded, or carried out and subject to further section 7 consultation.

To streamline section 7 consultation for actions affecting the desert tortoise, we established a framework for actions requiring additional project-specific consultation that will be appended to this programmatic biological opinion (hereafter, framework and project-level are used interchangeably to refer to these types of actions). Proposed actions anticipated to result in adverse effects to desert tortoise habitat exceeding 20 acres are considered project-level actions and subject to further section 7 consultation before the USAF can authorize and implement the action. Further consultation will result in separate project-level analysis and documentation that

are appended to this PBO and include exempted incidental take for that specific action. Proposed actions anticipated to result in adverse effects to desert tortoise habitat equal to or less than 20 acres and those actions described under the USAF's Weapons Delivery Areas are mixed programmatic actions and the resulting incidental take is evaluated and included as exempted, as described in the incidental take statement included within this document.

The PBO and the appended project-level documentation, fulfill the consultation requirements for implementation of both mixed programmatic and framework programmatic actions.

The term of this biological opinion is valid until one of the four reinitiation triggers is reached or until the expiration of the USAF's proposed land withdrawal, which is expected to be 20 years. In this PBO, the Service determined the overall anticipated incidental take of desert tortoise for all proposed USAF activities in the action area by program in the NTTR (including both mixed and framework programmatic actions). As each action is submitted by the USAF to the Service to be appended to this PBO, the Service will determine the anticipated incidental take for each action, at the project level, as a subset of the incidental take anticipated in the PBO. All estimates of proposed disturbance and incidental take are new to this PBO and not carried over from the previous PBO. The PBO supersedes and replaces earlier PBOs.

Reports prepared by the USAF and submitted to the Service for review assure that the effects analyses in the PBO are accurate including a comprehensive review of how the PBO is working, and whether its implementing procedures are in compliance. The USAF will submit information on all projects and their effects to desert tortoise and other listed species in annual reports (due January 31st following each calendar year). During this review, the environmental baseline should be reviewed and updated as needed to account for unanticipated effects or the lack of anticipated effects. The USAF would be responsible for accurately reporting any incidental take of listed species to the Service that occurs in association with actions covered under this PBO.

MIXED PROGRAMMATIC PROCEDURES

Future USAF actions are expected to fall within the scope of one of the eight programs described herein; however, some projects may not match the proposed action for any of these programs but the effects to listed species are similar. In such cases, the USAF will cover the action under the most appropriate program in the PBO.

The USAF and the Service may, through a Federal nexus to a USAF action, extend USAF discretion to non-Federal lands and cover future actions under this PBO if all involved parties agree in writing that the USAF will exercise total discretion and oversight over the action throughout the action area during activities that may result in adverse effects to listed species. The USAF must have sufficient involvement or oversight over the project to ensure compliance with this PBO and all required measures in the appended consultation document. The USAF may delegate specific responsibilities to other agencies but would remain the ultimate responsible entity for compliance with section 7 of the Act. The USAF and the Service will agree on the extent of the USAF's responsibility for compliance during the project-level consultation.

This consultation covers the activities of the USAF, and other Federal agencies and non-Federal entities if the following are met: (1) a nexus exists to a NTTR action, (2) all discretionary Federal

agencies that are involved in the project or action agree that the NTTR is the lead office for the consultation, and (3) the NTTR has discretion over the action to enforce terms and conditions of any incidental take exemption for the action. The scope of the proposed action is established by acreage thresholds for each program and sub-program as identified in Table 1.

If a project is proposed on non-Federal lands that falls under purview of a section 10 incidental take permit (e.g., the Clark County Multiple Species Habitat Conservation Plan) and involves a nexus to a USAF action with adverse effects to the desert tortoise, such projects may be covered or appended to this PBO. The project-level consultation would evaluate only the effects of the Federal component as effects to the non-Federal portion were analyzed prior to issuance of the section 10 permit. For example, if a project involves effects to USAF land below 20 ac of desert tortoise habitat, the project may proceed as stated above; if the USAF acreage threshold is exceeded, the project would be appended.

MIXED PROGRAMMATIC ACTIONS

Federal actions that may adversely affect less than 20 ac of desert tortoise habitat and those actions described under the USAF's Weapons Delivery Areas (program-level) may proceed without further review by the Service beyond the programmatic level, provided the USAF requires appropriate protective measures in accordance with the measures outlined in this PBO and terms and conditions of the incidental take statement; the USAF will track this activity and include it in the annual report provided to the Service within the required timeframe (see Reporting in Proposed Measures to Minimize the Potential Effects of the Action); and the USAF has discretion over the action and will provide sufficient oversight to ensure compliance with this PBO. Federal actions not described under the USAF's Weapons Delivery Areas that exceed the acreage threshold (project-specific) will follow the appended procedures for framework programmatic actions described below. The Service and USAF may revisit and modify the thresholds during the term of this PBO if information becomes available that project effects to the desert tortoise differ from our analysis. No take exemption is provided at the programmatic consultation level for listed species other than the desert tortoise.

FRAMEWORK PROGRAMMATIC ACTIONS

The following general steps should be followed for future actions to be appended to this PBO:

Step 1. The USAF will submit a request by hard copy to the Field Supervisor of the Service's Southern Nevada Fish and Wildlife Office, to append the action to the PBO. Part A of the Request to Append Action Form provided in Appendix A should be completed for each action to be appended to the PBO.

Step 2. The Service will review the request and determine if the information is sufficient. If the information is insufficient, the Service will promptly notify the USAF. Incomplete information will likely delay the Service's response. If the information is sufficient, the Service will prepare a response for Part B of the form in Appendix A appending the action to the PBO. Prompt processing of appended actions will be dependent upon complete information on the project including all minimization measures and status of the desert tortoise in the action area including recent desert tortoise survey results unless agreed to otherwise during action development.

Step 3. The Service will respond to the USAF by email and a hard copy of the Request to Append Action Form will be filed in the Southern Nevada Fish and Wildlife Office. The regulatory timeframe to complete formal consultation and deliver the biological opinion to the Federal agency is 135 days. However, the estimated time required for the project-level consultation under programmatic consultation procedures is based on the scope of the action and the potential effects to listed species. For example, a project that would disturb 40 ac and relatively few tortoises may require 30 days to complete while a 100-ac project with a complex effects analysis may require 90 days.

Step 4. Once the Service response has been received, the USAF may proceed with the proposed action.

DESCRIPTION OF THE PROPOSED ACTION BY PROGRAM

The USAF proposed action is to continue current weapons systems testing and training on the existing NTTR and acquire additional expansion areas for its proposed activities as described in alternatives 2, 3A, 3B, and 3C of their draft environmental impact statement (Figure 1). The NTTR is used for testing and evaluation of weapons systems, tactics development, and advanced combat training. Most recently the NTTR was withdrawn from public use for 20 years under the Military Land Withdrawal Act of 1999, Public Law (P.L.) No. 106-65 (MLWA) approved October 5, 1999. The current withdrawal is scheduled to expire November 6, 2021. The USAF is proposing to Congress to approve a new withdrawal that would allow it to continue its operations and expand them into additional areas.

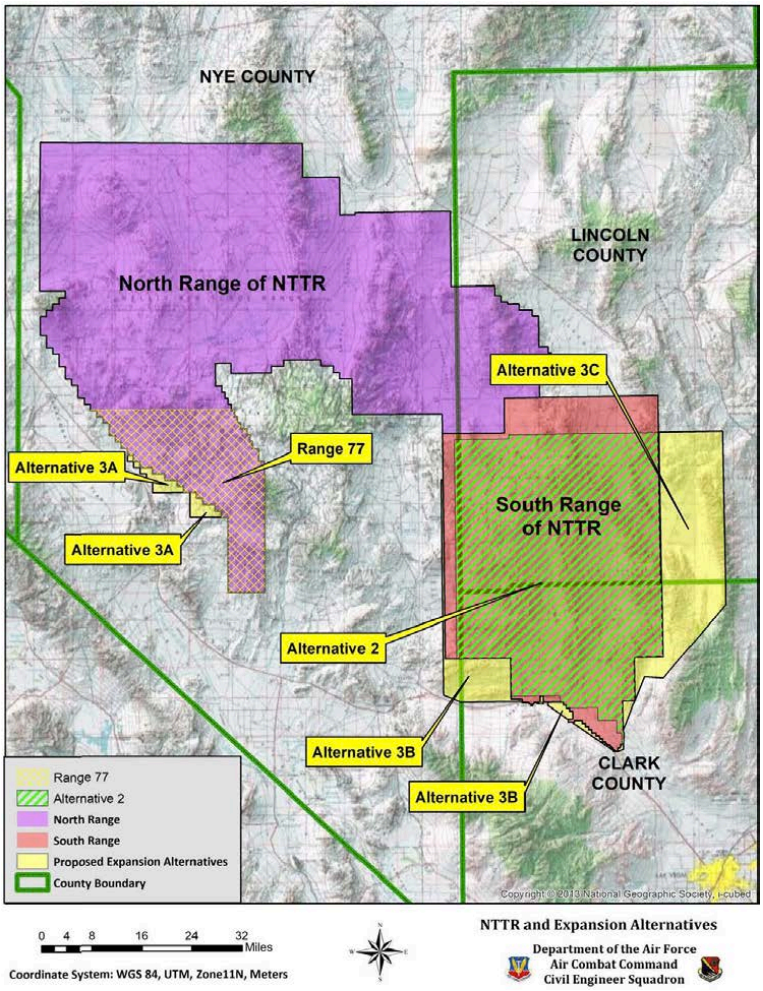

Figure 1 NTTR and expansion areas.

The NTTR is a complex of lands managed or regulated by numerous Federal, State, and local agencies. Administratively, the NTTR is divided into North Range and South Range components (Figure 1 and Figure 2), which are generally separated by the Nevada National Security Site (formerly Nevada Test Site). The current NTTR totals approximately 2.9 million acres (ac) in Nye, Lincoln, and Clark counties. Currently, the USAF has primary jurisdiction of the North Range, and the South Range is jointly managed by the Air Force and Service's Desert National Wildlife Refuge (DNWR) with DNWR having primary jurisdiction in the South Range, except for areas below 4,000 ft (approximately 112,000 ac). Under the proposed action, the USAF

Lieutenant Colonel Kolesiak (08ENVS00-2018-F-0028) 8

would continue primary jurisdiction in the North Range, gain primary jurisdiction of the South Range, and gain primary jurisdiction over additional withdrawn lands (3A, 3B, 3C) totaling 301,434 ac (Figure 1).

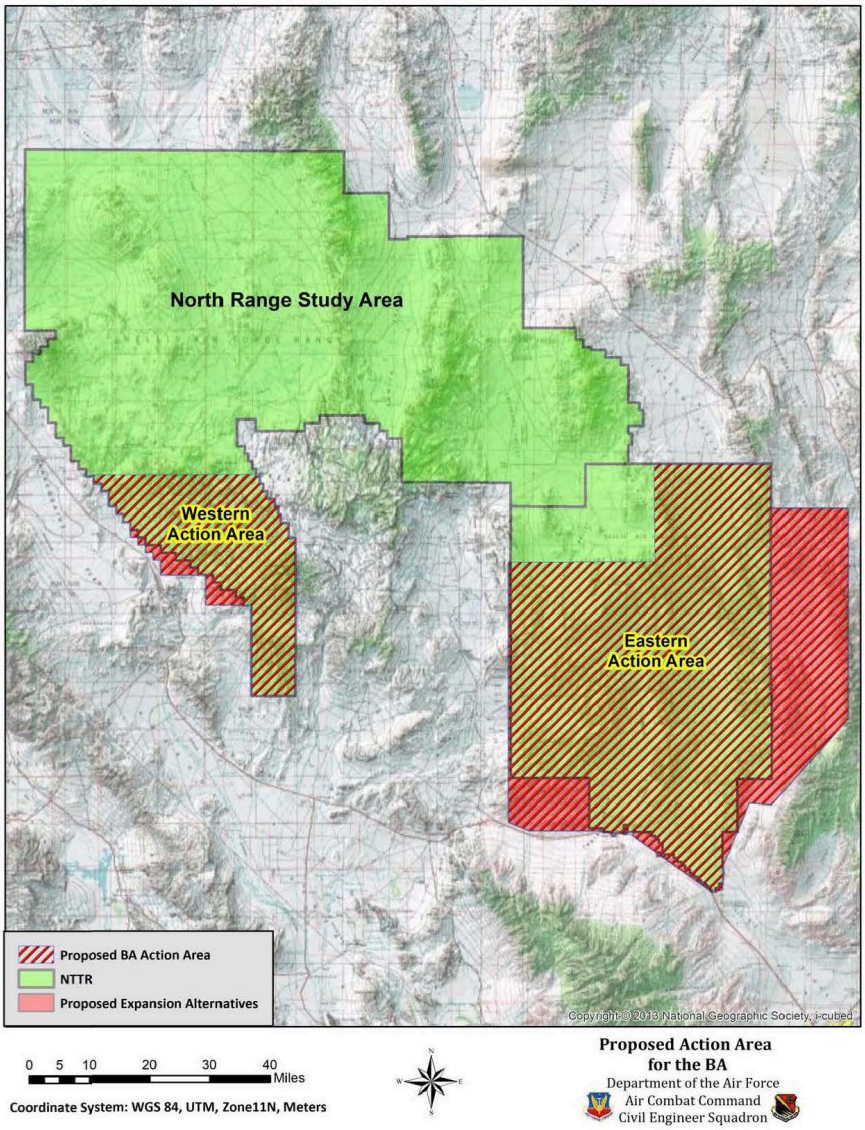

Figure 2 NTTR Proposed action area.

DEFINITION OF THE ACTION AREA

The action area is defined as all areas to be affected directly or indirectly by the Federal action, including interrelated and interdependent actions, and not merely the immediate area involved in the action (50 CFR § 402.02). Subsequent analyses of the environmental baseline, effects of the action, cumulative effects, and levels of incidental take are based upon the action area as determined by the Service. The action area includes habitat for desert tortoise and areas outside of habitat where activities occur which may affect tortoises or their habitat. The action area for this programmatic consultation is broadly defined as, all USAF land administered or proposed for acquisition to administer through the legislative environmental impact statement and other lands which have a nexus to a USAF action as described above.

The action area for this consultation includes two general areas (Figure 1). The Eastern Action Area includes the South Range, and the 3B and 3C expansion areas. The Western Action Area includes Range 77 and the 3A expansion area. The USAF also operates the Nellis Air Force Base (NAFB) which occupies a 16.6 square-mile area adjacent to metropolitan Las Vegas, northeast of the City of North Las Vegas, in Clark County, Nevada. NAFB is excluded from this consultation and actions there that may affect desert tortoise are addressed in a separate biological opinion (File No. 1-5-07-F-497, a new consultation will be completed after this PBO).

PROGRAMS

The USAF proposes to authorize, fund, or carry out various actions and projects that may adversely affect the threatened desert tortoise. The scope of the proposed action is established by acreage thresholds for each program and sub-program as identified in Table 1.

The proposed action consists of eleven categories or programs of activities with sub-categories, listed in Table 1:

Table 1 Summary of adverse effect thresholds or limits for disturbance of Mojave desert tortoise habitat which are covered in this PBO.

PROGRAM	**Maximum Number of Acres Affected by Program**
	NON-CRITICAL[1]
1) Continued Use of Existing Roads	0
2) Ready Access	0
3) Weapons Delivery Areas	7,742
4) Weapons Delivery Areas Cleanup	0
5) Threat Emitters and Roads	11.5 (7.5 for Emitters, and 4.0 for Roads)
6) Infrastructure Construction and Maintenance a) Fencing b) Road and Trail Use (Inside Wilderness)	 a. 126 b. 836
7) Borrow Pits	0
8) Test and Evaluation	0
9) Battlefield Training	0
10) Insertion and Extraction (Drop and Landing Zone) and Overland Navigation	13
11) Fire Suppression	unknown[2]
Total	8,728.5

Continued Use of Existing Roads

The USAF currently uses existing roads in the action area that occur below 4,000 feet in elevation. Vehicle traffic is restricted to existing paved, graded, two-track, or utility access roads following USAF requirements. The action area has approximately 3,645 acres currently impacted by 1,094 miles of road and trail use (outside proposed wilderness). Nearly 90 percent of existing roads and all roads resulting in the proposed expansion roads are within the eastern action area (Figure 3). Through ready access (described below) there would be an additional 836 acres impacted by 316 miles of road established through USAF ready access and the elimination of proposed wilderness area status. The additional 316 miles of road and trail use would occur on historic two tracks with various degrees of vegetative recovery. After construction, four acres of roads to access threat emitter sites would be included under this program.

[1] No actions are planned in critical habitat.

[2] The number of acres of fire suppression activities are unknown. The actual acreage is dependent upon too many environmental factors to predict with accuracy.

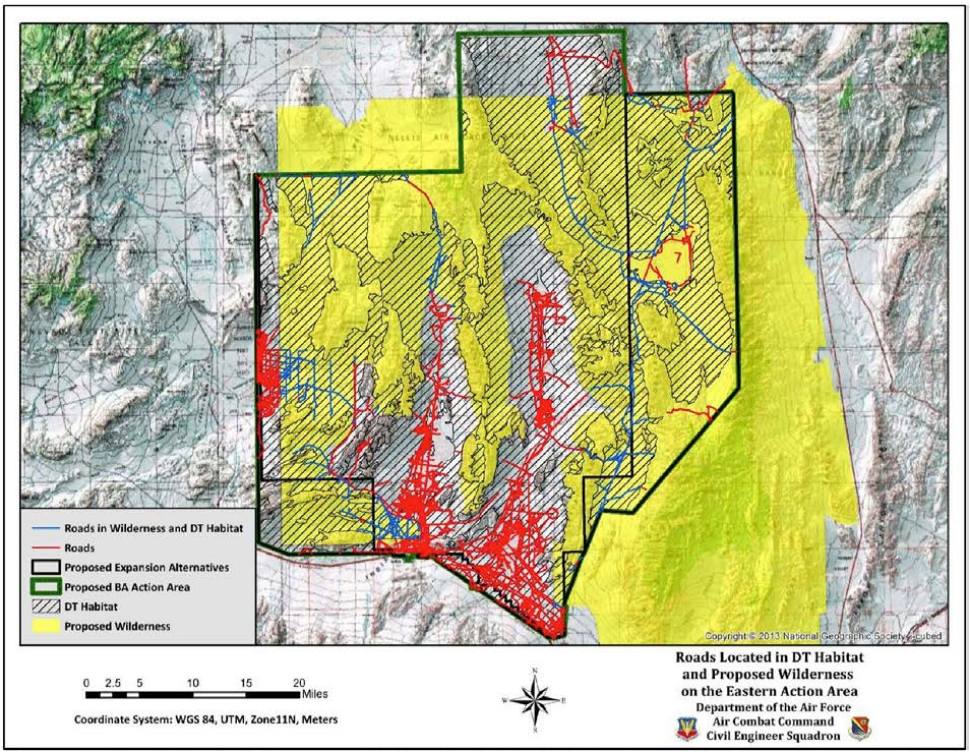

Figure 3. South Range and Eastern action area roads and trails within proposed wilderness and desert tortoise habitat (from USAF 2018).

Ready Access

The USAF proposes conducting ready access activities on lands currently under and proposed to be under its primary jurisdiction boundary. USAF activities on the South Range are currently restricted by a 1997 Memorandum of Understanding (MOU, the South Range is referred to as Nellis Southern Ranges and NTTR is referred to as the Nellis Air Force Range) with the DNWR, which manages most of the South Range as proposed wilderness since it was proposed as wilderness in 1971. Placing the South Range Study Area under Ready Access would remove the proposed wilderness status of the area and allow the same activities to occur as in the North Range. Thus, troops could conduct ground activities anywhere on the area; however, vehicles would be restricted to roads and trails. Bombing and live munitions would be restricted to existing weapons delivery areas, and no new weapons delivery areas are being proposed. Any soil-disturbing activities in desert tortoise habitat would be avoided or minimized as described in the USAF's proposed minimization measures (below). Ready access activities would mostly be occurring in the areas located outside of target impact areas (Figure 4). These activities generally

involve squads of Special Operations Forces or regular service personnel, conducting ground training in support of the military mission. These activities would typically involve groups of no more than twelve personnel. Ready access may include airdrops (ADs) using fixed- and rotary-wing aircraft to insert or extract troops and equipment or conduct personnel drops (paradrops) onto established drop zones or landing zones. Training would not involve large forces. Items dropped may include approximately 15 cubic foot containers of water (about 300 lbs.) and containerized delivery systems (about 500 lbs.).

Ready access is projected to increase overall range utilization by 30 percent for test and training activities. On the South Range Study Area, the 30% increase relates to aircraft activity only as compared to the current level. The only new roads being proposed are those required for accessing new emitters. It is presumed that munitions usage and other operational equipment would increase at a level consistent with aircraft operations.

Ground activity from ready access would be a new impact in the alternative areas because it is currently not allowed on the South Range outside of existing target impact areas. Existing road use would increase by 30%. Vehicular traffic would be restricted to roads and trails and is anticipated to significantly increase in the wilderness area of the DNWR and in the expansion alternatives, since it is currently at minimal levels. Other activity will be foot traffic associated with small troops (less than 12 soldiers) and impacts are anticipated to be minimal with proper desert tortoise awareness training.

Weapons Delivery Areas

The USAF proposes to continue to use their established weapons delivery areas for live ordnance and munitions training. The USAF is not proposing any new or additional weapons delivery areas or targets. The South Range of the NTTR contains five weapons delivery areas, which are subdivided into 74 target complexes containing approximately 1,363 targets. While the location of weapons delivery systems would remain the same, the number of bombs dropped is proposed to increase by 30% over current baseline levels. Targets may be approached and bombs dropped from new directions. New or different types of ordnance may be used.

The majority of weapons delivery areas in the South Range are located in playas (dry lakebeds) within the Indian Springs Valley and Three Lakes Valley outside of desert tortoise habitat and accommodate ground-disturbing military testing or training activities including live and inert ordnance. Clearing, excavation, and construction of targets would entail soil-disturbing actions. Water is applied in some areas with water trucks to reduce dust and particulate air pollution.

When existing targets are hit by ordnance and munitions, a larger area around the target is often disturbed by the impact (e.g., skidding ordnance, explosion area around impact). Previous disturbance of desert tortoise habitat from these types of disturbance totals 3,252 acres, representing a percent increase of 335 percent of habitat disturbance over the last 23 years. Based on this percent increase and the expected 20-year timeframe of this proposed withdrawal, the USAF estimates up to 7,742 additional acres (31 km^2 (12 mi^2)) of desert tortoise habitat may be disturbed by weapons delivery to existing targets within identified target impact areas (Figure 4). Because many unknowns exist making it difficult to predict where this disturbance may occur,

the USAF is not proposing to conduct desert tortoise clearance surveys for the purposes of weapons delivery. The target impact areas incorporate a larger area (455 km^2 (176 mi^2)) than the proposed amount of disturbance.

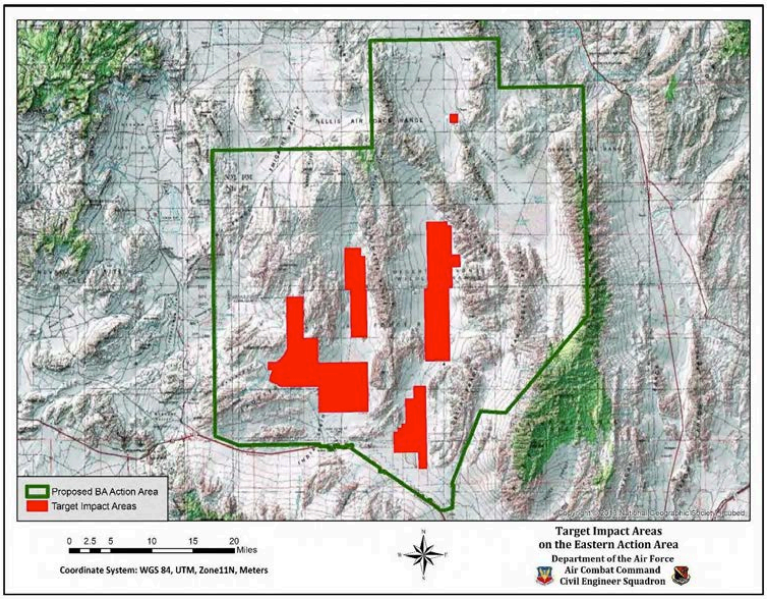

Figure 4. Proposed target impact areas within the Eastern Action Area (Figure 6, page 25 of the BA).

Weapons Delivery Areas Cleanup

Weapons delivery areas would be periodically cleaned and targets repaired or removed. The same areas affected by weapons delivery areas would be affected by associated cleanup. Cleanup requires personnel to remove unexploded ordnance and debris from the weapons delivery areas on foot and in vehicles. Heavy equipment would be used to remove larger material and to grade the target site. Live and spent munitions would be removed and unexploded ordnance detonated. Destroyed targets would be removed from the area. If depleted uranium rounds were employed in an area, spent rounds will be located and properly disposed. Weapons delivery areas would be cleaned, graded and targets would usually be replaced or rebuilt. Water trucks are used to minimize dust and particulate air pollution. All of these actions involve soil disturbance and concentrated vehicular and heavy equipment activity within the weapons delivery areas. No new weapons delivery areas are currently being planned for live ordnance use on the action area.

Threat Emitters

Threat emitters (e.g., radars) would be located within topography that would permit detection in two directions. To reduce overall impacts, the USAF would, to the extent possible, locate threat

emitters along existing roads or unpaved two-tracks to minimize the need to construct new access roads. However, up to 4.0 acres of new road will be constructed and used to access new emitter locations. New emitters would only be placed in the South Range and potentially in alternative 3C. Soil disturbance would involve clearing an area approximately 150 ft. by 150 ft. Up to 15 emitters are anticipated to be constructed on the action area on the South Range or Alternative 3C. This, coupled with up to four acres of road improvements, would cause up to 11.5 acres of desert tortoise habitat being destroyed if all emitter pads and roads were placed in desert tortoise habitat. However, emitters and roadway construction and disturbance would be located outside of desert tortoise habitat where possible. Each emitter requires a 1.5 kilovolt generator to operate. Electromagnetic radiation (radio waves), microwaves, or lasers may be emitted by some of the emitters.

Infrastructure Construction and Maintenance

Buildings, roads, and equipment staging and storage areas require periodic maintenance or re-configuration (change in the design or layout within existing developed areas and weapons delivery areas in the South Range). New facilities may be constructed. At the present time, the type or location of such facilities is not known. The USAF goal would be to locate new facilities in previously developed areas or outside of desert tortoise habitat. Improved roads may require repair and the shoulders must be periodically graded to remove invasive weeds and to provide a level surface. Unimproved roads also require periodic grading and repair, especially after significant storm events. Buildings and other infrastructure may require maintenance and even replacement (including threat emitters after they are built). Other infrastructure requiring maintenance and installation includes scoring towers; siting and measurement devices; security equipment, fencing, and buildings; communication towers emitters and antennas; electrical lines (above and below ground); communication lines (above and below ground); wells (ground water); generators; and convoy turn points. Water is applied in some areas to minimize dust production.

NTTR manages invasive plants in developed areas and along improved roads by periodic mowing, grading and herbicide application. Manual cutting and stump treatment with herbicides is the common method used for controlling salt cedar (*Tamarix ramosissima*).

A total of up to 115 miles of new fence will be installed, totaling 140 acres based on a 10 ft. ROW. It is estimated that about 90% of this fencing (126 acres) is proposed to be located in desert tortoise habitat.

Additionally within desert tortoise habitat a total of up to 316 miles and 836 acres will be used for areas associated with new and existing roads and trails in proposed wilderness in the South Range and proposed expansion alternatives.

Borrow Pits

Borrow pits are areas that are excavated to obtain fill material and gravel to maintain roads and support infrastructure. Borrow pits may be installed in various locations on the South Range of the NTTR, but none are currently proposed. These areas tend to be relatively small in area, but

involve extensive excavation and heavy equipment movement. Water may be applied to minimize dust production. The action area has 25 borrow pits totaling 536 acres and ranging in size from 1.5 to 130 acres in size (average of 21 acres). Seven of the 25 borrow pits (approximately 298 acres) in the action area are currently authorized for use in desert tortoise habitat. Soil disturbance and vehicular movements are the major activities involved with this action.

Test and Evaluation

The Test and Evaluation program tests and evaluates equipment to determine whether the equipment meets the specifications outlined by government contracts. Test and Evaluation also determines how the equipment can be used and the environment and tactics best suited for the equipment. These Test and Evaluation capabilities include an electromagnetic environment that is free of interference, test infrastructure available to measure critical Time-Space-Position Information of weapons and various platforms, and the ability to measure and reproduce Test and Evaluation environments. Depending on the equipment being reviewed, impacts can vary from soil disturbances to electromagnetic emissions. Most of these activities would be staged in areas that have already been cleared for specific use (emitters, radar, targets, etc.).

Battlefield Training

Typical battlefield training includes ground training with the use of air and vehicle operations support. Ground training includes a number of activities, but is generally the movement of small groups of soldiers through interstitial areas (areas between roads, infrastructure, and targets). Troop movements are typically stealthy as units transition from one objective to another. These troops are usually Special Forces teams operating in groups of one to twelve soldiers. To increase the realism of the training events, some training ammunition (blank small-arms), hand flares, smoke grenades, or other training munitions (such as paint balls) are expended during certain operations. In almost all cases, ground training on foot involves movement under covert, clandestine conditions without leaving any evidence of troop presence. Troop movement is usually in small groups and large troop movements impacting large areas would not occur. Land navigation training may occur during daytime or nighttime and usually involves the use of a compass, maps, and GPS. Troop movement on foot may also be used for training in search and rescue, personnel recovery, and reconnaissance. Personnel movement usually occurs on established roads, along mountainous terrain, and washes. Movements would occur in such limited frequency over the same area that the physical impact on the ground is expected to be negligible. All troops potentially encountering desert tortoise during movements and operations in desert tortoise habitat receive desert tortoise awareness training prior to those activities.

Typical troop movement activity includes the following:

- Road march (conducted on existing roads for extended lengths of travel)
- Six-to-twelve-man team insertions and extractions from varying methods (parachute, airplane insertion, and helicopter). Insertions are clandestine activities and regardless of how an insertion is accomplished, personnel would most often walk out of the insertion area

- Clandestine movement by foot to training objective sites (most often culminating at an Urban Operations Complex (UOC))
- Foot movement to an UOC through the interstitial areas and on existing roads

Ground support vehicles are occasionally integrated into the training to deliver and retrieve the participating troops or provide support and logistics. Ground vehicle movement is normally restricted to the existing road and trail network, but some training integrates the use of all-terrain vehicles (ATVs).

Insertion and Extraction (Drop and Landing Zone) and Overland Navigation

As part of battlefield training, troop insertion and extraction points and overland navigation in level, rolling and mountainous terrain is required. Insertion points are established for user groups that conduct training and testing that integrate ground and air operations. Overland navigation between insertion and extraction points may be conducted with or without unmanned aerial systems. Insertion and extraction points are usually unimproved surfaces or clearings located for inserting and extracting paratroops or para dropping equipment or palletized supplies. These equipment or supplies are palletized and rigged with multiple automatically deploying parachutes.

Airborne operations associated with these activities include the use of rotary or fixed-wing aircraft for the insertion, extraction, movement, or supplying of ground troops. This could include the delivery or extraction of special forces via an aircraft to an insertion and extraction point or para-drops (delivery of equipment or supplies using parachutes). Some insertion points are used for touchdown and takeoff of fixed-wing and rotary military aircraft. Under the proposed action in Alternative Area 3C this would involve one runway that would be a mockup location to provide special operations personnel a location to practice tactics, while a second runway would be an unpaved active runway, providing more realistic insertion training. Each runway would be 6,000 feet long and 90 feet wide. It is anticipated that ground disturbance activities associated with construction of the runways would be less than 13 acres. The mockup runway would not be used for aircraft operations. It is anticipated that the active runway would be a dirt runway. The training activities would be associated with various aircraft conducting Forward Area Arming and Refueling Points (FAARP) during the training activities. As the name indicates, FAARP consists of two training activities (refueling and munitions loading of aircraft) that occur in unpaved areas. The USAF proposes runways would be located on playas outside of desert tortoise habitat, thus impacts to desert tortoise and desert tortoise habitat are highly unlikely. Impact areas on the South Range of the NTTR are not used for insertion and extraction activities.

Fire Suppression

All of the action area is subject to wildland fires ignited by natural or artificial sources. A wildland fire management plan was prepared by the NTTR which includes a discussion of constraints for fire suppression with respect to the desert tortoise (99 Civil Engineering Squadron, 2011). Currently fire management and suppression decisions within DNWR and the South Range are guided by the 2004 *Wildland Fire Management Plan Desert National Wildlife*

Refuge. Fire suppression decisions in the South Range, DNWR, and proposed wilderness therein "are to be suppressed at minimum costs considering benefits and values at risk and consistent with resource objectives." Fire suppression will be coordinated with DNWR personnel.

BIOLOGICAL SURVEYS

The USAF will continue to assess baseline conditions for vegetation, unique habitats, rare plants, and wildlife including for the presence of ESA-listed and sensitive species as part of the ongoing integrated natural resources management program. This is an action that has been actively ongoing since 2010 for a variety of species including desert tortoise, golden eagles, and bighorn sheep. Surveys were conducted annually to build a comprehensive baseline of desert tortoise and other target species. These species surveys help to validate population estimates and monitor population trends. Vegetation surveys document the characteristics and plant community composition of the many habitats found within the NTTR. Developing detailed vegetation maps characterize the vegetation cover and help identify species-specific habitat and in turn, inform locations for species surveys.

Wildlife and vegetation surveys are used to inform natural resource managers and military planners of species-sensitive locations to avoid if possible. Proposed project sites undergo full NEPA review and project siting may be adjusted to avoid the following: sensitive habitat, nest sites and wintering habitat, lambing areas, key wildlife corridors, and riparian areas and washes.

PROPOSED MEASURES TO MINIMIZE THE POTENTIAL EFFECTS OF THE ACTION

To minimize adverse effects to the desert tortoise that may result from proposed programs, operations, and activities described above, the USAF will implement the following protective measures during the duration of the proposed action. We developed these measures with the USAF based on the measures in the BA and in coordination with the USAF. We have done this to improve clarity and to incorporate more current Service guidance, but we have not substantially changed the intent of the measures identified in the USAF's BA. These measures will apply to mixed programmatic and framework programmatic actions. If necessary, the USAF will develop and propose additional measures for future activities [framework programmatic actions] proposed to be appended under this programmatic biological opinion.

Movement of Desert Tortoise from Harm's Way

If desert tortoise or their sign are observed within the boundaries of the NTTR, facility personnel or operations contractors will immediately call the NAFB Natural Resources Manager to request a biologist for further evaluation. USAF activities that may endanger a desert tortoise will cease if a desert tortoise is found in harm's way as a result of the activity. Project activities will resume after the NAFB Natural Resources Manager has been contacted and an authorized [desert tortoise] biologist removes the desert tortoise from danger or after the desert tortoise has moved to a safe area on its own. Relocation and handling of live desert tortoise will be conducted according to the recommendations found in most current version of the Desert Tortoise Field Manual (Service 2009) which may be found at https://www.fws.gov/nevada/desert_tortoise/dt/dt_auth_form.htm.

Desert tortoises that are moved offsite will be released into undisturbed habitat within 500 m (1,640 ft) from the point of encounter and will be placed in the shade of a shrub, in a natural unoccupied burrow similar to the burrow in which it was found, or in an artificially constructed burrow (Desert Tortoise Council, 1999) depending upon the time of year and ambient temperatures.

Desert tortoises moved in the winter (November 1 through March 1) or those in hibernation regardless of date must be placed into an adequate burrow. If one is not available, one will be constructed using the protocol for burrow construction (Desert Tortoise Council, 1999). During mild temperature periods in the spring and fall, desert tortoise can be placed in a burrow or under a shrub.

If a desert tortoise is encountered and appears to be experiencing heat stress, it will be placed in a tub, by an authorized desert tortoise biologist, with 1 in. of water in an environment with an ambient temperature between 76°F and 95°F for several hours, until heat stress symptoms are no longer evident.

Upon locating a dead, injured, or sick desert tortoise, proper notification shall be filed with the Southern Nevada Fish and Wildlife Office in Las Vegas. Only authorized desert tortoise biologists will handle live, sick, or injured desert tortoise. Dead desert tortoise will be handled with care to maintain the carcass in good condition for subsequent analyses of cause of death. Sick or injured desert tortoise will be delivered to any qualified veterinarians for treatment or disposal. A form for all desert tortoise that are handled (live and dead) will be completed by the NAFB Natural Resources Manager or authorized desert tortoise biologist. The NAFB Natural Resources Manager or authorized desert tortoise biologist shall be responsible for the handling, storage, and updating of completed forms.

Soil Disturbance

Except for the weapons delivery program, in areas where (1) new disturbance to desert tortoise habitat, or (2) disturbance to recovered desert tortoise habitat are likely to occur, the project site will be cleared of desert tortoises prior to construction by authorized desert tortoise biologists. During the more-active season, clearance surveys will be conducted either the day prior to, or the day of, any surface-disturbing activity. During the less-active season, clearance surveys will be conducted within 7 days prior to any surface-disturbing activity. No surface-disturbing activities shall begin until two consecutive surveys yield no individuals. Clearance surveys will be coordinated with the NAFB Natural Resources Manager well in advance of any project. In addition, a perimeter around the project area will be cleared, as determined by the NAFB Natural Resources Manager and the Service. The determination to conduct perimeter clearance and the width of the perimeter will be made by the NAFB Natural Resources Manager and will be based on the location of the project in desert tortoise habitat according to the current desert tortoise habitat map. A desert tortoise monitor will be present on the project sites during all project construction and earth-moving activities until the project is completed. Any desert tortoise or eggs found within the project area will be properly removed by a qualified desert tortoise biologist (Desert Tortoise Council, 1999).

To the maximum extent possible, the USAF will schedule projects requiring ground construction or maintenance (e.g. infrastructure, threat emitters, borrow pits) within desert tortoise habitat during the less-active season (generally October 31 to March 1) and during periods of reduced desert tortoise activity (typically when ambient temperatures are less than 60 or greater than 95 F).

The USAF will ensure all vehicles and equipment that are not in areas enclosed by desert tortoise exclusion fencing will stop construction activities occurring outside desert tortoise exclusion fencing during rainfall events in the more-active season (generally March 1 to October 31), and if temperatures are above 60 but below 95 °F for more than 7 consecutive days. The Field Contact Representative (FCR), which may be the NAFB Natural Resources Manager, or designee will determine, in coordination with the USAF and Service, when it is appropriate for project activities to continue.

For areas that would be temporarily disturbed or where restoration is proposed, the top 6 inches of soil will be excavated separately from deeper soils and stockpiled in a separate location. Any excavations will be backfilled with deep soils first, with the topsoil being backfilled as the final layer. This allows the site to have a final layer of soil that approximates original soil conditions and that contains a relatively healthy seed bank for regrowth of vegetation, thus rectifying potential soil displacement. Soils may be lightly rolled or compacted to reduce the potential for wind erosion. Excavated holes and trenches will be covered or surrounded with desert tortoise-proof fencing until they are backfilled. A qualified desert tortoise monitor will be present during excavation activities to ensure that desert tortoise do not fall in holes or trenches.

Earthen plugs, with wildlife escape ramps on either side of the plug, will be provided in open trench segments at no greater than every 0.25 mi. These distances will be reduced if the FCR and authorized desert tortoise biologist determine that the plug and escape ramp spacing is insufficient to facilitate animal escape from the trench. Any tortoise that is found in a trench or excavation will be promptly removed by an authorized desert tortoise biologist in accordance with the most current Service-approved guidance. If the authorized desert tortoise biologist is not allowed to enter the trench for safety reasons, the USAF will coordinate with the Service to determine an alternative method of removal.

Additionally, the USAF will implement procedures to minimize soil erosion and loss associated with construction. Where practicable, the impacted surface will be brought back to original contours, and erosion control measures will be used to maintain the soil in place. Sediment fences will be placed around the construction site to prevent movement of soils, sediments, and construction materials offsite during storm events. The excavated areas will be lightly wetted to minimize dust production. Application of water will be carefully controlled to prevent puddling and subsequent attraction of desert tortoise to the area.

Construction of roads, blading of existing roads, or other surface-disturbing activities will be confined to the locations authorized by the NAFB Natural Resources Manager. All work area boundaries shall be conspicuously staked, flagged, or otherwise marked to minimize surface disturbance activities. Construction of roads, blading of existing roads, or other surface-disturbing activities will not exceed the minimum size required for safe usage. Roads will be

lightly wetted to minimize dust production during maintenance activities and heavy use. Application of water will be carefully controlled to prevent puddling and subsequent attraction of desert tortoise to the area. Vehicular speeds will be maintained at 25 MPH in desert tortoise habitat.

To the extent possible, the USAF will ensure that unauthorized personnel, including off-duty project personnel, do not travel on project-related temporary access roads. Signs will be used and say that access on the ROW is strictly prohibited except by authorized personnel.

Cross-country travel outside designated areas shall be prohibited. All equipment, vehicles, and construction materials shall be restricted to the designated areas and new disturbance will be restricted to the minimum necessary to complete the construction or training (e.g., such as construction of one-lane access roads with passing turnouts every mile rather than a wider two-lane road).

Disturbance of desert tortoise burrows will be avoided from May 15 to September 30 to prevent impacts to buried egg clutches and emerging hatchlings. If this is not possible, active burrows impacted by the action must be carefully excavated or inspected with a fiber optic scope to determine if eggs are present. Eggs found in burrows must be removed and placed in a new burrow in suitable habitat according to the current recommendations found in Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council, 1999). Following the inspection of burrows for desert tortoise, all burrows must be collapsed to prevent future use.

Encroachment of weeds and invasive species will be managed and removed by mechanical, hand, or chemical methods in accordance with the NAFB Pest Management Plan (Nellis Air Force Base 2013).

The USAF proposes to compensate for effects to the desert tortoise through habitat restoration or payment of fees to be used to contribute to the recovery of the species. Any areas temporarily impacted by excavation and other activities will be returned to original contours and allowed to naturally return to the original habitat. All disturbance of desert tortoise habitat associated with existing targets and projects will be limited to the current acreage of target impact areas, not including roads. Fees or habitat restoration will only be for new areas of soil disturbance based on the maps provided in Figures 5-8 and 27-29 of the BA and will be identified through monitoring (using GIS, or other means available as agreed upon by USAF and the Service), annual reporting, and project-specific consultations.

The USAF will work with the Southern Nevada Fish and Wildlife Office in Las Vegas to determine areas on the NTTR suitable for restoration activities and set these acreages aside for land-use controls (e.g., development restrictions); these compensation areas can serve as a “mitigation bank” for desert tortoise habitat. Desert tortoise habitat projects will be developed and agreed to by the Service prior to implementation of activities covered under the BA, but those habitat projects do not necessarily need to be completed before the covered activity begins.

If restoration is not feasible, the USAF will provide fees to contribute to the recovery of the desert tortoise to offset destruction of habitat. Fees will be based on current rates at that time.

The current rate is $885 per ac of disturbance, as indexed for inflation, effective March 1, 2018. The next adjustment will become effective March 1, 2019. The fee rate will be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) on January 31st of each year, becoming effective March 1st. Fees assessed or collected for projects covered under this biological opinion will be adjusted based on the current CPI-U for the year they are collected. Information on the CPI-U can be found on the internet at: https://www.bls.gov/cpi/.

Vegetation Management

Vegetation treatments will be conducted during the tortoise less active season. Those treatments that need to be conducted during the active season (e.g., response to new non-native plant infestation) will be coordinated with the Service. Any vegetation temporarily impacted by excavation, maintenance, training, and other activities will be returned to original contours and allowed to recover naturally. Native plants may be seeded for germination following the first storm event after project completion. Natural recovery of areas is preferred to seeding and planting.

As previously discussed, the top 6 inches of soil will be excavated separately from deeper soils and stockpiled in a separate location. Any excavations will be backfilled with deep soils first, with the topsoil being backfilled as the final layer. Excavated areas will be brought back to original contours where practicable. Soils may be lightly rolled or compacted to reduce the potential for wind erosion.

Excavation and construction equipment will be cleaned thoroughly before traveling from one area to another on the NTTR. Off-road vehicle use will be minimized whenever possible to decrease the spread of invasive species such as red brome, Russian thistle, halogeton, and cheatgrass. Wherever possible, maintenance of road shoulders will be minimized to prevent the spread of invasive plants. Those areas will be managed to develop native plant populations.

Encroachment of invasive plants in disturbed or restored areas will be prevented, and any invasive plants that become established will be removed either mechanically or through herbicide application. Herbicides will be used in accordance with all product label requirements and restrictions. If conducting manual spot applications of herbicides to vegetation in upland habitats occupied by Mojave desert tortoises, the USAF will utilize the typical, rather than the maximum, application rate. All individuals applying herbicides will be given education and instruction on what to do if a tortoise is located in treatment area. If a tortoise is found to have been sprayed with herbicide, the tortoise will be immediately rinsed with fresh water while still on the ground. If the tortoise voids its bladder, the USAF will immediately be contacted for further guidance. If a tortoise is found in a proposed treatment area, the area will be avoided and treatment will move 500 feet ahead. Treatment will be completed the following day as long as the tortoise is no longer in the immediate area.

Noise and Vibration

The USAF will minimize and avoid excessive noise and vibration associated with various construction and military operations where possible.

Wildland Fire

The USAF currently has a wildland fire management plan in place for NTTR. This plan will be expanded to include the alternative expansion areas if they are included as part of the withdrawn land. As part of the wildland fire management plan, USAF personnel will be trained to properly respond to the incidences of wildland fire. Implementation of this plan will ensure that wildland fires will be minimized and impacts to desert tortoise due to wildland fires will also be minimized.

The USAF will adhere to the following desert tortoise management recommendations by the Bureau of Land Management (BLM) with respect to fire suppression activities (USDI-BLM, 1998) and the DNWR in regards to proposed wilderness areas. While safety is paramount, the following guidelines for desert tortoise conservation will be considered for all fire suppression activities:

- Utilize the current Mojave Desert Initiative (MDI) guidelines.
- Avoid spreading non-native plants by ensuring that all firefighting equipment has been cleaned before entering the area.
- Use the current map for potential desert tortoise habitat as designated by the Service and mapped by the Nellis Natural Resources Program to determine where special consideration suppression tactics will be conducted.
- Minimize soil surface disturbances during fire suppression
- Limit the use of mechanized equipment when possible
- Restrict use of firefighting equipment and vehicles to existing roads and trails when possible.
- The use of aerial retardant is the preferred method of fire suppression. Foam or fugitive retardant is preferable to iron oxide retardant in desert tortoise habitat.
- Establish fire camps, staging areas, and helispots in previously disturbed areas outside mapped desert tortoise habitat. If possible, this will be accomplished in consultation with a qualified resource advisor from BLM or Nellis Natural Resources Program.
- Provide all firefighters and support personnel with a briefing on desert tortoise and their habitat to minimize tortoise injuries and destruction, particularly those associated with vehicle use.

Dust and Particulate Pollution

The USAF will comply with all regulations required for construction and military activities to minimize production of dust and other particulates into the air. It is recognized that use of water to decrease dust production can inadvertently attract desert tortoise to roads and construction sites. However, current particulate pollution standards require that dust be contained on

construction sites and along roads. Therefore, the USAF will minimize use of water where practicable and when water is used for dust control, it will be used sparingly to avoid puddling and accumulation of water in a manner that attracts desert tortoise. Alternatives for dust control will also be explored and include implementation of dust abatement measures using a soil stabilizer (e.g., application of dust palliatives [e.g., polymer emulsion or synthetic fluid]) to reduce impacts from dust.

Vehicular Traffic

The USAF, contractors, and other personnel will check under their vehicles prior to moving if the vehicle has been parked for more than a few minutes in desert tortoise habitat. Additionally, signs in parking areas of projects or facilities located within desert tortoise habitat will be posted to remind personnel to check under their vehicles prior to moving them. Relocation of a live desert tortoise found by personnel will be conducted by a qualified desert tortoise biologist according to the recommendations found in most current version of the Desert Tortoise Field Manual (Service 2009).

Speed limit of 35 mph will be maintained on paved roads in desert tortoise habitat. Speed limits of 25 mph will be maintained for all regular vehicle travel on gravel roads in desert tortoise habitat. Speed limit of 15 mph will be maintained on two-track roads and trails.

Signage will be posted to clearly delineate areas within potential or known desert tortoise habitat where off-road vehicle use is prohibited. If necessary, fences with appropriate signage will be implemented in problem areas. Signs will be posted no further than 300 feet apart and facing outward from restricted areas. Off-road vehicle use in desert tortoise habitat will be minimized or avoided where allowed by military operations and constraints.

Although desert tortoise activity at night is rare, convoys and other night vehicular traffic planned for the action area will be made aware to watch for desert tortoise on roads. The day after convoys are conducted, the routes will be inspected for mortalities and those reported immediately to the NAFB Natural Resources Program Manager.

Water

Minimization of dust production in and around construction sites and some military activities often involve application of water via water trucks and other methods. Water can accumulate in depressions and potholes on roads and construction areas from those activities as well as following storm events. Accumulation of water can result in attraction of desert tortoise to those areas. The USAF, contractors, and visiting personnel will be made aware of this potential and to be more cognizant of the occurrence of desert tortoise in these areas to avoid impacts. The USAF will periodically maintain roads and parking areas to remove these depressions and potholes.

Water applied for dust control on construction projects will not be allowed to pool outside desert tortoise-fenced areas, as this can attract desert tortoises. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water. If pooling water does occur outside desert

tortoise-fenced areas on construction projects where construction vehicles or equipment are in use, an authorized desert tortoise biologist will be assigned to patrol each area being watered immediately after the water is applied and at approximate 60-minute intervals until the ground is no longer wet enough to attract tortoises if conditions favor tortoise activity.

Predation

To minimize elevated perches for predators, signage, fencing, power poles, and antennas will only be installed where required. Projects that provide elevated perches for aerial predators such as towers, threat emitters, facility structures, or other aerial line support structures will be designed to discourage their use by ravens for perching or nesting (e.g., by use of anti-perching devices) in accordance with the most current Avian Power Line Interaction Committee. If sign of desert tortoise predation is observed below raven nests in desert tortoise habitat, the appropriate permits will be acquired to remove the nest. A summary of all raven nests that are removed and sign of desert tortoise predation will be included in the USAF's annual report to the Service. All trash and debris will be regularly collected and contained in covered containers to minimize attracting potential predators of the desert tortoise (ravens). This program will include the use of covered, predator-proof trash receptacles and proper disposal of trash in a designated solid waste disposal facility. Vehicles hauling trash to the landfill and leaving the landfill must be secured to prevent litter from being released along the road.

Landfills will be properly managed and maintained to reduce the potential for scavengers such as ravens, dogs, and coyotes to congregate in areas used by desert tortoise. Appropriate fencing maintained around these facilities would reduce the potential for terrestrial animals to access these facilities, and best management practices such as sorting trash with high organic matter (i.e. foodstuffs) and burying it immediately with sufficient cover will reduce the occurrence of potential predators of desert tortoise. At the present time, no municipal or hazardous waste landfills (as opposed to construction and demolition landfills) are located in desert tortoise habitat and none are planned to be constructed.

Hazardous Materials and Depleted Uranium

The USAF will comply with all state and federal regulations to accommodate or remove hazardous materials and depleted uranium from target sites, construction sites, or other areas where it may affect desert tortoise.

Fencing

Direct removal of vegetation and ground disturbance will be minimized when installing boundary fencing. Bulldozer clearing or other major soil-disturbing methods will be avoided. In areas with heavy vegetation, irregularly shaped fence line clearings will be used rather than fence lines with uniform clearing widths. Mechanical clearing can be used if accompanied by actions that minimize soil loss and allow restoration of native vegetation.

All construction areas in desert tortoise habitat, including open trenches, hydrostatic testing

locations, tie-in, and similar areas of work will be fenced with temporary tortoise-proof fencing (e.g., silt fencing) or inspected by an authorized desert tortoise biologist periodically throughout and at the end of the day and immediately the next morning.

Temporary fencing will be designed in a manner that reduces the potential for desert tortoises and hatchlings to access the construction areas. Thus, the lower 6 to 12 in of fencing will be folded outward (i.e., away from the construction area and towards the direction a tortoise would approach the work area), and covered with sufficient amount of soil, rocks, and staking to maintain zero ground clearance and secure the bottom section of material. After the fencing is erected and secure, the inside will be cleared by an authorized desert tortoise biologist following procedures described above under *Movement of Desert Tortoise from Harm's Way*. The fencing must remain closed during any construction activities.

An authorized desert tortoise biologist will check the integrity of the fencing every 2 hours and ensure that there are no breaches in the fencing and no desert tortoises pacing the fence.

In addition, the fence line and access roads will be monitored for invasive plant species and appropriate invasive plant control measures will be implemented when required. Measures to decrease use of fences for perching of predators will be implemented where required.

Tortoise-proof fencing will be installed around the boundary of permanent aboveground facilities that are regularly accessed by vehicles or equipment. Fence specifications will be consistent with those approved by the Service (Service 2009). Tortoise guards will be placed at all road access points where desert tortoise-proof fencing is interrupted, to exclude desert tortoises from the facility. Gates will provide minimal ground clearance and deter entry by desert tortoises. Permanent tortoise-proof fencing along the project area will be appropriately constructed, monitored, and maintained. Fencing will be inspected in accordance with Table 2 and inspection reports will be included in annual reporting. Monitoring and maintenance will include regular removal of trash and sediment accumulation and restoration of zero ground clearance between the ground and the bottom of the fence, including re-covering the bent portion of the fence if not buried.

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Table 2. Desert tortoise exclusion fence inspection schedule.

Condition	Minimum Requirements
Quarterly	Inspect fence perimeter, tortoise guards, and gates once per quarter.
Breach in fence observed, tortoise guard or gate requires maintenance, during tortoise less active season	Repair within 1 week of breach occurrence.
Following major storm event, tortoise more active season	Inspect fence perimeter, tortoise guards, and gates within 72 hours.
Breach in fence observed, tortoise guard or gate requires maintenance, tortoises more active season	Repair within 48 hours of breach occurrence.

Awareness Training

Contractors, military personnel, and any visitors on site will be provided a USAF-approved desert tortoise awareness training to recognize desert tortoise and desert tortoise sign. The program will be presented by an authorized desert tortoise biologist for projects causing the greatest potential for destruction of desert tortoise habitat. A video or fact sheet, as approved by the Service, may be presented or provided in lieu of a presentation for projects with low-impact potential as determined by the NAFB Natural Resources Manager. Records of training provided to each individual will be signed upon completion of training by each individual, and those records will be maintained by the NAFB Natural Resources Manager. Contact information for the NAFB Natural Resources Manager shall be included on any fact sheets or handout materials.

Environmental staff will conduct awareness briefings for all personnel working in desert tortoise habitat. These briefings will be conducted either in person or via a video presentation of the briefing. At a minimum, the briefings will include discussions of the following:

- General provisions of the Endangered Species Act
- Necessity for adhering to the provisions of the Act
- Potential for civil and criminal penalties associated with violating the provisions of the Act
- Measures of this PBO and terms and conditions of the incidental take statement that are applicable to the activity
- The definition of “take”
- The exact boundaries of the site within which the project activities may be accomplished
- Distribution of desert tortoises within the NTTR
- General behavior and ecology of the desert tortoise and its sensitivity to human activities
- Threats to the desert tortoise including risk from vehicles and equipment, non-native plants, and human-subsidized predators.
- Measures to protect desert tortoise including desert-specific Leave-No-Trace guidelines
- Proper disposal of food and trash to avoid attracting predators of desert tortoise
- Personal measures employees can take to promote the conservation of desert tortoise
- Specific and detailed instructions will be provided on the proper techniques (preferably by a qualified biologist, if practicable) to capture and move a desert tortoise that may be in imminent danger (on a heavily traveled road, on an active project site, or under a

vehicle) in accordance with the Service-approved protocol.
- Instructions for personnel to inspect beneath their vehicles while in desert tortoise habitat prior to moving the vehicle. If a desert tortoise is found beneath the vehicle, it will be moved by environmental staff or by project personnel in accordance with guidelines provided to them during the awareness briefings.
- Reporting requirements when desert tortoise are observed, moved, injured, or killed.

Reporting

The USAF, and other jurisdictional Federal agencies as appropriate, shall ensure their agency personnel, the project proponent, and their contractors implement the following measures to comply with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements contained in this biological opinion.

The deaths and injuries of desert tortoises shall be investigated as thoroughly as possible to determine the cause. The USAF will notify the Service and appropriate state wildlife agency by email or phone informed immediately and within 5 business days in writing (electronic mail is sufficient). The authorized desert tortoise biologist shall complete the Desert Tortoise Handling and Take Report (Appendix B).

The USAF will submit information on all mixed programmatic actions and their effects to desert tortoise in an annual report. The annual report will include all deaths, injuries, illnesses, moving, or observation of desert tortoises occurring during implementation of mixed programmatic and operation and maintenance activities. The USAF also will submit an additional annual report for all appended actions (except those completed and provided in a prior annual report). Through monitoring and GIS analyses, the USAF will include an estimate of the amount of desert tortoise habitat that has been disturbed during the previous year from the proposed action. The USAF will also provide information on any habitat restoration or compensation fees paid as described under the proposed minimization measure for *Soil Disturbance*. This information will be included in USAF's annual report. Annual reports will cover the calendar year and are due January 31st following each calendar year. The annual reports will include Appendix B Desert Tortoise Handling and Take Report, Appendix C Report to the Fish and Wildlife Service, and a summary of fence inspections. GIS shape files of new habitat disturbance will be included.

ANALYTICAL FRAMEWORK FOR THE SERVICE'S DETERMINATIONS

JEOPARDY DETERMINATION

Section 7(a)(2) of the Endangered Species Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this biological opinion considers the effects of the proposed Federal action, and any cumulative effects, on the rangewide survival and recovery of the listed species. It relies on four components: (1) the *Status of the Species*, which describes the rangewide condition of the species, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the condition of the species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the species; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the species.

STATUS OF THE SPECIES

The Service listed the desert tortoise as threatened in 1990 [55 Federal Register (FR) 12178]. The Service (1994, 2011) has issued an initial recovery plan and a revised recovery plan for the desert tortoise. A five-year review was completed in 2010 (Service 2010).

Prior to 1994, desert tortoises were extirpated from large areas within their distributional limits by urban and agricultural development (e.g., the cities of Barstow and Lancaster, California; Las Vegas, Nevada; and St. George, Utah; etc.; agricultural areas south of Edwards Air Force Base and east of Barstow), military training (e.g., Fort Irwin, Leach Lake Gunnery Range), and off-road vehicle use (e.g., portions of off-road management areas managed by the BLM and unauthorized use in areas such as east of California City, California).

Since 1994, urban development around Las Vegas has likely been the largest contributor to habitat loss throughout the range. Desert tortoises have been essentially removed from the 18,197-acre southern expansion area at Fort Irwin (Service 2012). The development of large solar facilities has also reduced the amount of habitat available to desert tortoises. No solar facilities have been developed within desert tortoise conservation areas, such as desert wildlife management areas, although such projects have occurred in areas that the Service considers important linkages between conservation areas (e.g., Silver State South Project in Nevada).

Figure 5 depicts the 12 critical habitat units of the desert tortoise, linkages between conservation areas for the desert tortoise and the aggregate stress that multiple, synergistic threats place on desert tortoise populations, as modeled by the spatial decision support system. Conservation areas include designated critical habitat and other lands managed for the long-term conservation of the desert tortoise (e.g., the Desert Tortoise Natural Area, Joshua Tree National Park, and the Desert National Wildlife Refuge).

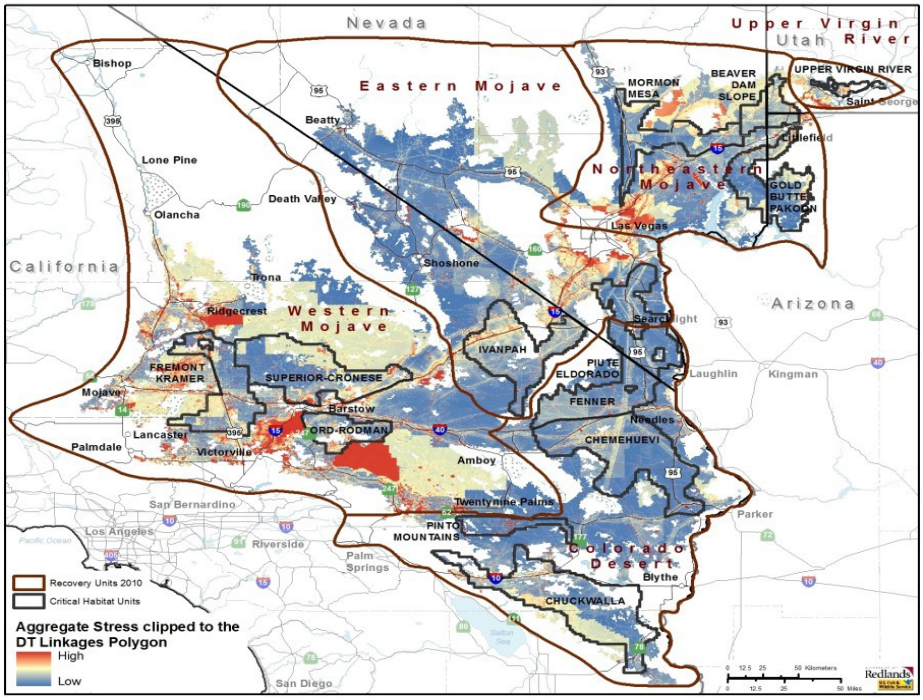

Figure 5. Desert tortoise Recovery Units and Critical Habitat Units.

Table 3 and Figure 6 depicts acreages of habitat (as modeled by Nussear et al. 2009, using only areas with a probability of occupancy by desert tortoises greater than 0.5 as potential habitat) within the recovery units of the desert tortoise and of impervious surfaces as of 2006. Impervious surfaces include paved and developed areas and other disturbed areas that have zero probability of supporting desert tortoises. All units are in acres.

Table 3. Acres of desert tortoise habitat within recovery units.

Recovery Units	Modeled Habitat	Impervious Surfaces (percentage)	Remaining Modeled Habitat
Western Mojave	7,585,312	1,989,843 (26)	5,595,469
Colorado Desert	4,950,225	510,862 (10)	4,439,363
Northeastern Mojave	3,012,293	386,182 (13)	2,626,111
Eastern Mojave	4,763,123	825,274 (17)	3,937,849

Upper Virgin River	231,460	84,404 (36)	147,056
Total	20,542,413	3,796,565 (18)	16,745,848

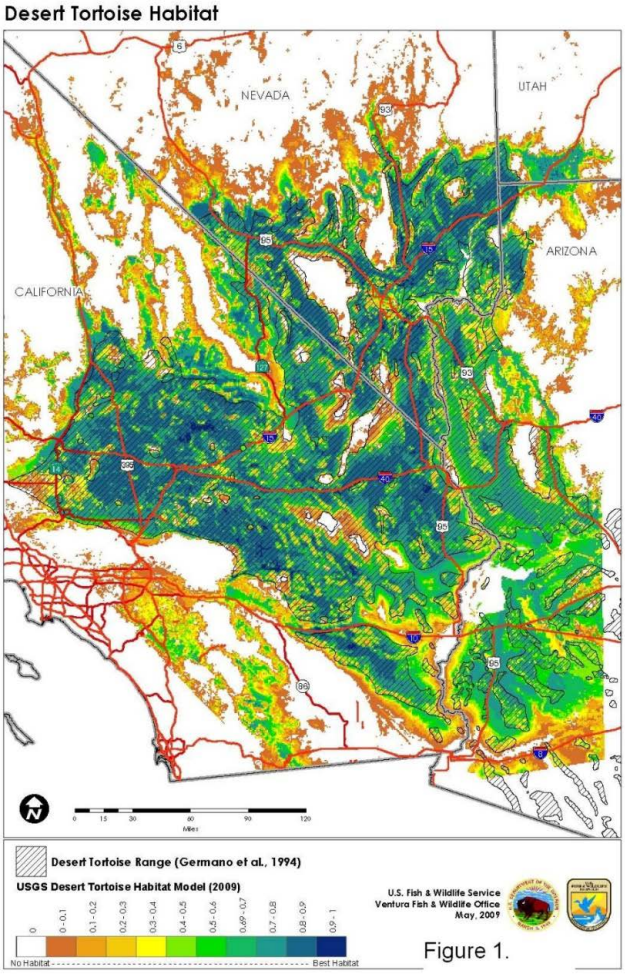

Figure 6. USGS modeled desert tortoise habitat (Nussear et al. 2009).

The Service (2010) concluded, in its 5-year review, that the distribution of the desert tortoise has not changed substantially since the publication of the original recovery plan in 1994 in terms of the overall extent of its range. Since 2010, we again conclude that the species' distribution has not changed substantially in terms of the overall extent of its range, although desert tortoises

have been removed from several thousand acres because of solar development and military activities (Table 4).

Table 4. Solar projects that have undergone formal consultation with regard to the desert tortoise.

Project and Recovery Unit	Acres of Desert Tortoise Habitat	Desert Tortoises Estimated[3]	Desert Tortoises Observed[4]
Eastern Mojave			
Ivanpah Solar Electric Generating System	3,582	1,136	175[5]
Stateline	1,685	947	55
Silver State North – NV	685	14[6]	[7]
Silver State South – NV	2,427[8]	1,020[8]	152
Amargosa Farm Road – NV	4,350	4[6]	-
Nevada Solar One - NV	400	[7]	[7]
Copper Mountain North - NV	1,400	30[7]	30[7]
Copper Mountain - NV	380	[7]	[7]
Townsite - NV	936	2[9]	-
Techren Boulder City - NV	2,304[10]	10	-
Western Mojave			
Abengoa Harper Lake	Primarily in abandoned agricultural fields	4[6]	-
Chevron Lucerne Valley	516	10	-
Cinco	500	53	2
Soda Mountain	1,726	78	-

[3] The numbers in this column are not necessarily comparable because the methodologies for estimating the numbers of desert tortoises occasionally vary between projects. When available, we included an estimate of the numbers of small desert tortoises.
[4] This column reflects the numbers of desert tortoises observed within project areas. It includes translocated animals and those that were killed by project activities. Project activities may result in the deaths of more desert tortoises than are found. Dashes represent projects for which we have no information at this point; some projects had not broken ground at the time of this biological opinion.
[5] In the table attached to the electronic mail, the number of desert tortoises translocated from the project site is represented by the total number of translocated animals minus the number of animals born in the holding pens.
[6] These estimates do not include smaller desert tortoises.
[7] These projects occurred under the Clark County Multi-species Habitat Conservation Plan; the provisions of the habitat conservation plan do not require the removal of desert tortoises. We estimate that all three projects combined will affect fewer than 30 desert tortoises.
[8] These numbers include Southern California Edison's Primm Substation and its ancillary facilities.
[9] The estimate of the number of desert tortoises is from the portion of the project on BLM land (52 acres). The remaining lands are covered by the Clark County Multi-species Habitat Conservation Plan; see footnote 7.
[10] The estimate of the number of desert tortoises is from both BLM (104 acres) and private (2,200 acres) land. The remaining lands are covered by the Clark County Multi-species Habitat Conservation Plan; see footnote 7.

Project and Recovery Unit	Acres of Desert Tortoise Habitat	Desert Tortoises Estimated[3]	Desert Tortoises Observed[4]
Northeastern Mojave			
Res Americas Moapa Solar Energy Center - NV	951	95	-
Moapa K Road Solar - NV	2,141	186	157
Playa Solar	1760	258	77
Invenergy Harry Allen Solar	594	242	-
NV Energy Dry Lake Solar Energy Center	751	45	-
NV Energy Dry Lake Solar Energy Center at Harry Allen	55	15	-
Aiya Solar	672	91	-
Colorado			
Genesis	1,774	8	0
Blythe	6,958	30	0
Desert Sunlight	4,004	56	7
McCoy	4,533	15	0
Desert Harvest	1,300	5	-
Rice	1,368	18	1
Total	**47,752**	**4,372**	**660**

In the 5-year review, the Service discusses various means by which researchers have attempted to determine the abundance of desert tortoises and the strengths and weaknesses of those methods. Due to differences in area covered and especially to the non-representative nature of earlier sample sites, data gathered by the Service's current range-wide monitoring program cannot be reliably compared to information gathered through other means at this time.

Data from small-scale study plots (e.g., 1 square mile) established as early as 1976 and surveyed primarily through the mid-1990s indicate that localized population declines occurred at many sites across the desert tortoise's range, especially in the western Mojave Desert; spatial analyses of more widespread surveys also found evidence of relatively high mortality in some parts of the range (Tracy et al. 2004). Although population densities from the local study plots cannot be extrapolated to provide an estimate of the number of desert tortoises on a range-wide basis, historical densities in some parts of the desert exceeded 100 adults in a square mile (Tracy et al. 2004). The Service (2010) concluded that "appreciable declines at the local level in many areas, which coupled with other survey results, suggest that declines may have occurred more broadly (Luke et al. 1991, Berry 2003, Tracy et al. 2004)."

The rangewide monitoring that the Service initiated in 2001 is the first comprehensive attempt to determine the densities of desert tortoises in conservation areas across their range. The Desert Tortoise Recovery Office (Service 2016) used annual density estimates obtained from this sampling effort to evaluate rangewide trends in the density of desert tortoises over time. (All

references to the density of desert tortoises are averages. Some areas support higher densities and some lower; desert tortoises are not distributed in uniform densities across large areas.) This analysis indicates that densities in the Northeastern Mojave Recovery Unit have increased since 2004, with the increase apparently resulting from increased survival of adults[11] and sub-adults moving into the adult size class. The analysis also indicates that the populations in the other four recovery units are declining; Table 5 depicts the estimated numbers of desert tortoises within conservation areas in each recovery unit and the rates of population change. Surveys did not include the steepest slopes in these desert tortoise conservation areas; however, the model developed by Nussear et al. (2009) generally rates steep slopes as less likely to support desert tortoises. Densities in the Joshua Tree and Piute Valley conservation areas within the Colorado Desert Recovery Unit seem to be increasing, although densities in the recovery unit as a whole continue to decline.

Table 5. Desert tortoise population change within recovery units.

Recovery Units	**2004**	**2014**	**Change**	**Percentage of Change**
Western Mojave	35,777	17,644	-18,133	-51
Colorado Desert	67,087	42,770	-24,317	-36
Northeastern Mojave	4,920	18,220	+13,300	+270
Eastern Mojave	16,165	5,292	-10,873	-67
Upper Virgin River	2,397	1,760	-637	-27
Total	126,346	85,686	-40,660	-32

In the previous summary of the results of range-wide sampling (Service 2015), we extrapolated the densities obtained within conservation areas (e.g., desert wildlife management area, Desert Tortoise Research Natural Area, Joshua Tree National Park) to all modeled habitat of the desert tortoise. This extrapolation may have exaggerated the number of desert tortoises because we applied the values for areas where densities are generally highest (i.e., the conservation areas) to areas where desert tortoises exist in very low densities (e.g., the Antelope Valley). We are also aware of a few areas where the density of desert tortoises outside of conservation areas is higher than inside.

To further examine the status of desert tortoise populations over time, we compared the densities of desert tortoises in the Western Mojave Recovery Unit between 2004 and 2014 (see Service 2015). In 2004, desert tortoise conservation areas surveyed in the Western Mojave Recovery Unit supported an average density of approximately 5.7 adults per square kilometer (14.8 per square mile). In contrast, surveys in the same areas in 2014 indicated that densities had decreased to 2.8 adults per square kilometer (7.3 per square mile). This decline in densities is consistent with decreases in density of populations in all recovery units over the same time period, with the exception of the Northeastern Mojave Recovery Unit. In fact, historical survey data from

[11] For the purposes of this biological opinion, we will generally reference size class as “adult” or “large” (i.e., equal to or larger than 180 millimeters) and “juvenile” or “small” (i.e., smaller than 180 millimeters) desert tortoises.

numerous plots in the Western Mojave Recovery Unit during the late 1970s and early 1980s suggest that adult desert tortoise densities ranged from 50 to 150 per square mile (Tracy et al. 2004).

To further assess the status of the desert tortoise, the Desert Tortoise Recovery Office (Service 2015) used multi-year trends from the best-fitting model describing loge-transformed density of adult animals per square kilometer. In 2014, 3 of the 5 recovery units supported densities below 3.9 adult animals per square kilometer [Western Mojave (2.8), Eastern Mojave (1.5), and Colorado Desert (3.7); see table 10 in Service 2015], which is the minimum density recommended to avoid extinction in the 1994 recovery plan. The Northeastern Mojave Recovery Unit supported 4.4 adult desert tortoises per square kilometer and the Upper Virgin River Recovery Unit, which is by far the smallest recovery unit, supported 15.3 adults per square kilometer.

In the Western Mojave and Colorado Desert recovery units, the relative number of juveniles to adults indicates that juvenile numbers are declining faster than adults. In the Eastern Mojave, the number of juvenile desert tortoises is also declining, but not as rapidly as the number of adults. In the Upper Virgin River Recovery Unit, trends in juvenile numbers are similar to those of adults; in the Northeastern Mojave Recovery Unit, the number of juveniles is increasing, but not as rapidly as are adult numbers in that recovery unit. Juvenile numbers, like adult densities, are responding in a directional way, with increasing, stable, or decreasing trends, depending on the recovery unit where they are found.

In this context, we consider “juvenile” desert tortoises to be animals smaller than 180 millimeters in length. The Service does not include juveniles detected during range-wide sampling in density estimations because they are more difficult to detect and surveyors frequently do not observe them during sampling. However, this systematic range-wide sampling provides us with an opportunity to compare the proportion of juveniles to adults observed between years.

The threats described in the listing rule and both recovery plans (Service 1994, 2011) continue to affect the species. The most apparent threats to the desert tortoise are those that result in mortality and permanent habitat loss across large areas, such as urbanization and large-scale renewable energy projects, and those that fragment and degrade habitats, such as proliferation of roads and highways, off-highway vehicle activity, and habitat invasion by non-native invasive plant species.

We remain unable to quantify how threats affect desert tortoise populations. The assessment of the original recovery plan emphasized the need for a better understanding of the implications of multiple, simultaneous threats facing desert tortoise populations and of the relative contribution of multiple threats on demographic factors (i.e., birth rate, survivorship, fecundity, and death rate; Tracy et al. 2004).

In recognition of the absence of specific and recent information on the location of habitable areas of the Mojave Desert, especially at the outer edges of this area, Nussear et al. (2009) developed a quantitative, spatial habitat model for the desert tortoise north and west of the Colorado River. The model incorporates environmental variables such as precipitation, geology, vegetation, and

slope and is based on occurrence data of desert tortoises from sources spanning more than 80 years, including data from the 2001 to 2008 range-wide monitoring surveys. The model predicts the relative potential for desert tortoises to be present in any given location, given the combination of habitat variables at that location in relation to areas of known occupancy throughout the range; calculations of the amount of desert tortoise habitat in the 5-year review (Service 2010) and in this biological opinion use a threshold of 0.5 or greater predicted value for potential desert tortoise habitat. The model does not account for anthropogenic effects to habitat and represents the potential for occupancy by desert tortoises absent these effects.

To understand better the relationship of threats to populations of desert tortoises and the most effective manner to implement recovery actions, the Desert Tortoise Recovery Office developed a spatial decision support system that models the interrelationships of threats to desert tortoises and how those threats affect population change. The spatial decision support system describes the numerous threats that desert tortoises face, explains how these threats interact to affect individual animals and habitat, and how these effects in turn bring about changes in populations. For example, we have long known that the construction of a transmission line can result in the death of desert tortoises and loss of habitat. We have also known that common ravens, known predators of desert tortoises, use transmission line pylons for nesting, roosting, and perching and that the access routes associated with transmission lines provide a vector for the introduction and spread of invasive weeds and facilitate increased human access into an area. Increased human access can accelerate illegal collection and release of desert tortoises and their deliberate maiming and killing, as well as facilitate the spread of other threats associated with human presence, such as vehicle use, garbage and dumping, and invasive plants (Service 2011). Changes in the abundance of native plants because of invasive weeds can compromise the physiological health of desert tortoises, making them more vulnerable to drought, disease, and predation. The spatial decision support system allows us to map threats across the range of the desert tortoise and model the intensity of stresses that these multiple and combined threats place on desert tortoise populations.

In the 5-year review, the Service notes that desert tortoises increase their reproduction in high rainfall years; more rain provides desert tortoises with more high quality food (i.e., plants that are higher in water and protein), which, in turn, allows them to lay more eggs. Conversely, the physiological stress associated with foraging on food plants with insufficient water and nitrogen may leave desert tortoises vulnerable to disease (Oftedal 2002), and the reproductive rate of diseased desert tortoises is likely lower than that of healthy animals. Young desert tortoises also rely upon high- quality, low-fiber plants (e.g., native annual plants) with nutrient levels not found in the invasive weeds that have increased in abundance across its range (Oftedal et al. 2002; Tracy et al. 2004). Compromised nutrition of young desert tortoises likely represents an effective reduction in reproduction by reducing the number of animals that reaches adulthood. Consequently, although we do not have quantitative data that show a direct relationship, the abundance of weedy species within the range of the desert tortoise has the potential to affect the reproduction of desert tortoises and recruitment into the adult population in a negative manner.

Various human activities have introduced numerous species of non-native invasive plants into the California desert. Routes that humans use to travel through the desert (paved and unpaved

roads, railroads, motorcycle trials, etc.) serve as pathways for new species to enter habitat of the desert tortoise and for species that currently occur there to spread. Other disturbances of the desert substrate also provide invasive species with entry points into the desert. Figure 7 depicts the potential for these species to invade habitat of the desert tortoise. The reproductive capacity of the desert tortoise may be compromised to some degree by the abundance and distribution of invasive weeds across its range; the continued increase in human access across the desert likely continues to facilitate the spread of weeds and further affect the reproductive capacity of the species.

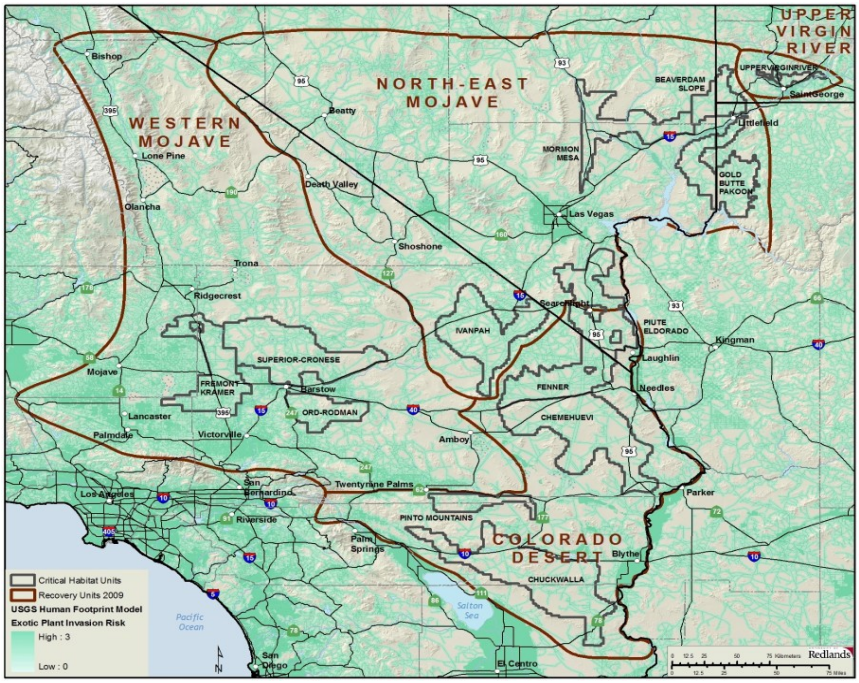

Figure 7. Exotic plant invasion risk to desert tortoise habitat.

As the Service notes in the 5-year review (Service 2010), "(t)he threats identified in the original listing rule continue to affect the [desert tortoise] today, with invasive species, wildfire, and renewable energy development coming to the forefront as important factors in habitat loss and conversion. The vast majority of threats to the desert tortoise or its habitat are associated with human land uses." Oftedal's work (2002) suggests that invasive weeds may adversely affect the physiological health of desert tortoises. Using captive neonate and yearling desert tortoises, Drake et al. (2015) found that individuals "eating native forbs had better body condition and immune functions, grew more, and had higher survival rates (>95%) than (desert) tortoises consuming any other diet"; health and body condition declined in individuals fed only grasses (native or non-native). Current information indicates that invasive species likely affect a large

portion of the desert tortoise's range. Furthermore, high densities of weedy species increase the likelihood of wildfires; wildfires, in turn, destroy native species and further the spread of invasive weeds.

Drake et al. (2015) "compared movement patterns, home-range size, behavior, microhabitat use, reproduction, and survival for adult desert tortoises located in, and adjacent to, burned habitat" in Nevada. They noted that the fires killed many desert tortoises but found that, in the first 5 years post-fire, individuals moved deeper into burned habitat on a seasonal basis and foraged more frequently in burned areas (corresponding with greater production of annual plants and herbaceous perennials in these areas). Production of annual plants upon which desert tortoises feed was 10 times greater in burned versus unburned areas but was dominated by non-native species [e.g., red brome (*Bromus rubens*)] that frequently have lower digestibility than native vegetation. During years six and seven, the movements of desert tortoises into burned areas contracted with a decline in the live cover of a perennial forage plant that rapidly colonizes burned areas. Drake et al. (2015) did not find any differences in health or survivorship for desert tortoises occupying either habitat (burned or unburned) during this study or in reproduction during the seventh year after the fire.

Climate change is likely to affect the prospects for the long-term conservation of the desert tortoise. For example, predictions for climate change within the range of the desert tortoise suggest more frequent and prolonged droughts with an increase of the annual mean temperature by 3.5 to 4.0 degrees Celsius (º C) (38.3 to 39.2 degrees Fahrenheit [º F]). The greatest increases will likely occur in summer [June-July-August mean increase of as much as 5º C (41º F) (Christensen et al. 2007 in Service 2010)]. Precipitation will likely decrease by 5 to 15 percent annually in the region; with winter precipitation decreasing by up to 20 percent and summer precipitation increasing by up to 5 percent. Because germination of the desert tortoise's food plants is highly dependent on cool-season rains, the forage base could be reduced due to increasing temperatures and decreasing precipitation in winter. Although drought occurs routinely in the Mojave Desert, extended periods of drought have the potential to affect desert tortoises and their habitats through physiological effects to individuals (i.e., stress) and limited forage availability. To place the consequences of long-term drought in perspective, Longshore et al. (2003) demonstrated that even short-term drought could result in elevated levels of mortality of desert tortoises. Therefore, long-term drought is likely to have even greater effects, particularly given that the current fragmented nature of desert tortoise habitat (e.g., urban and agricultural development, highways, freeways, military training areas, etc.) will make recolonization of extirpated areas difficult, if not impossible.

FIVE-YEAR REVIEW

Section 4(c)(2) of the Endangered Species Act requires the Service to conduct a status review of each listed species at least once every 5 years. The purpose of a 5-year review is to evaluate whether the species' status has changed since it was listed (or since the most recent 5-year review); these reviews, at the time of their completion, provide the most up-to-date information on the range-wide status of the species. For this reason, we are incorporating the most recent 5-year review for the desert tortoise (Service 2010) by reference to provide most of the information

needed for this section of the biological opinion. The following paragraphs provide a summary of the relevant information in the 5-year review.

In the 5-year review, the Service discusses the status of the desert tortoise as a single distinct population segment and provides information on the Federal Register notices that resulted in its listing and the designation of critical habitat. The Service also describes the desert tortoise's ecology, life history, spatial distribution, abundance, habitats, and the threats that led to its listing (i.e., the five-factor analysis required by section 4(a)(1) of the Endangered Species Act). In the 5-year review, the Service concluded by recommending that the status of the desert tortoise as a threatened species be maintained.

With regard to the status of the desert tortoise as a distinct population segment, the Service concluded in the 5-year review that the recovery units recognized in the original and revised recovery plans (Service 1994 and 2011, respectively) do not qualify as distinct population segments under the Service's distinct population segment policy (61 FR 4722). We reached this conclusion because individuals of the listed taxon occupy habitat that is relatively continuously distributed, exhibit genetic differentiation that is consistent with isolation-by-distance in a continuous-distribution model of gene flow, and likely vary in behavioral and physiological characteristics across the area they occupy as a result of the transitional nature of, or environmental gradations between, the described subdivisions of the Mojave and Colorado deserts.

In the 5-year review, the Service summarizes information with regard to the desert tortoise's ecology and life history. Of key importance to assessing threats to the species and to developing and implementing a strategy for recovery is that desert tortoises are long lived, require up to 20 years to reach sexual maturity, and have low reproductive rates during a long period of reproductive potential. The number of eggs that a female desert tortoise can produce in a season is dependent on a variety of factors including environment, habitat, availability of forage and drinking water, and physiological condition. Predation seems to play an important role in clutch failure. Predation and environmental factors also affect the survival of hatchlings. The Service notes in the 5-year review that the combination of the desert tortoise's late breeding age and a low reproductive rate challenges our ability to recover the species.

Since the completion of the 5-year review, the Service has issued several biological opinions that affect large areas of desert tortoise habitat because of numerous proposals to develop renewable energy within its range (Table 4). These biological opinions concluded that proposed solar plants were not likely to jeopardize the continued existence of the desert tortoise primarily because they were located outside of critical habitat and desert wildlife management areas that contain most of the land base required for the recovery of the species. The proposed actions also included numerous measures intended to protect desert tortoise during the construction of the projects, such as translocation of affected individuals. In aggregate, these projects would result in an overall loss of approximately 43,920 acres of habitat of the desert tortoise. We also predicted that the project areas supported up to 3,721 desert tortoises; we concluded that most of these individuals were small desert tortoises, that most large individuals would likely be translocated from project sites, and that most mortalities would be small desert tortoises that were not

detected during clearance surveys. To date, 660 desert tortoises have been observed during construction of projects; most of these individuals were translocated from work areas, although some desert tortoises have been killed (see Service 2010). The mitigation required by the BLM and California Energy Commission, the agencies permitting these facilities, resulted in the acquisition of private land and funding for the implementation of various actions that are intended to promote the recovery of the desert tortoise. These mitigation measures are consistent with recommendations in the recovery plans for the desert tortoise; many of the measures have been derived directly from the recovery plans and the Service supports their implementation. We expect that, based on the best available scientific information, they will result in conservation benefits to the desert tortoise; however, it is difficult to assess how desert tortoise populations will respond because of the long generation time of the species.

In August 2016, the Service issued a biological opinion to the BLM for the land use plan amendment under the Desert Renewable Energy Conservation Plan. The land use plan amendment addressed all aspects of the BLM's management of the California Desert Conservation Area; however, the Service and BLM agreed that only those aspects related to the construction, operation, maintenance, and decommissioning of renewable energy facilities were likely to adversely affect the desert tortoise. The land use plan amendment resulted in the designation of approximately 388,000 acres of development focus areas where the BLM would apply a streamlined review process to applications for projects that generate renewable energy; the BLM estimated that approximately 11,290 acres of modeled desert tortoise habitat within the development focus areas would eventually be developed for renewable energy. The BLM also adopted numerous conservation and management actions as part of the land use plan amendment to further reduce the adverse effects of renewable energy development on the desert tortoise.

The land use plan amendment also increased the amount of land that the BLM manages for conservation (e.g., Areas of Critical Environmental Concern, National Conservation Lands, etc.) from 6,118,135 to 8,689,669 acres, although not all of the areas subject to increased protection are within desert tortoise habitat. The BLM will also manage lands outside of development focus areas according to numerous conservation and management actions; these conservation and management actions are more protective of desert tortoises than direction contained in the previous land use plan. The Service (2016) concluded that the land use plan amendment was not likely to jeopardize the continued existence of the desert tortoise and would benefit its recovery.

In addition to the biological opinions issued for solar development within the range of the desert tortoise, the Service (2012) also issued a biological opinion to the Department of the Army for the use of additional training lands at Fort Irwin. As part of this proposed action, the Department of the Army removed approximately 650 desert tortoises from 18,197 acres of the southern area of Fort Irwin, which had been off-limits to training. The Department of the Army would also use an additional 48,629 acres that lie east of the former boundaries of Fort Irwin; much of this parcel is either too mountainous or too rocky and low in elevation to support numerous desert tortoises.

The Service (2017) also issued a biological opinion to the Marine Corps that considered the effects of the expansion of the Marine Corps Air Ground Combat Center at Twentynine Palms.

We concluded that the Marine Corps' proposed action, the use of approximately 167,982 acres of public and private land for training, was not likely to jeopardize the continued existence of the desert tortoise. Most of the expansion area lies within the Johnson Valley Off-highway Vehicle Management Area. As part of this proposed action, the Marine Corps removed 929 desert tortoises from the expansion area (Hoffmann 2017).

The incremental effect of the larger actions (i.e., solar development, the expansions of Fort Irwin and the Marine Corps Air Ground Combat Center) on the desert tortoise is unlikely to be positive, despite the numerous conservation measures that have been (or will be) implemented as part of the actions. The acquisition of private lands as mitigation for most of these actions increases the level of protection afforded these lands; however, these acquisitions do not create new habitat and Federal, State, and privately managed lands remain subject to most of the threats and stresses we discussed previously in this section. Although land managers have been implementing measures to manage these threats and we expect, based on the best available scientific information, that such measures provide conservation benefits to the desert tortoise, we have been unable, to date, to determine whether the expected benefits of the measures have yet been realized, at least in part because of the low reproductive capacity of the desert tortoise. Therefore, the conversion of habitat into areas that are unsuitable for this species continues the trend of constricting the desert tortoise into a smaller portion of its range.

RECOVERY NEEDS

The Service (1994, 2011) has issued an initial recovery plan and a revised recovery plan for the desert tortoise. The 1994 recovery plan recommended that a scientifically credible monitoring plan be developed to determine that the population exhibit a statistically significant upward trend or remain stationary for at least 25 years and that enough habitat would be protected within a recovery unit or the habitat and populations be managed intensively enough to ensure long-term viability. Because both minimum population densities and minimum population numbers need to be considered to ensure recovery, the Service further recommended that reserves be at least 1,000 square miles. Smaller reserves that provide high-quality, secure habitat for 10,000 to 20,000 adult desert tortoises should provide comfortable persistence probabilities for the species well into the future when populations are well above minimum viable density (e.g., 30 or more adults per square mile) and lambdas can be maintained (see page C54 of Service 1994). Conversely, populations with densities below approximately 10 adults per square mile (3.9 per square kilometer) are in danger of extinction (see page 32 of Service 1994).The revised recovery plan for the desert tortoise (Service 2011) lists three objectives and associated criteria to achieve delisting. The first objective is to maintain self-sustaining populations of desert tortoises within each recovery unit into the future; the criterion is that the rates of population change (λ) for desert tortoises are increasing (i.e., $\lambda > 1$) over at least 25 years (i.e., a single generation), as measured by extensive, range-wide monitoring across conservation areas within each recovery unit, and by direct monitoring and estimation of vital rates (recruitment, survival) from demographic study areas within each recovery unit.

The second objective addresses the distribution of desert tortoises. The goal is to maintain well-distributed populations of desert tortoises throughout each recovery unit; the criterion is that the

distribution of desert tortoises throughout each conservation area increase over at least 25 years.

The final objective is to ensure that habitat within each recovery unit is protected and managed to support long-term viability of desert tortoise populations. The criterion is that the quantity of desert tortoise habitat within each conservation area be maintained with no net loss until population viability is ensured.

The revised recovery plan (Service 2011) also recommends connecting blocks of desert tortoise habitat, such as critical habitat units and other important areas to maintain gene flow between populations. Linkages defined using least-cost path analysis (Averill-Murray et al. 2013) illustrate a minimum connection of habitat for desert tortoises between blocks of habitat and represent priority areas for conservation of population connectivity. Figure 8 illustrates that, across the range, desert tortoises in areas under the highest level of conservation and management remain subject to numerous threats, stresses, and mortality sources.

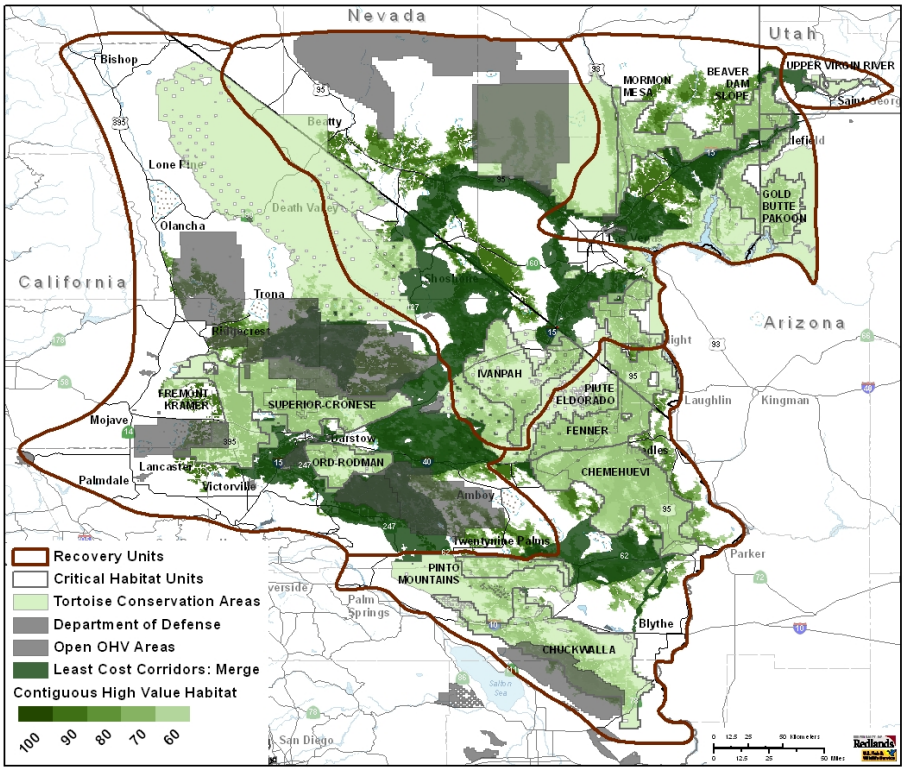

Figure 8. Desert tortoise habitat linkages and high-value habitat.

ENVIRONMENTAL BASELINE

The action area is defined as all areas to be affected directly or indirectly by the Federal action including interrelated and interdependent actions, and not merely the immediate area involved in the action (50 CFR § 402.02). Subsequent analyses of the environmental baseline, effects of the action, cumulative effects, and levels of incidental take are based upon the action area as determined by the Service. Regulations implementing the Act define the environmental baseline as the past and present effects of all Federal, State, or private actions and other human activities in the action area (50 CFR § 402.02). Also included in the environmental baseline are the anticipated effects of all proposed Federal projects in the action area that have undergone section 7 consultation, and the effects of state and private actions that are contemporaneous with the consultation in progress.

DESCRIPTION OF THE ACTION AREA

The action area for this programmatic consultation broadly includes areas of the current NTTR excluding areas identified as classified and secured (Figure 1), areas of proposed alternatives, and other lands if a nexus to a USAF action is established with USAF oversight which may affect the desert tortoise or its habitat. The action area is located in Clark, Lincoln, and Nye Counties in southern Nevada. Projects may be covered under this PBO only if: (1) the USAF is designated the lead Federal agency for the consultation, (2) USAF retains discretion sufficient to ensure compliance with all applicable measures, or terms and conditions, required for the proposed action, and (3) the action is appended, or exempted from appending procedures, as specified in this PBO.

STATUS OF THE DESERT TORTOISE IN THE ACTION AREA

To evaluate its current status, results from past desert tortoise surveys were incorporated in the BA submitted for this PBO (pp. 47–64). Between 2010 and 2016, desert tortoise surveys were conducted in parts of the NTTR in the South Range to model the general range and densities of desert tortoise. Within the NTTR, the survey locations focused on areas where access was permitted and identified earlier in the 2009 delineation of the range of desert tortoise habitat (see Figure 20 and 24 in the BA). In the following density discussions, the estimated numbers of tortoises within the action area refer to tortoises 180 millimeters or larger in length.

Based on past surveys and modeling efforts, the relative abundance of desert tortoises in the Eastern Action Area or South Range of NTTR was estimated to be mostly low with some patches of moderate or moderately high areas (Figure 9). Desert tortoise habitat occurs throughout the Eastern Action Area or South Range of the NTTR (Figure 10). Desert tortoise habitat is limited to small areas of the western and southern parts of the Western Action Area (Figure 11). Models estimated approximately 866,260 acres (3,505 km^2 (1,353 mi^2)) of potential desert tortoise habitat occurs within the action area (Table 1 of USAF 2018).

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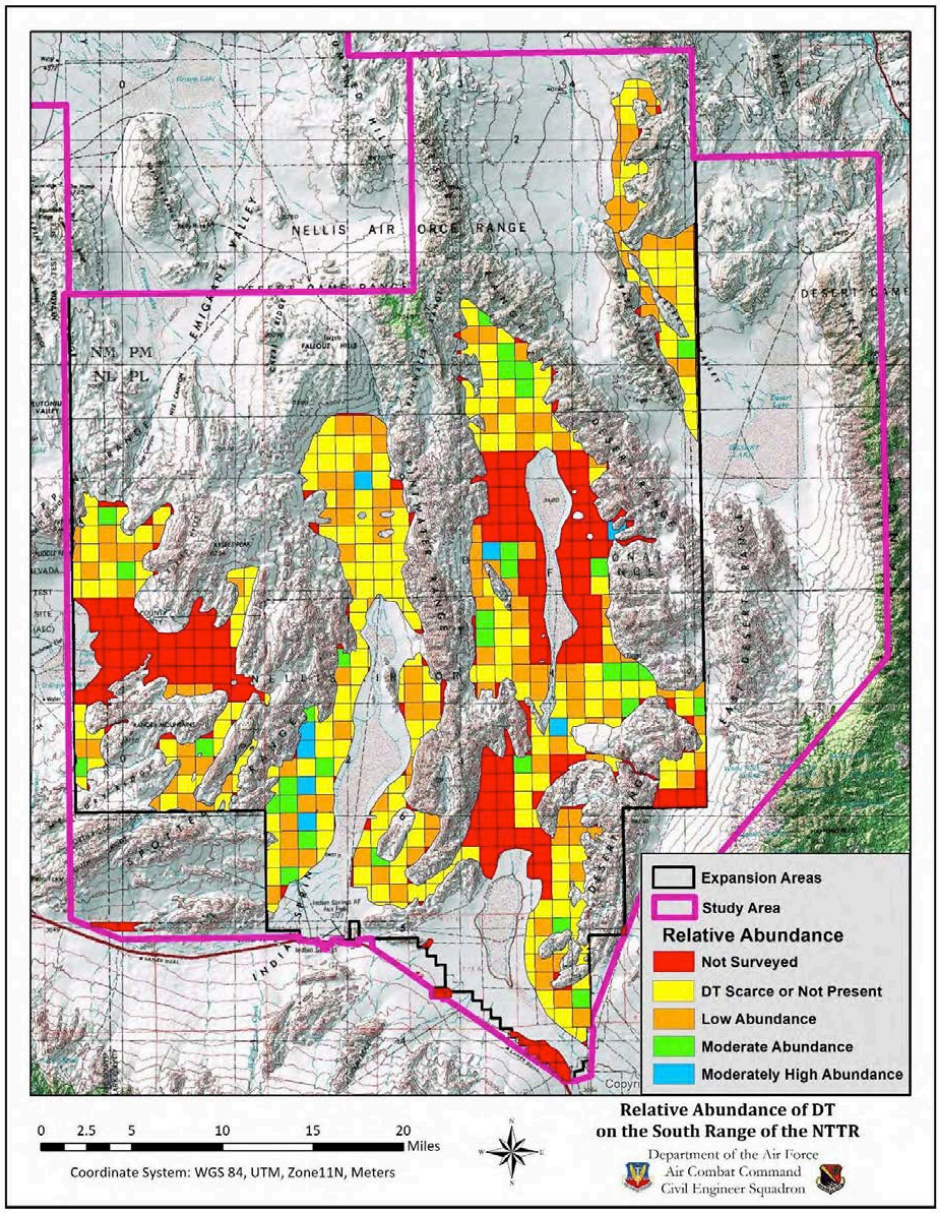

Figure 9. Estimated relative abundance of desert tortoise and areas surveyed in the Eastern Action Area or South Range of NTTR (Figure 24 on page 60 of the BA).

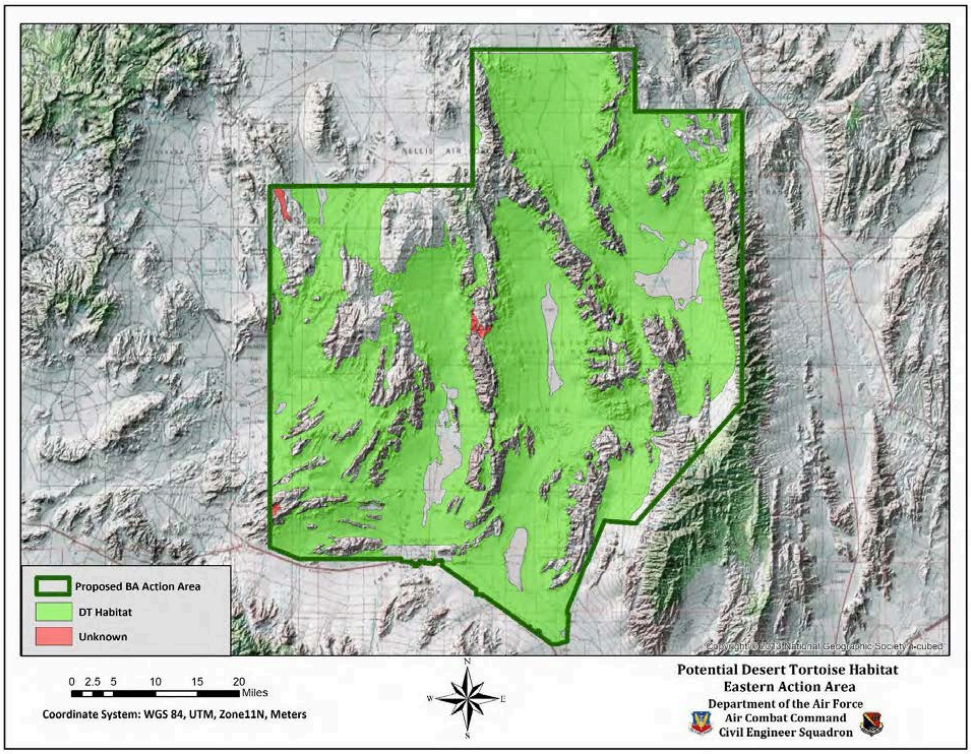

Figure 10. Desert tortoise habitat suitability model in the Eastern Action Area or South Range of the NTTR (page 63, Figure 25 on page 63 of the BA).

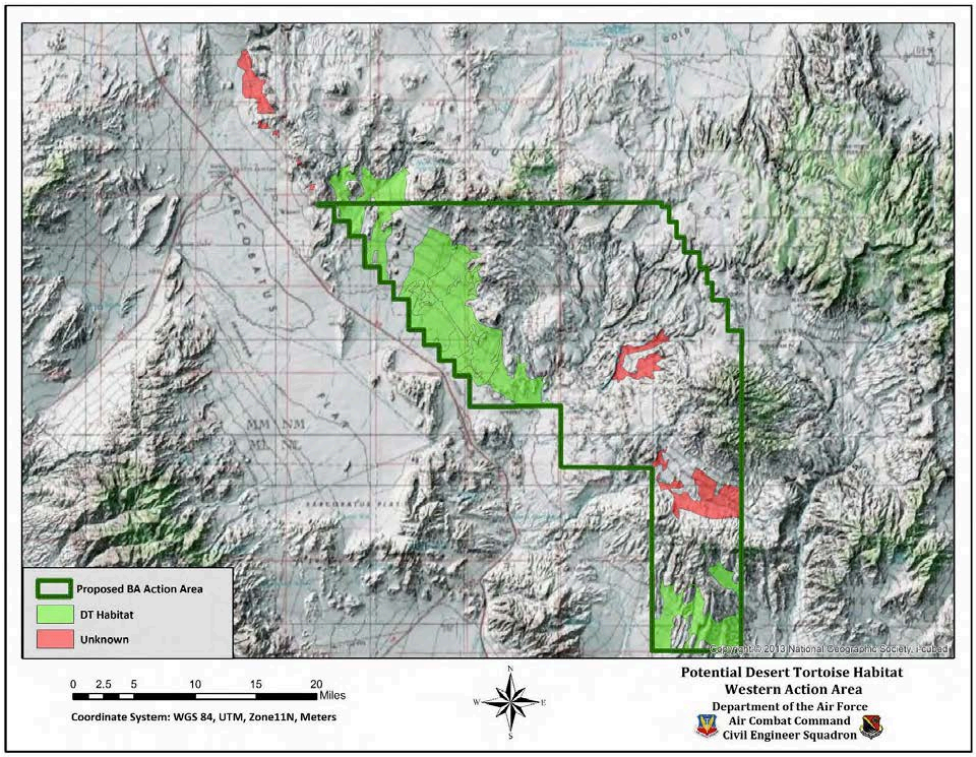

Figure 11. Desert tortoise habitat suitability model in the Western Action Area (page 64, Figure 26 of the BA).

The action area occurs within the Eastern Mojave[12] and Northeastern Mojave recovery units for desert tortoise (Figure 7 in Service 2011 and Figure 1 in Service 2016). Models estimate approximately 866,260 ac (3,506 km^2) of desert tortoise habitat occurs in the action area (see Table 1 in USAF 2018) within the 3,937,849 ac (15,936 km^2) of estimated habitat (Table 3) in the Eastern Mojave recovery unit. Monitoring of the Eastern Mojave recovery unit indicated a declining trend in density between 2004 and 2014 (Service 2015).

Models estimate a small portion of desert tortoise habitat (13,722 ac (56 km^2)) within the action area (USAF 2017) occurs in the Northeastern Mojave recovery unit (2,626,111 ac (10,627 km^2); see Table 3). Monitoring of the Northeastern Mojave recovery unit indicated an increasing trend between 2004 and 2014 (Service 2015); however, very low density estimates (1.3 and 1.9

[12] The recovery unit delineations changed in 2011 from those originally delineated in 1994 and referenced in the 2003 PBO.

tortoises per km^2) were observed in 2017 in two Northeastern Mojave recovery unit strata (strata are areas sampled or "regions" in Program DISTANCE, Service 2018).

We considered estimated desert tortoise density data from the affected recovery units and monitoring results from the Coyote Spring Valley strata to estimate potential desert tortoise densities in desert tortoise habitat in the action area and areas of desert tortoise habitat proposed to be disturbed. The estimated density of adult tortoises within the overall Recovery Units and strata therein typically ranges between 1 and 6 per km^2 or 3 to 16 per mi^2. Although most of the action area occurs in the Eastern Mojave recovery unit, the action area is geographically closer to long-term sampling strata in the Northeastern Mojave recovery unit, in particular the Coyote Spring Valley strata (see Figure 1 in Service 2016). For the purposes of this biological opinion, we use adult density estimates from the Coyote Spring Valley strata to extrapolate adult desert tortoise density estimates for the action area. In 2016, the adult tortoise density in the Coyote Spring Valley strata was 4.2 per km^2 (10.9 mi^2, CV 31). A density of 4.2 adult desert tortoises per km^2 equates to 14,725 adult desert tortoises in the estimated 866,260 ac (3,506 km^2 (1,353 mi^2)) of desert tortoise habitat in the action area.

We do not provide estimates in this biological opinion for the number of small desert tortoises and eggs that would be affected by the proposed action due to the large number of assumptions that would be needed and uncertainty regarding these estimates.

FACTORS AFFECTING THE SPECIES IN THE ACTION AREA

Factors affecting the desert tortoise in the action area include all actions previously consulted on by the USAF and the Service. The precise number of desert tortoises killed or injured as a result of the projects or actions covered under previously issued biological opinions is unknown, mostly due to the difficulty in locating desert tortoises, particularly small ones, and the lack of reporting. The Service often relies on desert tortoise density estimates and habitat disturbance as a surrogate for mortality take particularly for large disturbances. For information on the environmental baseline prior to 2003, refer to the previous BOs: 1-5-94-F-162, 1-5-96-F-278, 1-5-02-F-522, and 1-5-03-F-418.

Actions having occurred since 1994, resulted in an estimated 3,252 acres of desert tortoise habitat disturbance, an approximate 335% increase over 23 years. As mentioned earlier, there is no designated desert tortoise critical habitat in the action area, however parts of the DNWR have been identified as affording various degrees of conservation benefit for desert tortoise. In 1994, when critical habitat was designated for the desert tortoise, the Service determined that areas of the Desert National Wildlife Refuge (formerly referred to as Range) were not to be included because the designation would not afford areas within it any additional benefit (59 FR 5837). The areas excluded for designation as critical habitat were part of the area identified as the Coyote Spring Desert Wildlife Management Area (DWMA [58 FR 45749]) which includes parts of the action area currently managed by the Service. The portion of the action area that is currently managed in part or in whole by the Service as the Desert National Wildlife Refuge is identified as a desert tortoise conservation area in the 2011 recovery plan (labeled U.S. Fish and Wildlife Service in Figure 2, p. 23) and is identified as the Coyote Spring DWMA in the 1994 desert tortoise recovery plan (Service 1994:41). In addition, the parts of the action area managed

in part or in whole by the Department of Defense are identified as providing conservation benefit to the desert tortoise (Service 2011, Figure 3, p. 24).

The USAF reported the following impacts to desert tortoise and desert tortoise habitat for previous consultations.

- In March 2012, the USAF and the Service agreed to assign take for the Request to Amend the Biological Opinion for Weapons Testing/Training on the Weapons and Tactics Center Range Complex (File No. 1-5-96-F-278) as the maximum allowable (H90, M-l=18, and 971 acres) because of the lack of information. The BO is a reinitiation of Biological Opinion for Continuing Current Weapons Testing/Training on the U.S. Department of the Air Force's Weapons and Tactics Center Range Complex (File No. 1-5-94-F-162).
- In April 2012, the USAF reported 7.3 acres of desert tortoise habitat was disturbed for the Dog Bone Lake/Target 62-1 Bypass Road, Lincoln County, Nevada (File No. 1-5-03-F-418).
- The Service issued a PBO for Activities on the South Range of Nellis Air Force Base, Nevada Test and Training Range, and the Nevada Training Initiative, Clark and Lincoln Counties, Nevada (1-5-02-F-522 PBO) on June 17, 2003. In December 2011, the USAF reported 1 take from harassment and the disturbance of 640 acres of desert tortoise habitat for the 1-5-02-F-522 PBO. In addition since its issuance, there has been one amendment (1-5-02-F-522.AMD1, June 2004) and one appended action (84320-2010-F-0422, August 2010) to the PBO. Amendment 1-5-02-F-522.AMD1 replaced Term and Condition 1.a and 1.d, removing the requirement for fencing and monitoring around Target 62-6 as well as fencing requirements around sites of regular desert tortoise activity. In lieu of fencing, project site clearance surveys could occur on a case-by-case basis as required by the NAFB Natural Resource Manager and Service. If tortoises were found they could be fitted with radio-telemetry devices. Since the amendment in 2004, there are no records of clearance surveys.
- The August 2010, BO for the Request to Append the Expeditionary Readiness Training Course Expansion to the Programmatic Biological Opinion for the South Range of Nellis Air Force Base, Nevada Test and Training Range, and the Nevada Training Initiative, Clark County, Nevada project (Append 84320-2010-F-0422) resulted in up to 21 acres of disturbance to desert tortoise habitat.

EFFECTS OF THE PROPOSED ACTION

Direct effects are the immediate effects of the action and are not dependent on the occurrence of any additional intervening actions for the impacts to species or critical habitat to occur. Indirect effects are those for which the proposed action is an essential cause, and that are later in time, but still reasonably certain to occur. If an effect will occur whether or not the action takes place, the action is not an essential cause of the indirect effect. In contrast to direct effects, indirect effects are more subtle, and may affect tortoise populations and habitat quality over an extended period of time, long after surface-disturbing activities have been completed. Indirect effects are of

particular concern for long-lived species such as the desert tortoise because project-related effects may not become evident in individuals or populations until years later.

GENERAL EFFECTS ANALYSIS

The various activities proposed by the USAF are anticipated to affect desert tortoises in several ways. Desert tortoises will be captured, handled, and moved from harm's way; they may be killed by heavy equipment and vehicles if not observed. Disturbance of desert tortoise habitat will result in loss, degradation, and fragmentation of habitat; increased edge effects on tortoises; and increased predation pressure from human-subsidized predators.

To analyze how the various activities of the proposed action may affect desert tortoises, we will qualitatively describe effects and then consider the best available information with regard to the effects to the reproduction, numbers, and distribution of desert tortoises in the action area and recovery units to determine whether the proposed action is likely to jeopardize the continued existence of the species.

We acknowledge that in every proposed activity, desert tortoises are at risk of being killed or injured when workers (including authorized biologists and biological monitors) drive outside of areas that have been fenced or cleared of tortoises. Small desert tortoises are at greater risk than larger animals because they are more difficult to see. This will generally be the case for every proposed activity, regardless of whether tortoises have previously been captured, handled, and moved out of harm's way.

Up to 8,729 acres (35.3 km^2) of desert tortoise habitat are proposed to be directly affected by the USAF's proposed action (Table 1). This will result in direct, long-term loss, degradation, and fragmentation of habitat that will adversely impact foraging, breeding, and sheltering of desert tortoises. Desert tortoise abundance in the action area is estimated to primarily be low to moderate with pockets of moderately high relative abundance. We use the 2016 adult desert tortoise density estimate from the Coyote Springs Valley strata (4.2 adult desert tortoise per km^2; Service 2016) and the number of acres identified to be affected to estimate the number of adult desert tortoise that may be directly affected by the proposed action and each program. Based on this, approximately 149 adult desert tortoises may be directly affected by the USAF's proposed action (4.2 desert tortoise per km^2 x 35.3 km^2). This represents a small number of adult tortoises estimated to occur in desert tortoise habitat throughout the action area (approximately 1.0 percent or 149 of 14,072). As described previously, the USAF has proposed measures that will reduce the number of these tortoises likely to be killed or injured by the proposed action.

Although we do not know precisely where the all the affected acres identified in Table 1 will occur or within which of the two recovery units the disturbance will occur, the disturbance does not constitute a numerically significant portion of the two affected recovery units (approximately 0.1 percent; 8,729 ac of disturbance within 6,563,960 ac of combined desert tortoise habitat in the Eastern and Northeastern Mojave recovery units).

Effects of Capturing, Handling, and Moving Desert Tortoises

Desert tortoises observed in harm's way will be captured and moved to safe areas prior to ground-disturbing activities. Desert tortoises may be moved just outside the perimeter of a project (less than 300 meters). Tortoises moved short distances (less than 300 meters) may return to the point of capture and need to be moved again. Because of the difficulty in locating small desert tortoises and eggs, an unknown number of tortoises and eggs may not be observed prior to ground-disturbing activities and may consequently be killed by project activities. Capturing, handling, and moving tortoises may result in accidental death or injury if performed improperly, such as during extreme temperatures, or if individuals void their bladders and are not rehydrated. Averill-Murray (2001) determined desert tortoises that voided their bladders during handling had lower overall survival rates (0.81 to 0.88) than those that did not void (0.96). To minimize these potential effects, the USAF proposed that the NAFB Natural Resources Manager or an authorized biologist will follow the most current version of the Desert Tortoise Field Manual (Service 2009) when capturing, handling, and moving tortoises. These personnel also will use appropriate protective measures and procedures to reduce the spread of pathogens among individuals by using new latex gloves for each tortoises handled.

Currently, the USAF has not identified specific activities that will require translocation (i.e., moving tortoises more than 1,640 ft (500 m)); therefore, translocation is outside the scope of this consultation and would require additional section 7 consultation to evaluate effects from that proposed action.

Effects of Habitat Disturbance and Loss

The USAF determined that all programs and project-level actions except Ready Access, Weapons Delivery Areas Cleanup, Borrow Pits, Test and Evaluation, or Battlefield Training may result in disturbance of, or other impacts to desert tortoise habitat as identified in Table 1. The USAF proposed to minimize mortality and injury of tortoises in disturbance areas by conducting preconstruction clearance surveys of previously undisturbed areas prior to surface- and vegetation-disturbing activities. USAF will capture, handle, and move tortoises as described in the previous section (*Effects of Capturing, Handling, and Moving Desert Tortoises*).

Surface-disturbing activities may degrade the quality of desert tortoise habitat in several ways. Mechanical disturbance of desert soils may cause the following: (1) changes in annual and perennial plant production and species composition including introduction of nonnative plants, including noxious weeds, or increases in the area of distribution of weeds; (2) outright soil loss due to increased rates of water and wind erosion; (3) reduced soil moisture; (4) reduced infiltration rates; (5) changes in soil thermal regime; and (6) compaction or an increase in surface strength (Adams, et al. 1982; Biosystems 1991; Burge 1983; Bury 1978; Bury and Luckenbach 1983 and 1986; Davidson and Fox 1974; Hinkley et al. 1983; Nakata 1983; Vollmer et al. 1976; Webb 1983; Wilshire 1977 and 1979; Wilshire and Nakata 1976; Woodman 1983). The USAF will implement the following measures to minimize potential effects from surface-disturbing activities: (1) erosion control measures will be used to maintain soil; (2) sediment fences will be placed around construction sites; (3) excavation areas will be lightly wetted to minimize dust; and (4) soils may be lightly rolled to reduce wind erosion.

Project vehicles and equipment drive in undisturbed habitat can destroy vegetation and damage soils. Vegetation that is destroyed reduces vegetation cover resulting in a decrease in the thermal insulation provided by the vegetative cover, which results in increased daytime temperatures. Higher temperatures decrease the soil moisture, which causes soil temperature to increase further because less heat is required to vaporize the water present. Revegetation is inhibited as a result of these processes (Webb et al. 1978).

Project vehicles and equipment that drive over desert habitat often damage soils which are protected by fragile organic or inorganic crusts. The organic crust can be the result of various microflora such as algae, lichen, and fungi, which form cryptobiotic crusts or macroflora consisting of the remnants of fibrous root material from dead annual plants (Cooke and Warren 1973; Went and Stark 1968). The inorganic crust can be comprised of desert pavement, silt and clay, or chemicals. All of these crusts help prevent erosion, and may increase infiltration and retard evaporation (Epstein et al. 1966). To minimize impacts to vegetation and soils in undisturbed habitat, the USAF proposed having the NAFB Natural Resources Manager identify and authorize surface-disturbing activities within an identified, confined area.

The effects of off-road vehicle (OHV) activity in arid lands continue long after the event if some physical property of the soil is altered. Loosened soils blown off the surface can collect at the bases of shrubs or accumulate in nearby foothills, resulting in small dunes. Finer pulverized soils require lower threshold wind velocities for transportation than coarser pulverized soils having higher fine-clay content. Alluvial fans, bajadas, and desert flats with sandy soils, which have very low moisture content and are devoid of vegetation, are most affected by wind erosion following disturbance by OHVs (Gillette and Adams 1983). Recovery of Mojave desert vegetation and soils may require 30 to 100 years or more following OHV activity (Lathrop 1983). Dust may be deposited on vegetation near disturbance areas. Dust can impact vegetation, which in turn can affect the desert tortoise by decreasing the available forage. Gibson et al. (1998) found that heavy dust does not kill creosotebush; however, net photosynthesis may be reduced and leaf temperature substantially increased. Continued use of disturbances may preclude natural revegetation of these areas. Dust and particulate pollution is not expected to have significant impacts on desert tortoise.

Because recovery of vegetation in the desert can take decades or longer, we consider most ground-disturbing impacts to be long-term. Vasek et al. (1975) documented transmission line projects in the Mojave Desert resulted in an unvegetated maintenance roads, enhanced vegetation along the road edge and between tower sites (often dominated by nonnative species), and reduced vegetation cover under the towers; these areas recovered significantly but not completely in about 33 years. Webb (2002) determined that absent active restoration following extensive disturbance and compaction in the Mojave Desert, soils in this environment could take between 92 and 124 years to recover. Other studies have shown that recovery of plant cover and biomass in the Mojave Desert could require 50 to 300 years in the absence of restoration efforts (Lovich and Bainbridge 1999). A quantitative review of studies evaluating post-disturbance plant recovery and success in the Mojave and Sonoran deserts determined it takes 76 years for full reestablishment of total perennial plant cover and an estimated 215 years for the recovery of species composition typical of undisturbed areas (Abella 2010). This review also determined a number of variables likely affect vegetation recovery times, including but not limited to climate

(e.g., precipitation and temperatures), invasion by nonnative plant species, and the magnitude and extent of ongoing disturbance.

Projects that have the ability to retain the native root structure and seeds within the project area would help retain soil stability, minimize soil erosion, and minimize fugitive dust pollution. Retention of native seed and roots within the project site will also facilitate recovery of vegetative cover. Use of native plant species will minimize the need to water the vegetation, because native species are already adapted to the local climate and moisture regime of the area.

The USAF proposes to restore desert tortoise habitat during the term of this proposed action. Active restoration, including decompaction, seeding, and planting, can reduce the time required to restore desert ecosystems; success is varied and dependent on numerous variables. Based on this information, some number of restored acres may be unsuitable as habitat for several decades after project activities are implemented and restoration work is started. The potential exists that habitat within disturbed areas could still be permanently lost if restoration efforts are not successful. The USAF proposed the following measures which may increase the likelihood of restoration efforts: (1) conserving and recontouring the top 6 inch layer of soil, and (2) establishing native plants in disturbance areas, and (4) removing invasive plants. These actions are likely to reduce the amount of time required to return disturbed areas to habitat suitable for desert tortoise occupancy.

Desert tortoises would not persist in areas where habitat has been completely removed. The number of desert tortoises that may persist in areas where the habitat has been disturbed (but not completely removed) is a function of the type of habitat and the nature of the disturbance; we cannot predict how many desert tortoises are likely to persist in such areas over time.

Although the USAF is not proposing to create new target areas, it estimates up to 7,742 acres of additional disturbance surrounding existing targets may occur when ordnance and munitions hit targets. Because many unknowns exist making it difficult to predict where this disturbance may occur, the USAF is not proposing to conduct desert tortoise clearance surveys for the purposes of weapons delivery; therefore, any desert tortoises occurring in the disturbance areas surrounding targets are likely to be killed. Because of the nature of the impact, we do not expect desert tortoise carcasses to be found. Based on the USAF's estimate of 7,742 acres and the 2016 large desert tortoise density estimate from the Coyote Springs Valley Strata, 132 large desert tortoises and an unknown number of small tortoises and eggs may be killed by the weapons delivery program.

Based on the USAF's estimate of 11.5 acres of disturbance for the Threat Emitters and Roads program and the 2016 large desert tortoise density estimate from the Coyote Springs Valley Strata, we estimate 1 large tortoise and an unknown number of small tortoises and eggs may be affected within the acres to be disturbed. The USAF proposes to complete desert tortoise clearance surveys prior to constructing threat emitter sites and access roads, which will minimize mortality risk during construction. Additional effects may occur over the duration of the withdrawal as threat emitter sites are accessed during operations activities.

Based on the USAF's estimate of affecting 126 acres of desert tortoise habitat for fencing under the Infrastructure Construction and Maintenance program, we estimate 3 large tortoises and an unknown number of small tortoises and eggs may be affected. The USAF proposes to complete desert tortoise clearance surveys prior to constructing fences, which will minimize mortality risk during fence installation. Fences may restrict desert tortoise movement over the duration of the withdrawal.

Based on the USAF's estimate of affecting 13 acres of desert tortoise habitat for the Insertion and Extraction Program, we estimate 1 large tortoise and an unknown number of small tortoises and eggs may be affected. The USAF proposes to complete desert tortoise clearance surveys prior to constructing fences, which will minimize mortality risk during fence installation.

Because they are difficult to observe, proposed actions resulting in habitat disturbance are likely to kill small tortoises and eggs occurring in those areas, although the USAF would likely find some small animals and move them out of harm's way. This may reduce population recruitment or create demographic imbalances. The potential mortality of small desert tortoises in the action area will likely affect, to some degree, recruitment (i.e., individuals reaching reproductive age).

We did not attempt to estimate the number of small tortoises and eggs that may be impacted for two reasons. First, the large number of assumptions involved decreases the value of this exercise, particularly in the context of the entirety of both the Eastern and Northeastern Mojave recovery units. Second, the natural high rate of mortality among eggs and small tortoises also would reduce the value of the estimate.

Although we are not comparing the overall estimate of the numbers of small desert tortoises and eggs likely to be killed or injured to the overall numbers within the recovery units, we can reasonably conclude that the estimate is a small percentage of the overall numbers of small desert tortoises and eggs. We reach this conclusion because the number of large desert tortoises affected by the proposed actions is a small percentage of the population in the Northeastern and Eastern Mojave Recovery Units. Consequently, although actions that disturb habitat are likely to kill many small desert tortoises and eggs and some additional animals and eggs would be killed during operations, the proposed actions are not likely to appreciably diminish the number of small desert tortoises or eggs in the action area or across the two affected recovery units.

To offset the disturbance and loss of desert tortoise habitat from the proposed action, the USAF proposed to either set aside compensation areas in the NTTR where desert tortoise habitat will be restored and protected, or coordinate with the Service to identify other methods of compensation for the loss of desert tortoise habitat. We expect these efforts to improve habitat in other areas of the NTTR, which will lead to an increase in desert tortoises in those areas. Implementation of some of these activities has the potential to result in adverse effects to the desert tortoise. Because we do not have specific information regarding these future activities, these actions may require future project-specific authorizations prior to implementation, at which time, we will address their adverse effects to the desert tortoise in future project-specific section 7 consultations.

Effects of Roads, Motor Vehicles, and Project Area Access on the Desert Tortoise

The USAF proposed to continue to use a network of existing roads throughout the NTTR. In addition, 4.0 acres of new road will be constructed and used to access new emitter locations, and 836 acres of roads and trails previously restricted from vehicle use due to the past proposed Wilderness Area designation, will now be available for use. Project access roads may be used solely by project vehicles or by both project and other USAF vehicles. The risk to desert tortoises on access roads is affected by variables such as speed limits, weather conditions, the nature and condition of the roads, and activity patterns of desert tortoises at the time the roads are in use. Use of roads on the NTTR may result in injury or mortality of desert tortoises not observed by vehicles; habitat fragmentation; increased opportunities for disturbance; and introduction of non-native plants and animals.

Road mortality is a considerable, non-natural source of vertebrate mortality in urban as well as protected areas (Andrews et al. 2008). Roads may be crossed by dispersing desert tortoises as well as those whose home range includes the road, resulting in mortality or injury if the animal is not observed (Bury and Luckenbach 2002, Nicholson 1978). Slow-moving animals, such as the desert tortoise, are not capable of crossing roads quickly which further increases their mortality risk associated with roads. Vehicles on well-maintained and paved roads may travel at excessive speeds, preventing the operator from seeing desert tortoises in time to avoid them. These long-lived species likely experience significant population impacts when adult females are killed. Additionally tortoises use depressions in roads as drinking sites, which may increase their risk to vehicular collisions. The USAF proposed several measures expected to minimize these effects: (1) providing desert tortoise awareness education, (2) establishing vehicular traffic controls (speed limits, signs, and travel restrictions), (3) checking for tortoises under vehicles prior to driving to reduce potential injury and mortality, and (4) establishing signs to identify where vehicles may drive and to increase awareness of vehicle operators. We cannot estimate or quantify the level of non-compliance to these measures.

Use of roads in the NTTR may also affect desert tortoise activity in the vicinity of roads. Census data indicate that desert tortoise numbers decline as vehicle use increases (Bury et al. 1977) and that tortoise sign increases with increased distance from roads (Nicholson 1978). General road use, and road construction and maintenance activities (grading, paving, and graveling) may cause physiological stress, and disruption of movement, feeding, breeding, and sheltering behavior in desert tortoises.

Roads can also contribute to increased abundance of introduced predators and invasive plants. Predators and invasive plants may migrate outward from roads, affecting desert tortoises in adjacent areas. The total area affected, or the “road-effect zone,” can be substantial for species that either travel long distance or are vulnerable to predation by species introduced along road corridors (Boarman and Sazaki 1996). The combined environmental effects generated by roads (e.g., thermal, hydrological, pollutants, noise, light, invasive species, human access) within the "road-effect zone," extend outward from approximately 300 to 2,600 ft beyond the road edge. Additional effects and USAF-proposed minimization measures addressing invasive plants are described in more detail below (see *Effects of Nonnative Plant Species on the Desert Tortoise*).

Road kills and litter from vehicles may attract subsidized tortoise predators. Roads are major attractants for common ravens, which are predators on juvenile tortoises (Knight and Kawashima 1993, Boarman 1993). Ravens, being partly scavengers, are known for cruising road edges in search of road kills (Kristan et al. 2004). Desert tortoises using road depressions as drinking sites may be at increased risk from predation. Additional effects and USAF-proposed minimization measures addressing predator impacts are described in more detail below (see *Effects of Subsidized Desert Tortoise Predators*).

Effects to desert tortoises will increase from baseline conditions on roads in the previously proposed Wilderness Area, new project access roads, or those that are substantially improved. The majority of the desert tortoises impacted are likely those whose home ranges are intersected by or adjacent to these roads and trails. The USAF estimates 836 acres of roads and trail occur in previously proposed Wilderness that will now be used by authorized for use. Based on this, we estimate 15 large tortoises and an unknown number of small tortoises and eggs may be affected. USAF-proposed measures will minimize desert tortoise mortality and injury risk.

Edge Effects on the Desert Tortoise

Disturbance from USAF-proposed actions will likely result in edge effects that will impact desert tortoises within habitat adjacent to the disturbance area (Zurita et al. 2012). Desert tortoises may be adversely affected by construction noise, ground vibrations, and artificial lighting. Increased noise levels and the presence of full-time facility lighting may affect desert tortoise behavior. While limited data exists on the effects of noise on desert tortoises, Bowles et al. (1997) demonstrated that the species has relatively sensitive hearing, but few physiological effects were observed with short-term exposures to jet air craft noise and sonic booms. These results cannot be extrapolated to chronic exposures over the lifetime of an individual or a population. Based on the ability of other species to adapt to noise disturbance, noise attenuation as distance from the project increases, and the fact that desert tortoises do not rely on auditory cues for their survival, we do not expect any desert tortoises to be injured or killed as a result of most project-related noise.

Because few data exist relative to edge effects from noise, light, vibration, and increased dust from project activities, we cannot determine how these potential impacts may affect desert tortoise populations within and adjacent to project areas. Thus, the magnitude and extent of these edge effects cannot be articulated at this time, but conceivably could disturb individual desert tortoises to the extent that they abandon all or a portion of their established home ranges and move elsewhere. The USAF did not propose any minimization measures specific to address edge effects.

Effects of Nonnative Plant Species on the Desert Tortoise

Surface disturbance from USAF-proposed actions will increase the potential introduction and spread of nonnative, potentially invasive plant species. Vehicles, roads, and other ground-disturbing activities contribute to the spread of nonnative species (or the displacement of native species) and the direct loss and degradation of habitats (Brooks 1995; Avery 1998). Project vehicles and equipment may transport nonnative propagules into the project area where they may

become established and proliferate. In addition, the introduction of nonnative plant species may lead to increased wildfire risk, which ultimately may result in future habitat losses (Service 2011; Brooks et al. 2003) and changes in forage opportunities for desert tortoises. If herbicides are used, tortoises may be directly or indirectly affected.

Roadsides are widely considered to be one of the primary pathways for nonnative plant invasions into desert regions (Amor and Stevens 1976 and Brooks and Pyke 2001, cited in Brooks and Berry 2006). Roads facilitate dispersal of plant seeds (Trombulak and Frissell 2000 *in* Brooks and Berry 2006). Four-wheel drive vehicles carry significantly more seeds than two-wheel drive vehicles (Lonsdale and Lane 1994, cited in Brooks and Berry 2006). OHV use tends to be concentrated around dirt roads and other pathways of travel away from roadsides, such as washes and utility ROWs (Matchett et al. 2004, cited in Brooks and Berry 2006), which may explain why there are more nonnative plant species near dirt roads. Roadsides not only experience high levels of disturbance, but they also have high levels of productivity from rainfall flow off of road surfaces and onto adjacent roadside verges (Johnson et al., 1975 and Starr 2002, cited in Brooks and Berry 2006). Where road densities are high, nonnative plant richness and biomass may increase from the combined effects of high nonnative plant biomass near roads, increased dispersal of seeds along and away from roads by vehicles, decreased distances from roads to other areas of the landscape, and locally high productivity levels along roadsides.

The potential proliferation of nonnative plant species could also contribute to an increase in fire frequency within the action area. Fires in desert tortoise habitat result in loss of habitat by altering plant composition and structure.

Invasion of non-native plants can affect the quality and quantity of plant foods available to desert tortoises. Nonnative species generally do not provide adequate nutrition to desert tortoises; when they out-compete native forage plants, they reduce the amount of food available to desert tortoises. Such outcomes may decrease desert tortoise health and therefore, survivorship and reproduction potential. Females may lay fewer eggs although we are unaware of any research that demonstrates this effect; many other factors influence egg production in desert tortoises.

The USAF proposed the following conservation measures to address the potential effects from nonnative plant species: (1) reducing the disturbed area and reducing disturbance intensity when permissible; (2) keeping the top 6 inches of soil putting this soil back on the top layer in disturbed areas; (3) seeding or planting native plants followed by irrigation; (4) minimizing vehicles from off-road travel; and (5) mechanical, hand, or chemical treatment of weeds.

Effects on Desert Tortoise Genetics and Population Connectivity

The USAF proposed up to 8,729 acres of disturbance in desert tortoise habitat, which may affect connectivity between local desert tortoise populations occurring in the action area. Genetic variability of the species and sufficient ecological heterogeneity within and among populations must be maintained to ensure desert tortoise recovery (Murphy et al. 2007; Hagerty and Tracy 2010). This variation is necessary to allow tortoises to adapt to changes in the environment over time (Service 1994, 2011).

Landscape genetic analysis performed by Latch et al. (2011) identified both natural (slope) and anthropogenic (roads) landscape variables that significantly influenced desert tortoise gene flow of a local population. Although they found a higher correlation of genetic distance with slope compared to roads, desert tortoise pairs from the same side of a road exhibited significantly less genetic differentiation than tortoise pairs from opposite sides of a road. Some project actions may decrease population connectivity beyond the existing conditions.

As discussed in the revised recovery plan (Service 2011) and elsewhere, habitat linkages are essential to maintaining rangewide genetic variation (Edwards et al. 2004, Segelbacher et al. 2010) and the ability to shift distribution in response to environmental stochasticity, such as climate change (Ricketts 2000, Fischer and Lindenmayer 2007, EPA 2009). Natural and anthropomorphic constrictions (e.g., I-15 at the Nevada-California border) can limit gene flow and the ability of desert tortoises to move between larger blocks of suitable habitat and populations.

Because little research exists relative to effects of habitat disturbance on desert tortoise genetics and population connectivity, we cannot at this time articulate the magnitude and extent of these potential effects on tortoises from USAF-proposed activities. It is conceivable that connectivity between local desert tortoise populations, and linkages within and to the action area may be impacted by proposed actions, particularly road use and the use of weapons delivery areas; however, the action area has not been identified to contain linkage habitat important for desert tortoise recovery (Averill-Murray et al. 2013).

While some level of impact to population connectivity and habitat linkages may occur from the proposed action, the loss and disturbance of 8,729 ac (31 km^2) of desert tortoise habitat represents a small percentage (approximately 1.0 percent) of the total desert tortoise habitat (866,260 ac (3,506 km^2)) in the action area. Furthermore, this loss and disturbance represents an even smaller percent of the estimated desert tortoise habitat in the Eastern and Northeastern Mojave recovery units (approximately 0.1 percent; 8,729 ac of disturbance within 6,563,960 ac of combined desert tortoise habitat in the Eastern and Northeastern Mojave recovery units). Based on this, we do not anticipate the loss of habitat will result in significant fragmentation or loss of connectivity over the entirety of the Eastern and Northeastern Mojave recovery units.

Effects of Subsidized Desert Tortoise Predators

The common raven is a known predator of the desert tortoise. Human activities in desert tortoise habitat potentially subsidize limited resources available for ravens and other desert tortoise predators. Habitat disturbance may remove shrubs and cover for desert tortoises exposing them to avian and other predators. Animals killed by vehicles on roads provide food for desert tortoise predators. Other human sources of desert tortoise predator subsidies include trash and discarded food, ponded water, and raven roosting and nesting sites.

Most raven predation on tortoises appears to occur during the raven breeding season (Boarman 2002b). By one estimate, ravens probably do most (75 percent) of their foraging within 0.25 mi of their nest (Sherman 1993) and raven predation pressure is notably intense near their nests (Kristan and Boarman 2001). Therefore, ravens nesting on towers or other infrastructure, where

no other nesting substrate exists within 0.5 mi, may significantly reduce juvenile tortoise populations within 0.25 mi of the corridor, but this effect is quite localized.

Natural predation rates may be altered or increased when natural habitats are disturbed or modified and human presence in otherwise remote desert areas increases. During the past few decades, the population of the common raven has increased substantially in the desert southwest, primarily in response to human-provided subsidies of food, water, and nest sites. There is documentation of numerous carcasses of hatchling and juvenile desert tortoises under the nests of common ravens and a reduction in the proportion of hatchling and juvenile desert tortoise at several locations in the Mojave Desert. Human activities that attract common ravens, desert kit foxes, feral dogs, and coyotes by providing resources in the form of food or water that would otherwise be unavailable may substantially increase predation of tortoises in the area (Berry 1986). Road-kill of wildlife provides additional attractants and subsidies for opportunistic predators and scavengers. The use of water to control dust on construction sites and access roads result in ponding of water would provide a subsidized resource for ravens and other desert tortoise predators.

To avoid and minimize the availability of predator subsidies, the USAF proposed measures to control trash and other subsidized resources including (1) avoiding the creation of artificial perches for predators, (2) monitoring for and removing raven nests, (3) managing trash for NTTR and each project so that it is contained and secured in containers inaccessible to ravens and other predators and removed periodically, (4) using predator-proof trash receptacles, and (5) implementation of a tortoise education program.

Effects of Electromagnetic Radiation

The impact of electromagnetic radiation from emitters or during test and evaluation on desert tortoise is not fully understood at this time. As more information is procured on this type of impact, the USAF will implement methods to minimize impacts to desert tortoise, if possible. However, current literature indicates that adverse impacts to the desert tortoise from threat emitters would be unlikely and discountable due to the fact that desert tortoise exposure is estimated to have a low likelihood because it is close to the ground at an angle out of line from the direction that electromagnetic radiation is expected to travel from emitters. Thus, chronic long-term exposure to electromagnetic radiation is not likely for desert tortoise.

Effects of Depleted Uranium, Munition, or Pyrotechnics

The impact of depleted uranium, munition or pyrotechnic residues used in weapons delivery areas and other training areas on desert tortoise is not fully understood at this time. Any adverse effects caused by exposure to depleted uranium and other chemicals would likely be most severe through inhalation. Inhalation would be less likely when desert tortoises are in their burrow. Desert tortoise could be exposed to residual depleted uranium through cutaneous contact or incidental ingestion though soil studies at NTTR indicate is not likely. There are currently no research studies documenting any effects to desert tortoises from depleted uranium, munition or pyrotechnic residues. The USAF proposed to remove and properly dispose depleted uranium,

munition or pyrotechnic waste contaminated debris (e.g. cartridges) to minimize desert tortoise exposure to harmful materials.

Effects of Weapons Delivery Areas

Activities associated with weapons delivery areas will result in habitat disturbance and loss, desert tortoise mortality, disturbance of individuals in areas adjacent to disturbance, and exposure to depleted uranium. Targets would impact the desert tortoise mostly by ground disturbing actions caused by exploding and non-exploding ordnance and small arms bullets. Up to 7,742 acres of desert tortoise habitat may be disturbed by weapons delivery areas. Desert tortoises directly impacted in weapons delivery areas are unlikely to be detected because of exploding ordinance which obliterates or buries them making them difficult to observe. To avoid and minimize effects from weapons delivery areas the USAF proposed desert tortoise awareness training, and restoration and protection of desert habitat.

Effects of Threat Emitters

Activities associated with threat emitters programs may cause desert tortoise mortality, disturbance of individuals, and habitat disturbance. Up to 11.5 acres of desert tortoise habitat may be disturbed by placement of the emitters and associated roads (7.5 for Emitters, and 4.0 for Roads). To avoid and minimize effects from threat emitters to desert tortoises, the USAF proposed the following measures: minimizing disturbance area; monitoring and clearance surveys, removing or preventing predator nests; and desert tortoise awareness training.

Effects of Infrastructure Construction and Maintenance

Activities associated with infrastructure construction and maintenance could affect up to a total of 962 acres of desert tortoise habitat, 126 acres for fencing and 836 acres for road and trail use (Inside Wilderness). To avoid and minimize effects from infrastructure construction and maintenance the USAF proposed to minimize disturbance area, covering or fencing holes or trenches, monitoring and clearance surveys, removing or preventing predator nests, and desert tortoise awareness training.

Effects of Ready Access, Battlefield Training, and Insertion and Extraction (Drop and Landing Zone), and Overland Navigation

Activities associated with ready access, battlefield training, and insertion and extraction (drop and landing zone), and overland navigation may cause disturbance or mortality of desert tortoise. Disturbance to habitat from ready access and battlefield training is expected to be minor because of small group sizes. Program vehicle activity will pose the greatest risk of injury or mortality from collisions to desert tortoises and disturbance to habitat.

To avoid and minimize effects from ready access, battlefield training, and insertion and extraction (drop and landing zone) and overland navigation the USAF proposed measures of desert tortoise awareness training and vehicular traffic controls (speed limits, signs, and travel restrictions). Activities associated with programs related to insertion and extraction (drop and

landing zone) and overland navigation could disturb up to 13 acres of desert tortoise habitat from landing zone construction. To avoid and minimize effects from insertion and extraction (drop and landing zone) and overland navigation the USAF proposed to minimize disturbance area, monitoring and clearance surveys.

Effects of Fire Suppression on the Desert Tortoise

If a wildfire occurs in desert tortoise habitat and requires the USAF suppression activities, desert tortoises and their habitat may be affected, but if suppression does not occur, the effects of the wildfire may be widespread resulting in devastating effects to localized tortoise populations. Wildfire suppression activities are typically short in duration (less than a week) and effects are localized. Desert tortoises, their nests, and habitat may be crushed by fire suppression vehicles and equipment traveling off-road. Creating fuel breaks may result in a swath of disturbance and create conditions for nonnative plants to establish. If suppression activities are not undertaken by the USAF or hindered, the amount of habitat burned and number of tortoises affected by the fire may increase.

An unknown number of acres could be disturbed from fire suppression activities. To avoid and minimize effects to desert tortoise and habitat from fire suppression activities, the USAF proposed the following guidelines as appropriate for desert tortoise conservation measures: utilize the current Mojave Desert Initiative (MDI) guidelines; avoid spreading non-native plants by ensuring that all firefighting equipment has been cleaned before entering the area; use the current map (Figure 10 and Figure 11) for potential desert tortoise habitat to determine where special consideration suppression tactics will be conducted; fight wildland fires aggressively in order to minimize burned acreage; minimize soil surface disturbances during fire suppression; limit the use of mechanized equipment when possible; restrict use of firefighting equipment and vehicles to existing roads and trails when possible; use of aerial retardant authorized in the BLM fire management plan (the preferred method of fire suppression; foam or fugitive retardant is preferable to iron oxide retardant in desert tortoise habitat); establish fire camps, staging areas, and helispots in previously disturbed areas outside mapped desert tortoise habitat; have a resource advisor assigned to the fire; and provide all firefighters and support personnel with a briefing on desert tortoise and their habitat to minimize tortoise injuries and destruction, particularly those associated with vehicle use.

Effects of the Action on Desert Tortoise Recovery

The USAF's proposed activities will not affect the desert tortoise's potential for recovery based on several factors. First we considered the estimated number of large tortoises that may be affected by surface disturbance. Desert tortoise abundance in the action area is estimated to primarily be low to moderate with only pockets of moderately high relative abundance. We estimate approximately 149 large tortoise may occur in areas of desert tortoise habitat that may be disturbed. This represents a small number of tortoises estimated to occur in desert tortoise habitat throughout the action area (approximately 1.0 percent or 149 of 14,072). All desert tortoises estimated to occur in weapons delivery target impact areas (approximately 132 large individuals and an unknown number of small tortoises and eggs) are anticipated to be killed. As

described in the effects analyses, the USAF proposed measures for other program areas that will reduce tortoises occurring in those areas from being killed or injured by the proposed action.

Next, we considered effects to small tortoises and eggs. We did not attempt to estimate the number of small tortoises and eggs that may be impacted for two reasons. First, the large number of assumptions involved decreases the value of this exercise, particularly in the context of the entirety of both the Eastern and Northeastern Mojave recovery units. Second, the natural high rate of mortality among eggs and small tortoises would reduce the value of the estimate.

Although we do not estimate numbers of small tortoises and eggs likely to be affected by the proposed action, we acknowledge some number are likely to be killed. Because they are difficult to observe, proposed actions resulting in habitat disturbance are likely to kill small tortoises and eggs occurring in those areas, although the USAF would likely find some small animals and move them out of harm's way. This may reduce population recruitment or create demographic imbalances. The potential mortality of small desert tortoises in the action area will likely affect, to some degree, recruitment (i.e., individuals reaching reproductive age).

Although we are not comparing the overall estimate of the numbers of small desert tortoises and eggs likely to be killed or injured to the overall numbers within the recovery units, we can reasonably conclude that the estimate is a small percentage of the overall numbers of small desert tortoises and eggs because the number of large desert tortoises affected by the proposed actions is a small percentage of the population in the Eastern Mojave Recovery Unit. Consequently, although actions that disturb habitat are likely to kill many small desert tortoises and eggs and some additional animals and eggs would be killed during operations and maintenance, the proposed actions are not likely to appreciably diminish the number of small desert tortoises or eggs in the action area.

The USAF estimates 8,729 ac of desert tortoise habitat will be disturbed from proposed actions. This represents a small percentage (approximately 1.0 percent) of the total desert tortoise habitat estimated to occur in the action area (8,729 ac of disturbance within 866,260 ac of desert tortoise habitat), and an even smaller percent of the estimated desert tortoise habitat in the Eastern and Northeastern Mojave recovery units combined (approximately 0.1 percent; 8,729 ac of disturbance within 6,563,960 ac of combined desert tortoise habitat in the Eastern and Northeastern Mojave recovery units).

Although the action area occurs in an identified tortoise conservation area (Averill-Murray et al. 2013), habitat in the area is not designated critical habitat for the desert tortoise, and as previously described, the overall disturbance and loss of habitat is relatively small. The proposed action area will not significantly affect desert tortoise connectivity across the Eastern and Northeastern Mojave recovery units because it is not located within an important linkage corridor (Averill-Murray et al. 2013; Figure 8).

We do not have the ability to place a numerical value on edge effects, habitat degradation, impacts to habitat connectivity, and overall fragmentation that the proposed action may cause. As a result, the percentage of habitat within the recovery units that would be affected may be greater than the area physically disturbed; however, we still expect the direct and indirect

disturbance would not constitute a numerically significant portion of the two affected recovery units. Therefore, we anticipate adequate intact habitat will remain in which desert tortoises will be able to forage, breed, and shelter.

Based on these considerations, the proposed action may have an overall slight negative effect on the reproduction, numbers, and distribution of desert tortoises in the action area; however, it is unlikely to appreciably diminish the ability of the desert tortoise to reach stable or increasing population trends in the future.

CUMULATIVE EFFECTS

Cumulative effects are those effects of future non-Federal (State, tribal, local government, or private) activities that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they would likely require separate consultation pursuant to section 7 of the Act.

We are unaware of any non-Federal activities proposed to be conducted in the action area. The majority of the lands adjacent to the action area are administered by BLM, Service (Division of Refuges), Department of Defense, and Department of Energy. Therefore, any actions on these adjacent lands would likely include a Federal action and be subject to consultation under section 7 of the Act.

CONCLUSION

After reviewing the status of the species, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the Mojave desert tortoise.

We have reached this conclusion because:

- The number of desert tortoises anticipated to be killed or injured is low and small relative to the estimated number of tortoises occurring within the action area and impacted recovery units.
- Impacts to desert tortoises will be minimized or avoided through implementation of measures intended to reduce the potential adverse effects to individuals and habitat.
- The proposed action area does not include any areas of critical habitat designated for recovery of the species.
- The amount of desert tortoise habitat proposed to be disturbed is small relative to the amount available in the action area and within the Eastern and Northeastern Mojave recovery units.
- New actions greater than 20 acres in all program areas (except the Weapons Delivery Program) that may adversely affect the desert tortoise will require additional project-specific consultation between the USAF and Service and subsequently will be appended

to this PBO.

INCIDENTAL TAKE STATEMENT

Each USAF action that may result in incidental take must have an incidental take statement, whether the action is preparing planning documents for future projects or the implementation of specific activities under the plan. The take anticipated as a result of a specific action would be a subset of the programmatic incidental take statement. Though the intent in the appended programmatic approach is for the programmatic incidental take statement to contain all necessary reasonable and prudent measures and associated terms and conditions, due to the lack of available information regarding the specifics of individual projects, it may be necessary to develop project-specific reasonable and prudent measures and terms and conditions to ensure the minimization of the impacts of the incidental take associated with the specifics of each individual project. However, if this is the case, the Service would carefully consider whether the individual proposed project is beyond the scope of the programmatic consultation.

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened wildlife species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not the purpose of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

In June 2015, the Service finalized new regulations implementing the incidental take provisions of section 7(a)(2) of the Act. The new regulations also clarify the standard regarding when the Service formulates an Incidental Take Statement [50 CFR 402.14(g)(7)], from "…if such take may occur" to "…if such take is reasonably certain to occur." This is not a new standard, but merely a clarification and codification of the applicable standard that the Service has been using and is consistent with case law. The standard does not require a guarantee that take will result; only that the Service establishes a rational basis for a finding of take. The Service continues to rely on the best available scientific and commercial data, as well as professional judgment, in reaching these determinations and resolving uncertainties or information gaps.

The Service hereby incorporates by reference the conservation measures proposed by the USAF from the Description of the Proposed Action into this incidental take statement as part of these terms and conditions to be applied to those actions for which incidental take of desert tortoise is exempted. The terms and conditions below and any additional measures proposed by the USAF or included by the Service may be applied to future actions appended to this biological opinion. Where action-specific terms and conditions (i.e., terms and conditions developed for each action

to be appended and covered under this programmatic opinion in the future) vary from or contradict the minimization measures proposed under the Description of the Proposed Action or general terms and conditions below, the action-specific terms and conditions shall apply. The measures described below are general in nature and may or may not apply to future actions proposed for appendage to this PBO. Terms and conditions are nondiscretionary and must be implemented by the USAF so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply.

The USAF has a continuing duty to regulate the activity that is covered by this incidental take statement as long as the affected area is retained in Federal ownership or control. If the USAF (1) fails to require the project proponent to adhere to the action-specific terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, or (2) fails to retain oversight to ensure compliance with action-specific terms and conditions, the protective coverage of section 7(o)(2) may lapse.

AMOUNT OR EXTENT OF TAKE ANTICIPATED

We considered the following factors to determine the amount of estimated take of desert tortoise (Table 6) that could occur as a result of mixed and framework programmatic actions that may be authorized, carried out, or funded by the USAF under this PBO: described effects; proposed thresholds of habitat disturbance (Table 1); history of effects from similar actions including the previous PBO covering the same action area; minimization measures proposed by the USAF; historic surveys within the action area and described in the BA (USAF 2017); estimated desert tortoise abundance in the action area; and rangewide monitoring data in the Eastern and Northeastern Mojave Recovery Units, particularly the Coyote Springs Valley strata (Service 2015, 2016, 2018).

As indicated below, the incidental take anticipated for fire suppression is unknown. While it is possible that desert tortoises may be crushed aboveground or in their burrows by fire suppression actions, these takes will not likely be discovered or included in the annual consultation reports. Most effects to the desert tortoise from fire suppression would be infrequent.

EFFECT OF TAKE

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the desert tortoise. This determination is based in part on the implementation of conservation measures detailed in this PBO and BA provided by the USAF with their request for consultation and subsequent discussions during the consultation period. We will consider the anticipated level of incidental take to be exceeded when the detected numbers of adult tortoises found dead or injured from an action covered in this biological opinion exceed the numbers identified in Table 6. Because of the nature of the action, we do not expect the USAF will locate tortoise carcasses killed by target impacts in the weapons delivery areas. Therefore, we will consider the anticipated level of take to be exceeded if disturbance of desert tortoise habitat within the weapons delivery areas exceeds 7,742 acres.

Table 6. Anticipated level of incidental take of large desert tortoises for mixed and framework programmatic actions of the proposed action and expected over 20-year duration of the action.

Program activity	**Non-injury or Non-mortality (Capture)** [1]	**Detected Injury or Mortality** [2]	**Estimated Total of Injury or Mortality Take**
Continued Use of Existing Roads	6/year	20 total during term of PBO or 3 in a given year	60
Weapons Delivery Areas & Cleanup	0	0 [3]	132 [3]
Threat Emitters	2	1	2
Infrastructure Construction and Maintenance	4/year	5 total during term of PBO or 2 in a given year	20
Borrow Pits	2/year	2	4
Test and Evaluation	1/year	2	4
Ready Access Battlefield Training Insertion and Extraction (Drop and Landing Zone) and Overland Navigation	1/year	2	4
Fire Suppression	unknown	unknown	unknown

[1] All desert tortoises observed in harm's way may be moved to a safe location as outlined in this PBO. These are estimates of the number we expect will need to be moved. Unless otherwise specified, the number is the total for duration of the proposed action.
[2] Except for the Weapons Delivery Areas & Cleanup program, the numbers in this column represent triggers that if exceeded require reinitiation of this PBO. Unless otherwise specified, the number is the total for duration of the proposed action.
[3] We do not expect the USAF will locate carcasses of tortoises killed by target impacts in weapons delivery areas.

We anticipate that some desert tortoises in a calendar year are likely to be taken in the form of capture as they are moved from harm's way to adjacent habitat prior to or during activities. Moving tortoises out of harm's way is beneficial to the species. Therefore, all desert tortoises observed in harm's way may be moved to a safe location as outlined in this PBO. Should capture of desert tortoises exceed the number identified in Table 6, the USAF and FWS will coordinate to determine if reinitiation of the PBO is necessary.

For programs other than the weapons delivery program, desert tortoises that are not detected during clearance surveys prior to surface-disturbing actions or moved from roads are likely to be killed or injured. Because of the difficulty in finding small desert tortoises, we expect that most of these individuals, as well as eggs, are likely to be killed, injured, or destroyed during the USAF's proposed actions. The USAF is unlikely to locate carcasses of most of the individuals it kills or injures because of the difficulty in locating smaller individuals, the cryptic nature of the species (i.e., some individuals may be killed in burrows and not located), and numerous other factors (e.g. presence of scavengers). The inability to locate a large proportion of these carcasses

means that the number of carcasses that are discovered generally represent a subset of the number of tortoises incidentally taken, most of which will be small desert tortoises; therefore, based on our best professional judgment, we have identified numbers for detected injury or mortality of large desert tortoises to provide measurable points at which we will consider the anticipated level of incidental take to be exceeded.

Because of the large number of assumptions and uncertainty that exist regarding estimating potential take of small desert tortoises and eggs, we do not include an estimate of incidental take of these life stages; however, if the amount of take for large desert tortoises is exceeded, the re-initiation of formal consultation would also require re-evaluation of the effects of the action on small desert tortoises and eggs.

The Service believes that the following RPMs and associated terms and conditions are necessary and appropriate to minimize take of desert tortoise. The measures below must be implemented to ensure incidental take exemptions apply but do not limit the USAF from imposing additional measures, as appropriate. Because actions are expected to proceed that do not exceed the acreage thresholds or require further consultation with the Service, we expect the USAF to require all protective measures for proposed actions, which may include measures not identified below.

REASONABLE AND PRUDENT MEASURES WITH TERMS AND CONDITIONS

The Service believes that the following RPMs with Terms and Conditions stated below or incorporated by reference are necessary and appropriate to minimize the incidental take for mixed and framework programmatic actions. Measures under this incidental take statement will apply towards future USAF actions that may result in adverse effects to the desert tortoise. The Service considers desert tortoise sign in a project action area as an indicator that desert tortoises potentially or likely occur there. In order to be exempt from the prohibitions of section 9 of the Act, the USAF, or other jurisdictional Federal agency, must comply with RPMs as implemented by Terms and Conditions. For future actions to be appended to this programmatic biological opinion, additional Terms and Conditions may be provided at the project-level consultation and are non-discretionary. The majority of these RPMs with Terms and Conditions provide clarifying guidelines, information, and personnel responsibilities related to the minimization measures proposed by the USAF (see *Proposed Measures to Minimize the Potential Effects of the Action*).

RPM 1 **Applies towards weapons delivery areas, threat emitters, infrastructure construction and maintenance, borrow pits actions, and other activities that involve vehicle and equipment use, and excavations.** *The USAF, and other jurisdictional Federal agencies as appropriate, shall implement or ensure implementation of measures to minimize injury or mortality of desert tortoises due to project construction, operation and maintenance; and most actions involving habitat disturbance.*

Terms and Conditions:

1.a. *Field Contact Representative*—the USAF shall ensure a Field Contact Representative (FCR), which may be the NAFB Natural Resources Manager, is

identified as the main point of contact for ensuring the USAF's proposed minimization measures and Terms and Conditions of this PBO are implemented on projects requiring construction, excavations, and other activities involving vehicle and equipment use. The FCR will serve as an agent of the USAF and the Service to ensure that all instances of non-compliance or incidental take are documented (i.e., photo, GPS coordination, and description of event) and included in annual reporting (see Reporting in Description of the Proposed Action). The USAF has discretion over approval of potential FCRs; however, those who also may be acting as authorized desert tortoise biologists must also be approved by the Service (see Term and Condition 1.b.). All FCRs will report **directly** to USAF and the Service.

The FCR, authorized desert tortoise biologist, and monitors (see Term and Condition 1.b.) shall have a copy of all stipulations when work is being conducted on the site and will be responsible for overseeing compliance with terms and conditions of the project. The USAF shall ensure the FCR and authorized desert tortoise biologists have authority to halt any activity that is in violation of the stipulations. The FCR shall be on site year-round during all project activities.

1.b. *Authorized desert tortoise biologist*—All authorized desert tortoise biologists will be approved by the Service and will act as representatives of the USAF and the Service. Potential authorized desert tortoise biologists must submit their statement of qualifications to the Service's Southern Nevada Fish and Wildlife Office in Las Vegas for approval, allowing a minimum of 30 days for Service response. The statement form is available in the Desert Tortoise Field Manual on the internet at: *https://www.fws.gov/nevada/desert_tortoise/dt/dt_auth_form.htm*. Authorized desert tortoise biologists will serve as mentors to train desert tortoise monitors and will approve monitors if required on a project. An authorized desert tortoise biologist is responsible for errors committed by desert tortoise monitors.

All authorized desert tortoise biologists and monitors will report directly to the USAF and the proponent concurrently regarding all compliance issues and take of desert tortoises; this includes all draft and final reports of non-compliance or take. Authorized desert tortoise biologists and monitors will be responsible for ensuring compliance with all proposed minimization measures for the project. This responsibility includes: (1) enforcing the litter-control program; (2) ensuring that desert tortoise habitat disturbance is restricted to authorized areas; (3) ensuring that all equipment and materials are stored within the boundaries of the construction zone or within the boundaries of previously-disturbed areas or designated areas; (4) ensuring that all vehicles associated with construction activities remain within the proposed construction zones; (5) ensuring that no tortoises are underneath project vehicles and equipment prior to use or movement; (6) ensuring that all monitors (including the authorized desert tortoise biologist) have a copy of the required measures in their possession, have read them, and they are readily available to the monitor when on the project site.

An authorized desert tortoise biologist will record each observation of desert tortoise handled on the Desert Tortoise Handling and Take Report (Appendix B). This information will be provided directly to the USAF and the Service.

1.c. Desert tortoise monitors assist an authorized desert tortoise biologist during surveys and serve as apprentices to acquire experience. Desert tortoise monitors ensure proper implementation of protective measures, and record and report desert tortoises and sign observations in accordance with Term and Condition 1.b. They will report incidents of noncompliance to the authorized desert tortoise biologist or FCR. No monitors will be on the project site unless supervised by an authorized desert tortoise biologist or approved by the USAF.

If a desert tortoise is immediately in harm's way (e.g., certain to immediately be crushed by equipment), desert tortoise monitors may move the desert tortoise and place it in a designated safe area until an authorized desert tortoise biologist assumes care of the animal.

Desert tortoise monitors may not conduct field or clearance surveys or other specialized duties of an authorized desert tortoise biologist unless directly supervised by an authorized desert tortoise biologist or approved to do so by the Service; "directly supervised" means an authorized desert tortoise biologist has direct sight and voice contact with the desert tortoise monitor.

1.d. *Desert tortoise clearance*—In areas of new disturbance to desert tortoise habitat (except for the weapons delivery areas), or in areas where disturbance to recovered desert tortoise habitat is likely to occur, the USAF will complete proposed clearance surveys using authorized desert tortoise biologists prior to initiating any surface- or vegetation-disturbing activities. An authorized biologist shall excavate all burrows that have characteristics of potentially containing desert tortoises in the area to be disturbed with the goal of locating and removing all desert tortoises and desert tortoise eggs. During clearance surveys, all handling of desert tortoises and their eggs and excavation of burrows shall be conducted solely by an authorized desert tortoise biologist in accordance with the most current Service-approved guidance (currently Service 2009). If any tortoise active nests are encountered, the Service must be contacted immediately, prior to removal of any tortoises or eggs from those burrows, to determine the most appropriate course of action. Unoccupied burrows shall be collapsed or blocked to prevent desert tortoise entry. Outside construction work areas, all potential desert tortoise burrows and pallets within 50 ft of the edge of the construction work area shall be flagged. If the burrow is occupied by a desert tortoise during the less-active season, the tortoise shall be temporarily penned (see Term and Condition 1.f.). No stakes or flagging shall be placed on the berm or in the opening of a desert tortoise burrow. Desert tortoise burrows shall not be marked in a manner that facilitates disturbance. Avoidance flagging shall be designed to be easily distinguished from access route or other flagging, and shall be designed in

consultation with experienced construction personnel and authorized biologists. All flagging shall be removed following construction activities. An authorized desert tortoise biologist will inspect areas to be backfilled immediately prior to backfilling.

1.e. *Handling of desert tortoises*—Unless in imminent danger, desert tortoises shall only be moved by an authorized desert tortoise biologist or desert tortoise monitor (see restrictions in Term and Condition 1.c) solely for the purpose of moving the tortoises out of harm's way. During construction, operation, and maintenance, an authorized desert tortoise biologist may pen, capture, handle, and relocate desert tortoises from harm's way as appropriate and in accordance with the most current Service-approved guidance. No tortoise shall be handled by more than one person. Each tortoise handled will be given a unique number, photographed, and the biologist will record all relevant data on the Desert Tortoise Handling and Take Report (Appendix B) to be provided to the USAF in accordance with the project reporting requirements.

If desert tortoises need to be moved at a time of day when ambient temperatures could harm them (less than 40 ° F or greater than 95° F), they shall be held overnight in a clean cardboard box. These desert tortoises shall be kept in the care of an authorized biologist under appropriate controlled temperatures and released the following day when temperatures are favorable. All cardboard boxes shall be discarded after one use and never hold more than one tortoise. If any tortoise active nests are encountered, the Service must be contacted immediately, prior to removal of any tortoises or eggs from those burrows, to determine the most appropriate course of action.

Desert tortoises located in the project area sheltering in a burrow during the less-active season may be temporarily penned in accordance with Term and Condition 1.f at the discretion of an authorized desert tortoise biologist. Desert tortoises should not be penned in areas of moderate to heavy use, rather they should be moved from harm's way in accordance with the most current Service-approved guidance (currently Service 2009).

Desert tortoises shall be handled in accordance with the Desert Tortoise Field Manual (Service 2009). Equipment or materials that contact desert tortoises (including shirts and pants) shall be sterilized, disposed of, or changed before contacting another tortoise to prevent the spread of disease. All tortoises shall be handled using disposable surgical gloves and the gloves shall be disposed of after handling each tortoise. An authorized desert tortoise biologist shall document each tortoise handling by completing the Desert Tortoise Handling and Take Report (Appendix B).

1.f. *Penning*—Penning shall be accomplished by installing a circular fence, approximately 20 ft in diameter to enclose and surround the tortoise burrow. The

pen should be constructed with 1-inch horizontal by 2-in vertical, galvanized welded wire. Steel T-posts or rebar should be placed every 5 to 6 ft to support the pen material. Pen material will extend 18 to 24 in aboveground. The bottom of the enclosure will be buried 6 to 12 in or bent towards the burrow, have soil mounded along the base, and other measures implemented to ensure zero ground clearance. Care shall be taken to minimize visibility of the pen where disturbance by personnel may occur. An authorized desert tortoise biologist or desert tortoise monitor shall check the pen at a frequency to ensure that the desert tortoise is secure and not stressed. No desert tortoise shall be penned for more than 48 hours without written approval by the Service. Because this is a new technique, all instances of penning or issues associated with penning shall be reported to the Service within 3 days (see Appendix B).

RPM 2 **Impacts to Desert Tortoise Habitat—Applies towards all actions that involve habitat impacts.** *The USAF, and other jurisdictional Federal agencies as appropriate, shall ensure their agency personnel, and their contractors implement the following measures to minimize loss and long-term degradation and fragmentation of desert tortoise habitat, such as soil compaction, erosion, crushed vegetation, and introduction of weeds or contaminants from construction, operation, and minor maintenance activities:*

Terms and Conditions:

2.a. *Habitat protection plans*—the USAF shall ensure that projects develop and implement an approved fire prevention and response plan, erosion control plan, and a weed management plan prior to surface disturbance.

2.b. *Restoration plan*—the USAF shall ensure the development and implementation of a restoration and reclamation plan. The plan will describe objectives and methods to be used, species of native plants and seed mixture to be used, time of planting, success standards, actions to take if restoration efforts fail to achieve the success standards, and follow-up monitoring. The plan will be prepared and approved prior to the surface disturbance phase of the project. Reclamation will be addressed on a case-by-case basis.

2.c. *Chemical spills*—Hazardous and toxic materials such as fuels, solvents, lubricants, and acids used during construction will be controlled to prevent accidental spills. Any leak or accidental release of hazardous and toxic materials will be stopped immediately and cleaned up at the time of occurrence. Contaminated soils will be removed and disposed at an approved landfill site.

REPORTING REQUIREMENTS

Pursuant to 50 CFR 402.14(i)(3), the USAF must report the progress of the action and its impact on the species to the Service as specified in this incidental take statement. The USAF shall ensure that a report documenting desert tortoise encounters, incidental take (including capture

and relocation), and effectiveness and compliance with the desert tortoise protection measures is prepared and submitted to the Service's Southern Nevada Fish and Wildlife Office in Las Vegas. Reporting requirements are described under Reporting in the Description of the Proposed Action and in the Reasonable and Prudent Measures With Terms and Conditions. Mortality or injuries to desert tortoises from actions covered by this PBO must be reported immediately (Appendix B). Annual reports for take and appended actions will cover the calendar year, and are due January 31st following each calendar year (Appendix C). For appended actions greater than 20 acres, a project completion report will be submitted to the Service.

DISPOSITION OF DEAD OR INJURED DESERT TORTOISES

To ensure that the protective measures are effective and are being properly implemented, the USAF shall contact the Service immediately if a desert tortoise is killed or injured as a result of any activity covered under this programmatic biological opinion. Upon locating a dead or injured federally listed species within the action area, notification must be made by phone to the Southern Nevada Fish and Wildlife Office at (702) 515-5230 and by completing the Desert Tortoise Handling and Take Report (Appendix B). At that time, the Service and the USAF shall review the circumstances surrounding the incident to determine whether additional protective measures are required. Care should be taken in handling sick or injured animals to ensure effective treatment and care or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death.
If a desert tortoise is injured or killed, it shall be delivered to a qualified veterinarian for appropriate treatment or disposal. The applicant shall bear the cost of any required treatment of listed species injured from the project, euthanasia of sick animals, and cremation of animals that die during treatment. Should sick or injured listed species be treated by a veterinarian and survive, they may be transferred as directed by the Service.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

The Service recommends the following conservation measures be considered for the NTTR.

1. We recommend that the USAF identify desert tortoise population landscape linkages and develop appropriate methods to conserve these areas and fulfill mission goals.
2. We recommend that the USAF evaluate its transportation network and effects on desert tortoise and habitat to develop alternatives to minimize adverse effects. Examples of actions or options could include:
    a. develop a travel plan;
    b. close and restore unnecessary routes;
    c. reduce travel routes in washes or other areas with high densities of desert

tortoises;
   d. install signs to inform vehicle operators to stay out of sensitive areas; and
   e. develop transportation layouts configured to minimize desert tortoise exposure to vehicle collision situations with an appropriate combinations of barrier fencing, tunnel opportunities, or focused crossing areas with increased sightability and operator awareness.
3. We encourage the development of long-term monitoring for the desert tortoise in cooperation with the Desert Tortoise Recovery Office.
4. We recommend that surveys occur unbiased throughout the range of topographic conditions of NTTR to provide a more complete understanding of the distribution and habitat use of desert tortoise so that proposed actions can be properly evaluated.
5. We recommend that the USAF fund and implement studies of health effects to desert tortoises caused by ordinance materials and dispersed particulate pollution; and
6. We recommend the collection of baseline desert tortoise and habitat information in areas where alternatives may cause adverse effects as well as control areas.

In order for the Service to be kept informed of actions that either minimize or avoid adverse effects or that benefit listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION REQUIREMENT

This concludes formal consultation on the actions outlined in your request. As required by 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over an action has been retained (or is authorized by law) and if: (1) The amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Examples of when reinitiation under 50 CFR§ 402.16 would be required are if (1) for an action proposed to be appended, or during the process of implementation, the threshold for habitat disturbance as identified in Table 1 or take identified in Table 6 is exceeded; (2) a proposed action would result in effects beyond those identified in the *Effects of the Proposed Action*; or (3) an action is proposed in an area that will result in a level of effect to important habitat for the desert tortoise which may affect our ability to recover the species as determined by the Service.

If we can be of further assistance, please contact Corey Kallstrom in Las Vegas at (702) 515-5461 or via email at Corey_Kallstrom@fws.gov.

Sincerely,

Glen W. Knowles
Field Supervisor

Enclosure

cc:
Desert Conservation Plan Administrator, Department of Comprehensive Planning, Clark County, Las Vegas, Nevada
Administrator, Nevada Division of Wildlife, Reno, Nevada
Supervisory Biologist - Habitat, Nevada Department of Wildlife, Las Vegas, Nevada
Field Station Manager, Las Vegas Field Station, Bureau of Land Management, Las Vegas, Nevada
District Manager, Southern Nevada District Office, Bureau of Land Management, Las Vegas, Nevada
Project Leader, Desert National Wildlife Refuge Complex, Fish and Wildlife Service, Las Vegas, Nevada
Field Supervisor, Fish and Wildlife Service, Northern Nevada Field Office, Reno, Nevada
Refuge Manager, Desert National Wildlife Range, Fish and Wildlife Service, Las Vegas, Nevada

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APPENDIX A
REQUEST TO APPEND ACTION FORM

ACTION APPENDED TO THE USAF NEVADA TEST and TRAINING RANGE PROGRAMMATIC BIOLOGICAL OPINION (File No. 08ENVS00-2018-F-0028)

This consultation consists of the programmatic biological opinion (PBO), the USAF's request to append the proposed action to the PBO with project-specific information (Part A, below), and the Fish and Wildlife Service's response (Part B, below).

Fish and Wildlife Service File No. for Proposed Action:

_____

(provided by Fish and Wildlife Service)

Part A: Information provided by the USAF

Date of request:	
USAF contact name: phone number:	
Project/action title:	
Proponent/applicant:	
Program:	
Species/critical habitat affected:	
No. of acres of desert tortoise habitat to be affected:	

Description of Proposed Action:

- What is the Federal action (e.g., road, fencing, etc.)?
- When would the action begin and end?
- What are the specific activities that would be implemented; how will they affect listed species and their critical habitat?
- How will access to work areas be accomplished?

Proposed Minimization Measures and Remuneration Fees:

[Terms and conditions for desert tortoise in the PBO may be referenced by number with a brief summary (e.g., T&C 1.a. Designate and require a field contact representative); additional measures may be proposed by the USAF beyond those in the PBO.]

Survey Summary and Results:

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- Describe in detail, the pre-project survey results including description or condition of the habitat, dominant vegetation, and existing disturbance.
- Attach survey data sheets and maps.

Description of existing factors affecting the species in the project (action) area not discussed in the PBO:

- Describe current and prior human uses or activities in the action area. Include reference to previous consultations in the action area and reports of such actions submitted to the Service.

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Part B: Fish and Wildlife Service Response File No.

Date received:

Date of response:

1. Environmental baseline

a. The status of the species and factors affecting the species in the action area are described in the PBO and information provided by the USAF (Part A).

b. See Part A for factors affecting the species in the action area. Table 1 in the PBO provides the maximum habitat disturbance thresholds for each program and sub-program; and Table 6 in the PBO provides the incidental take exemption limits.

2. Project-specific effects of proposed action

a. Reference the section and page numbers of the PBO that describe the effects that apply to the proposed appended action:

b. In addition to the general, programmatic-level effects described in the PBO, the proposed action is anticipated to result in the following effects:
   - Large tortoise:
   - Small tortoise:
   - Desert tortoise habitat affected:
   - Other effects:

3. Conclusion

4. Project-level Incidental Take Statement (desert tortoise)

a. Amount or Extent of Take Exempted:

1) Based on the analysis of effects provided above, minimization measures, and anticipated project duration, implementation of the proposed project is anticipated to result in the following take of desert tortoise:

Exempted Mortality, Injury, and Destruction (eggs)			**Exempted Non-injury - Mortality**		**Anticipated Habitat Loss (acres)**
Large	Small	Egg	Large	Small	

2) In addition to the incidental take above, incidental take may occur as a result of indirect effects (e.g., tortoises taken by ravens attracted to the project site or tortoises disturbed by noise and general project activities). The actual number of tortoises taken as a result of indirect effects is often estimated or stated as unknown due to the difficulty in quantifying such effects.

b. Project-Specific Reasonable and Prudent Measures and Terms and Conditions. Provide (cut and paste) complete list of measures to ensure that project biologists and monitors are provided all appropriate measures for the project. As a term and condition, the USAF will report the status and effects of the appended project and action annually and upon completion for the project in accordance with the reporting requirements in the PBO.

Based on the information provided by the USAF and our analysis above, it is the Service's biological opinion that the proposed activity is within the scope of the PBO and is hereby appended.

Signature: _____ _____

Field Supervisor Date

Southern Nevada Fish and Wildlife Office

Las Vegas, Nevada

cc:

Supervisory Biologist- Habitat, Nevada Department of Wildlife, Las Vegas, Nevada

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APPENDIX B
DESERT TORTOISE HANDLING AND TAKE REPORT

If a desert tortoise is killed or injured, immediately contact the U.S. Fish and Wildlife Service and the USAF, by phone at the numbers below and complete Section 1 of the form.

USAF

NAFB Natural Resources Manager

99 CES/CEV, Environmental Management Office

Las Vegas, Nevada

702-652-4354

U.S. Fish and Wildlife Service

4701 North Torrey Pines Drive

Las Vegas, Nevada 89130

702-515-5230

Completed forms should be submitted to the USAF and Fish and Wildlife Service:

Project Name:	Report Date:
Fish and Wildlife Service Append File No.- 08ENVS00-	
Authorized Desert Tortoise Biologist: _____ Employed by:	
Section 1: Complete all information below if a desert tortoise is injured or killed in addition to initial contact described above.	
If tortoise was injured ☐ or killed ☐ (check appropriate box):	

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Date and time found: _____

Found by: _____

GPS location (NAD 83): easting: _____ northing: _____

No. of photos taken: _____

Disposition:

_____
_____
_____
_____

Attach report with photos that describe in detail, the circumstances and potential cause of injury or mortality. For injuries include name of veterinarian and detailed assessment of injuries.

Section 2: Complete all information below for each desert tortoise handled.

All instances of desert tortoise handling must be reported in this section and be included in the quarterly, annual, and final project reports.

Desert tortoise number: _____

Date and time found: _____ Sex of tortoise: _____

Air temperature when found: _____ Air temperature when released: _____

Tortoise activity when found: _____

Handled by: _____ Approx. carapace length _____

GPS location (NAD 83) found: easting: _____ northing: _____

GPS location released: easting: _____ northing: _____

Approximate distance moved: _____

Did tortoise void bladder; if so state approximate volume and actions taken:
_____
_____
_____

Post handling or movement monitoring and observations:
_____
_____
_____
_____

APPENDIX C
REPORT TO THE FISH AND WILDLIFE SERVICE
PROGRAMMATIC BIOLOGICAL OPINION (FILE NO. 08ENVS00-2018-0028)

The information below should be completed by the USAF or Authorized Desert Tortoise Biologist for the project/action. Reports for all appended actions are required annually (due January 31 of each year for prior calendar year activities) and upon completion of the project/action.

☐ Annual Report ☐ Project Completion Report

1. Date: _____

2. Fish and Wildlife Service File No (for appended actions): 08ENVS00-_____

3. Project/action status:

☐ Not begun ☐ In progress* ☐ Completed date _____

If in progress, state approximate percent complete and estimated completion date:

_____

4. Desert tortoise habitat disturbed:

Proposed disturbance (ac)	Actual disturbance (ac)

5. Summary of individual desert tortoises taken:

Size Class	**Large**	**Small**	**Eggs**
Exempted (identified in appended action, as applicable)			

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Actual			

Describe other individuals taken:

6. Name of authorized desert tortoise biologists and monitors on the project and the dates they were on the project.

7. Describe all non-compliance issues and events.

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APPENDIX C

NOISE

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ACRONYMS, ABBREVIATIONS, AND SYMBOLS

ADNL	A-weighted Day-Night Average Sound Level, as measured in decibels
AFB	Air Force Base
ANSI	American National Standards Institute
ASA	Acoustical Society of America
CDNL or L_{Cdn}	C-weighted Day-Night Average Sound Level
CHABA	Committee on Hearing, Bioacoustics and Biomechanics
CSEL	C-weighted Sound Exposure Level, as measured in decibels
dB	Decibels
dBA or dB(A)	A-Weighted Decibels
dBC	C-Weighted Decibels
DLR	German Aerospace Center
DNL	Day-Night Average Sound Level
DoD	Department of Defense
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FICAN	Federal Interagency Committee on Aviation Noise
FICON	Federal Interagency Committee on Noise
FICUN	Federal Interagency Committee on Urban Noise
Hz	Hertz
kHz	Kilohertz
LBS	Pounds of Thrust
L_{Cdn}	C-weighted Day-Night Average Sound Level, as measured in decibels
L_{dn}	Day-Night Average Sound Level, as measured in decibels
L_{dnmr} or DNL_{mr}	Onset-Rate Adjusted Monthly Day-Night Average Sound Level
LEIS	Legislative Environmental Impact Statement
L_{eq}	Equivalent Sound Level
L_{max}	Maximum Sound Level
L_{pk}	Peak Sound Level
MOA	Military Operating Area
NLR	Noise Level Reduction
NZ I, II, or III	Noise Zone I, II, or III
OSHA	Occupational Safety and Health Administration
PK_{15}(met)	Peak Noise Exceeded by 15 Percent of Firing Events
psf	Pounds Per Square Foot
RCNM	Roadway Construction Noise Model
RPM	Revolutions per Minute
SEL	Sound Exposure Level
SUA	Special Use Airspace
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USEPA	U.S. Environmental Protection Agency

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C.1 NOISE IMPACT ASSESSMENT METHODS

Noise impacts can be quantified based on objective effects (such as hearing loss or damage to structures) or subjective judgments (such as community annoyance). Thus, assessment of impacts requires a combination of physical measurement of noise as well as assessment of psycho-acoustic and socio-acoustic effects. Noise is defined subjectively as being any unwanted sound. The following sections discuss how noise is described, the potential effects that noise may have on its receivers, and the methods by which noise levels are predicted.

C.1.1 Characteristics of Sound

Sounds can be generally characterized based on three physical characteristics: amplitude, frequency, and duration. Amplitude is a measure of the strength of the sound and is directly measured in terms of the pressure of a sound wave. Frequency, which is perceived as "pitch," is the number of times per second sound causes air molecules to vibrate. Duration is simply how long the sound lasts. All three characteristics are critical to determining impacts of a particular sound source and are discussed in more detail below.

Amplitude. The loudest sounds that can be comfortably heard by humans have acoustic energy one trillion times the acoustic energy of the quietest sounds that humans detect. Because of this vast range in magnitude, attempts to represent sound amplitude by direct expression of sound pressure are unwieldy. In addition, human hearing is proportional rather than absolute (i.e., detecting whether one sound is twice as big as another rather than detecting whether one sound is a given number of pressure units bigger than another). Sound is, therefore, usually represented on a logarithmic scale, reflecting the way in which it is perceived, using a unit named the decibel (dB).

The threshold (level at which an effect starts) of human hearing is approximately 0 dB, and the threshold of discomfort is approximately 120 dB. Under laboratory conditions, differences in sound level of 1 dB can be detected by the human ear. In the community, the smallest change in average noise level that can be detected is about 3 dB. A change in sound level of about 10 dB is usually perceived by the average person as a doubling (or halving) of the sound's loudness, and this relation holds true for loud sounds and quieter sounds. A decrease in sound level of 10 dB actually represents a 90-percent decrease in sound intensity but only a 50-percent decrease in perceived loudness because of the nonlinear response of the human ear.

Figure C-1 is a chart of A-weighted sound levels from typical sounds. Some sounds (air conditioner, vacuum cleaner) are continuous, and their levels are constant for some time. Other sounds (automobile, heavy truck) are the maximum sound during a vehicle pass-by. Some sounds (urban daytime, urban nighttime) are averages over some extended period.

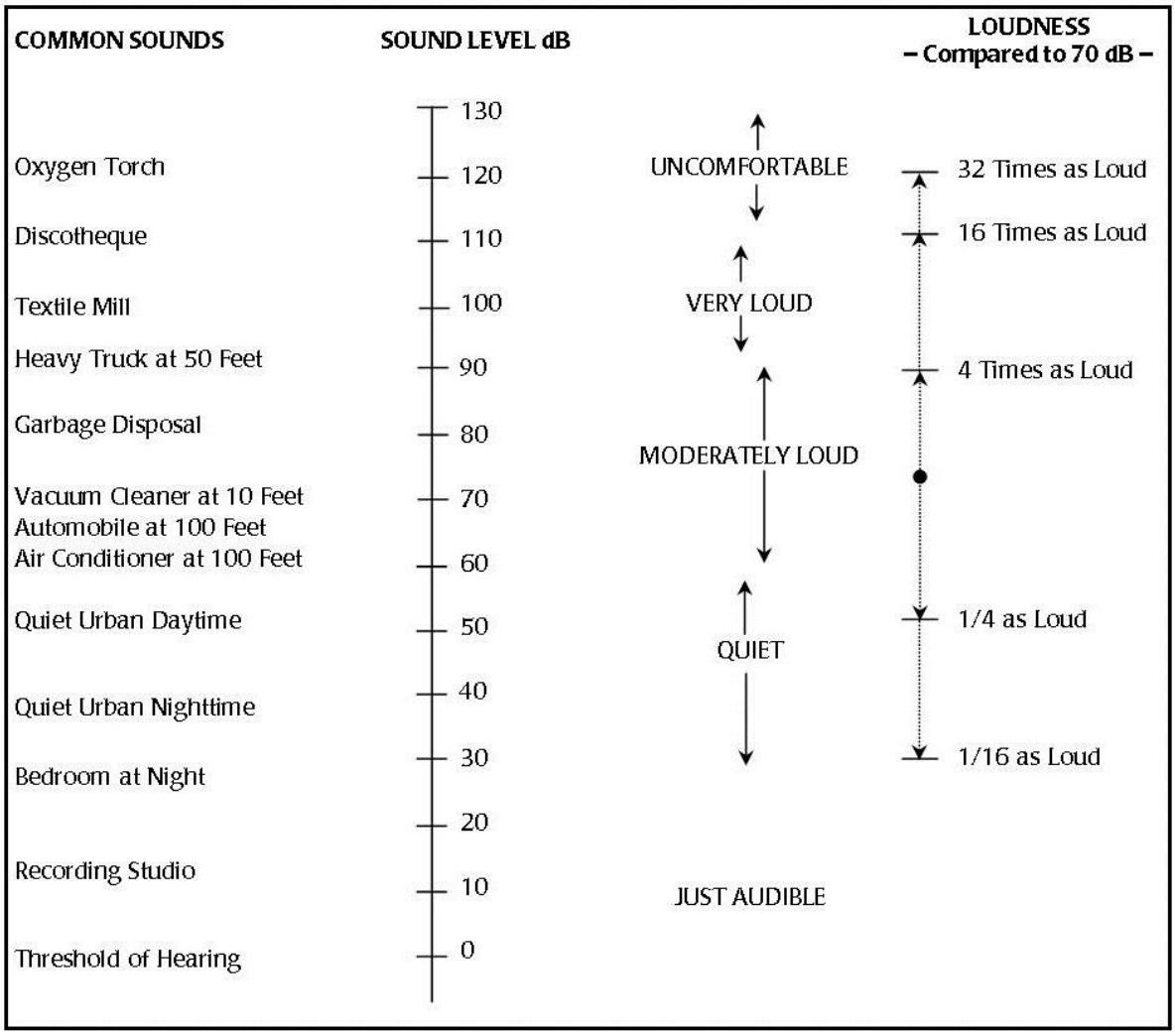

Figure C-1. Typical A-Weighted Sound Levels of Common Sounds

Because of the logarithmic nature of the decibel scale, sound levels do not add and subtract directly and are somewhat cumbersome to handle mathematically. However, some simple rules of thumb are useful in dealing with sound levels. First, if a sound's intensity is doubled, the sound level only increases by 3 dB, regardless of the initial sound level. For example:

60 dB + 60 dB = 63 dB, and

80 dB + 80 dB = 83 dB.

The total sound level produced by two sounds of different levels is usually only slightly more than the higher of the two. For example:

60.0 dB + 70.0 dB = 70.4 dB.

Sound pressure of what is perceived as being continuous sound actually varies greatly over minute increments of time, so it is customary to deal with sound levels that represent averages over time. Levels presented as instantaneous (i.e., as might be

read from the dial of a sound level meter) are based on averages of sound energy over either 1/8 second (fast) or 1 second (slow). This distinction becomes important when discussing sounds whose peak noise level lasts for only a short time, such as sonic booms.

Frequency. The normal human ear can hear frequencies from about 20 hertz (Hz) to about 20,000 Hz. It is most sensitive to sounds in the 1,000- to 4,000-Hz range. When measuring community response to noise, it is common to adjust the frequency content of the measured sound to correspond to the frequency sensitivity of the human ear. This adjustment is called A-weighting (American National Standards Institute [ANSI], 1988). Sound levels that have been so adjusted are referred to as A-weighted and may be denoted dBA or dB(A). However, because use of A-weighting to express sound level is so prevalent, it can normally be assumed that dB is equivalent to dBA or dB(A). In this LEIS, sound levels are reported in dB and are A-weighted unless otherwise specified.

A-weighting is appropriate for sounds that are perceived by the ear. Impulsive sounds, such as sonic booms, thunder, and other sudden "booming" sounds, are perceived by more than just the ear; listeners may *feel* this type of sound as well as hearing it. When experienced indoors, this type of sound may cause rattling of the structure and its contents. Because A-weighting would de-emphasize the intrusive low-frequency component of this type of sound, C-weighting (ANSI, 1988) is applied, which only de-emphasizes frequencies that are outside the range of human hearing (about 20 Hz to 20,000 Hz). In this LEIS, and in accordance with standard methodologies, C-weighted sound levels are used for the assessment of sonic booms, blasts from high explosives, and other impulsive sounds. C-weighting is specifically denoted as dBC whenever it is used in this LEIS.

Duration. Sound varies over time at almost all locations. Sound can be classified into four basic categories that define its basic time pattern:

Ambient. Ambient sound is the ever-present collection of background sounds at any given place. Ambient sound can be strictly natural, such as frogs and cicadas in the deep woods; strictly mechanical, such as street noise in a busy city; or a combination of both, like sounds occurring in the suburbs. It is important to consider the existing ambient soundscape because what exists already has much to do with how annoying people will find a new sound. For example, the hum of a generator may be tolerated much better by those already living in an area with high mechanized ambient noise than those living in the far woods.

- Steady-state. Steady-state sound is of a consistent level and spectral content; examples are sounds originating from ventilation or mechanical systems that operate more or less continuously. From a military perspective, generators and aircraft run-up sounds are the most prominent steady-state sounds, and as a rule, the longer a steady-state sound persists, the more annoyed people will be.
- Transient Sound. Transient sound has a clearly defined beginning and end, rising above the background and then fading back into it. Transient sounds are typically associated with "moving" sound sources such an aircraft overflight or a

single vehicle driving by, and they usually last for only a few minutes at the most. The annoyance caused by transient sounds is dependent upon both the maximum sound level and the duration.

- Impulsive Sound. Impulsive sound is of short duration (typically less than one second), high intensity, abrupt onset, rapid decay, and often a fast-changing spectral composition. It is characteristically associated with such sources as explosions, impacts, the discharge of firearms, the passage of supersonic aircraft (sonic booms), and many industrial processes. Impulsive sound can be particularly annoying because of the "startle factor" where the receiver has no warning that exposure to a loud sound is imminent.

C.2 NOISE METRICS

To communicate sound levels, the Department of Defense (DoD) uses three general types of noise-measuring descriptors, or metrics: (1) measuring the highest sound level occurring during a noise event, (2) combining the maximum level of that single event with its duration, and (3) describing the noise environment based on the total noise energy received over a specified length of time. The metrics used in this environmental impact statement (LEIS) are described below.

Maximum Sound Level. This metric, denoted as L_{max}, is the highest sound level measured (using time integration of either 1/8 second or 1 second) during a noise event. For a listener observing an aircraft overflight, the noise level starts at the ambient or background noise level, rises to the maximum level as the aircraft flies closest to the observer, and returns to the background level as the aircraft recedes into the distance. L_{max} decreases as altitude or distance from the observer increases and varies according to the type of aircraft, airspeed, and power setting.

Peak Sound Level. For impulsive sounds, the true instantaneous peak sound pressure level, which lasts for only a fraction of a second, is important in determining impacts. For sonic booms, this is the peak pressure of the shock wave. This pressure usually is presented in physical units of pounds per square foot (psf). Peak sound levels are not frequency weighted. Sometimes it is represented on the decibel scale, with the symbol L_{pk}. Because the amount of sound energy that reaches a receiver from a given noise event varies so much with specific atmospheric conditions, a special metric sometimes is used to account for this variability. The PK_{15}(met) metric represents the peak sound level that will not be exceeded 85 percent of the time with a given noise event. This metric is useful for expressing, in general terms, how loud an area will get while a particular weapon is firing.

Sound Exposure Level. The Sound Exposure Level (SEL) metric is a single-number representation of a noise energy dose for an entire aircraft overflight. This measure takes into account the effect of both the duration and intensity of a noise event by summing the noise energy from each second in an event, which typically lasts several seconds into a single second.

SEL is useful for comparing aircraft that move at different speeds. As an example, fighter aircraft tend to create a high L_{max}, but their noise level tends to drop off quickly as the plane moves away from the listener at high speed. On the other hand, cargo-type aircraft tend to be quieter but generally take more time to move past the listener and out of earshot. It is important to remember that SEL does not directly represent the sound level heard at any given time, but rather, it provides a measure of the exposure of the entire acoustic event. SEL is useful for predicting several noise impacts, including sleep disturbance and animal escape response. SEL can be computed for C-weighted levels (appropriate for impulsive sounds), and the results denoted as CSEL. SEL for A-weighted sound is sometimes denoted as ASEL. Within this LEIS, SEL is used for A-weighted sounds and CSEL for C-weighted.

Onset-Rate Adjusted Sound Exposure Level. When an aircraft is flying fast and low to the ground, listeners may experience a very quick rise in noise as it flies overhead. To account for the resulting "surprise effect," a penalty of up to 11 dB is applied to the SEL value for the overflight. SEL values with this "onset-rate adjustment" are denoted as SEL_r.

Equivalent Sound Level. To summarize noise levels over longer periods of time, total sound is represented by the equivalent sound level (L_{eq}). L_{eq} is the average sound level over some time period (often an hour or a day, but any explicit time span can be specified), with the averaging being done on the same energy basis as used for SEL. SEL and L_{eq} are closely related, differing by (1) whether they are applied over a specific time period or over an event, and (2) whether the duration of the event is included or divided out. Just as SEL has proven to be a good measure of the noise impact of a single event, L_{eq} has been established to be a good measure of the impact of a series of events during a given time period. Cumulative noise metrics, such as L_{eq}, are useful because they represent a complicated set of noise events with a single number.

Day–Night Average Sound Level (DNL or L_{dn}). Noise tends to be more intrusive at night than during the day. This effect is accounted for by applying a 10-dB penalty to events that occur after 10:00 PM and before 7:00 AM. DNL is similar to L_{eq} except DNL has a nighttime penalty added. DNL is the community noise metric recommended by the U.S. Environmental Protection Agency (USEPA) (USEPA, 1974) and has been adopted by most federal agencies (Federal Interagency Committee on Noise [FICON], 1992). It has been widely accepted that DNL correlates well with community response to noise (Schultz, 1978; Finegold et al., 1994). This correlation is presented in the section titled "Noise Impacts on Humans." Furthermore, DNL has also been proven applicable to infrequent events (Fields and Powell, 1985) and to rural populations exposed to sporadic military aircraft noise (Stusnick et al., 1992, 1993).

It was noted earlier that, for impulsive sounds, C-weighting is more appropriate than A-weighting. The DNL can be computed for C-weighted noise and is denoted CDNL or L_{Cdn}. This procedure has been standardized, and impact interpretive criteria similar to those for DNL have been developed (Committee on Hearing, Bioacoustics and Biomechanics [CHABA], 1981).

Onset-Rate Adjusted Monthly Day–Night Average Sound Level. The Onset-Adjusted Monthly Day–Night Average Sound Level is denoted as L_{dnmr}. Aircraft operations in military airspace (such as ranges, military operating areas [MOAs], military training routes, and Warning Areas) generate a noise environment somewhat different from other community noise environments. Overflights are sporadic, occurring at random times and varying from day to day and week to week. This situation differs from most community noise environments, where noise tends to be continuous or patterned. Individual military overflight events also differ from typical community noise events in that noise from a low-altitude, high-airspeed flyover can have a sudden onset. To represent these differences, the conventional DNL metric is adjusted to account for the "surprise" effect of the sudden onset of aircraft noise events on humans (Plotkin et al., 1987; Stusnick et al., 1992, 1993). For aircraft exhibiting a rate of increase in sound level (called onset rate) of from 15 to 150 dB per second, an adjustment or penalty ranging from 0 to 11 dB is added to the normal SEL. Onset rates above 150 dB per second require an 11 dB penalty, while onset rates below 15 dB per second require no adjustment. In addition, because of the irregular occurrences of aircraft operations, the number of average daily operations is determined by using the calendar month with the highest number of operations.

C.3 NOISE IMPACTS ON HUMANS

Annoyance. The primary effect of aircraft noise on exposed communities is one of annoyance. Noise annoyance is defined by the USEPA as any negative subjective reaction on the part of an individual or group (USEPA, 1974). Studies of community annoyance resulting from numerous types of environmental noise show that DNL correlates well with impact. Schultz (1978) showed a consistent relationship between DNL and percentage of the impacted population that was "highly annoyed" (9 or 10 on a scale of 1 to 10, with 10 being the most annoyed). A more recent study reaffirmed and updated this relationship (Finegold et al., 1994) (Table C-1). In general, correlation coefficients of 0.85 to 0.95 are found between the percentages of groups of people highly annoyed and the level of average noise exposure. The correlation coefficients for the annoyance of individuals are relatively low, however, on the order of 0.5 or less. This is not surprising, considering the varying personal factors that influence the manner in which individuals react to noise. Nevertheless, findings substantiate that, as a whole, communities' level of annoyance to aircraft noise is represented fairly reliably using DNL.

Table C-1. Relationship Between Annoyance and DNL

Noise Exposure (DNL)	Percent of Population Highly Annoyed
<65	<12
65–70	12–21
70–75	22–36
75–80	37–53
80–85	54–70
>85	>71

Source: Finegold et al., 1994

It is important to note that DNL does not represent the sound level heard at any particular time, but rather, it represents a cumulative sound exposure. DNL accounts for the sound level of individual noise events, the duration of those events, and the number of events. Its use is endorsed by the scientific community and is recognized as the standard methodology by most federal agencies (ANSI, 1980, 1988; USEPA, 1974; Federal Interagency Committee on Urban Noise [FICUN], 1980; FICON, 1992).

There are several commonly recognized average noise level thresholds that are based on expected community reaction. The first is DNL of 65 dB. This is a level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like aviation, which unavoidably result in noise. Areas exposed to DNL above 65 dB generally are not considered suitable for residential use. The second is DNL of 55 dB, which was identified by the USEPA as a level ". . . requisite to protect public health and welfare with an adequate margin of safety," (USEPA, 1974). From a noise exposure perspective, that would be an ideal selection. However, financial and technical resources are generally not available to achieve that goal. Most agencies have identified DNL of 65 dB as a criterion that protects those most impacted by noise, and that often can be achieved on a practical basis (FICON, 1992). This corresponds to about 12 percent of the exposed population being highly annoyed. The third is DNL of 75 dB. This is the lowest level at which adverse health effects could be credible (USEPA, 1974).

Community annoyance from sonic booms, firing of heavy weaponry, and other impulsive noises is predicted using CDNL. The correlation between CDNL and annoyance has been estimated based on community reaction to impulsive sounds over several years (CHABA, 1981). Values of the C-weighted equivalent to the Schultz curve are different than that of the Schultz curve itself. Table C-2 shows the relationship between percentage of the population highly annoyed, DNL, and CDNL. If both continuous and impulsive noise occurs in the same area, impacts are assessed separately for each.

Table C-2. Relation Between Annoyance, DNL, and CDNL

CDNL	% Highly Annoyed	DNL
48	2	50
52	4	55
57	8	60
61	14	65
65	23	70
69	35	75

Source: CHABA, 1981

Speech Interference. Speech interference associated with aircraft noise is a primary cause of annoyance for communities. The disruption of routine activities such as radio or television listening, telephone use, or family conversation gives rise to frustration and irritation. The quality of speech communication is particularly important in classrooms and offices. In industrial settings it can cause fatigue and vocal strain in those who attempt to communicate over the noise.

The disruption of speech in the classroom is a primary concern, due to the potential for adverse effects on children's learning ability. There are two aspects to speech comprehension:

- *Word Intelligibility* - the percent of words transmitted and received. This might be important for students in the lower grades who are learning the English language, and particularly for students who have English as a Second Language.
- *Sentence Intelligibility* – the percent of sentences transmitted and understood. This might be important for high-school students and adults who are familiar with the language, and who do not necessarily have to understand each word in order to understand sentences.

U.S. Federal Criteria for Interior Noise. In 1974, the USEPA identified a goal of an indoor 24-hour average sound level $L_{eq(24)}$ of 45 dB to minimize speech interference based on the intelligibility of sentences in the presence of a steady background noise (USEPA, 1974). Intelligibility pertains to the percentage of speech units correctly understood out of those transmitted, and specifies the type of speech material used, i.e. sentences or words. The curve displayed in Figure C-2 shows the effect of steady indoor background sound levels on sentence intelligibility. For an average adult with normal hearing and fluency in the language, steady background sound levels indoors of less than 45 dB L_{eq} are expected to allow 100-percent intelligibility of sentences.

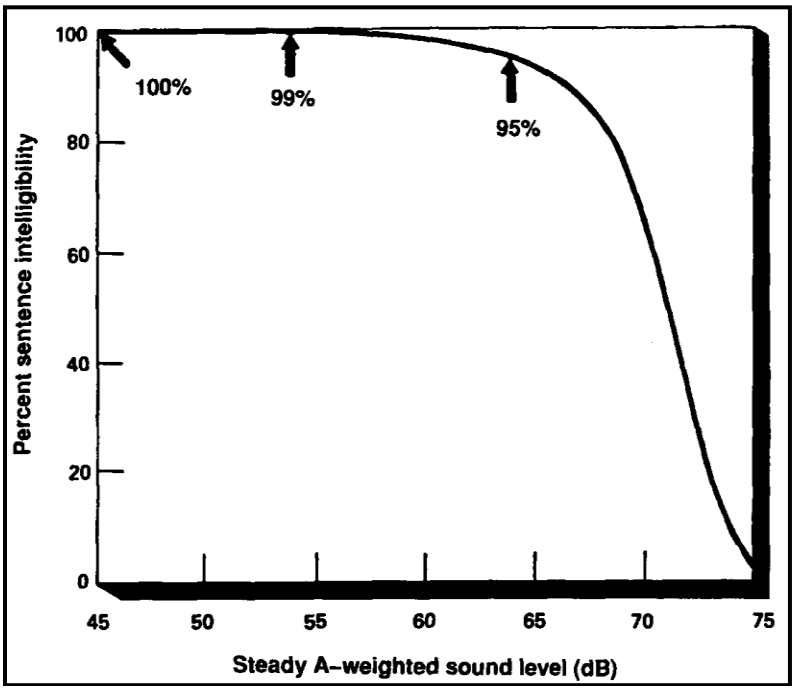

Figure C-2. Speech Intelligibility Curve
Source: USEPA, 1974

The curve shows 99-percent sentence intelligibility for background levels at a L_{eq} of 54 dB, and less than 10-percent intelligibility for background levels above a L_{eq} of 73 dB. Note that the curve is especially sensitive to changes in sound level between 65 dB and 75 dB—an increase of 1 dB in background sound level from 70 dB to 71 dB results in a

14-percent decrease in sentence intelligibility, whereas a 1-dB increase in background sound level from 60 dB to 61 dB results in less than 1-percent decrease in sentence intelligibility.

Sleep Interference. The disturbance of sleep is a major concern for communities exposed to nighttime aircraft noise. There have been numerous research studies that have attempted to quantify the complex effects of noise on sleep. This section provides an overview of the major noise-induced sleep disturbance studies that have been conducted, with particular emphasis placed on those studies that have influenced U.S. federal noise policy. The studies have been separated into two groups:

- Initial studies performed in the 1960s and 1970s, where the research was focused on laboratory sleep observations.
- Later studies performed in the 1990s up to the present, where the research was focused on field observations, and correlations to laboratory research were sought.

Initial Studies. The relationship between noise levels and sleep disturbance is complex and not fully understood. The disturbance depends not only on the depth of sleep, but also on the previous exposure to aircraft noise, familiarity with the surroundings, the physiological and psychological condition of the recipient, and a host of other situational factors. The most readily measurable effect of noise on sleep is the number of arousals or awakenings, and so the body of scientific literature has focused on predicting the percentage of the population that will be awakened at various noise levels. Fundamentally, regardless of the tools used to measure the degree of sleep disturbance (awakenings, arousals, etc.), these studies have grouped the data points into bins to predict the percentage of the population likely to be disturbed at various sound level thresholds.

FICON produced a guidance document that provided an overview of the most pertinent sleep disturbance research that had been conducted throughout the 1970s (FICON, 1992). Literature reviews and meta-analysis conducted between 1978 and 1989 made use of the existing datasets that indicated the effects of nighttime noise on various sleep-state changes and awakenings (Lukas, 1978; Griefahn, 1978; Pearsons et al., 1989). FICON noted that various indoor A-weighted sound levels—ranging from 25 to 50 dB—were observed to be thresholds below which significant sleep effects were not expected. Due to the large variability in the data, FICON did not endorse the reliability of the results.

However, FICON did recommend the use of an interim dose-response curve—awaiting future research—that predicted the percent of the exposed population expected to be awakened as a function of the exposure to single event noise levels expressed in terms of SEL. This curve was based on the research conducted for the U.S. Air Force (Finegold, 1994). The dataset included most of the research performed up to that point, and predicted that 10 percent of the population would be awakened when exposed to an interior SEL of approximately 58 dB. The data utilized to derive this relationship were primarily the results of controlled laboratory studies.

Recent Sleep Disturbance Research—Field and Laboratory Studies. It was noted in the early sleep disturbance research that the controlled laboratory studies did not account for many factors that are important to sleep behavior, such as habituation to the environment and previous exposure to noise and awakenings from sources other than aircraft noise. In the early 1990s, field studies were conducted to validate the earlier laboratory work. The most significant finding from these studies was that an estimated 80 to 90 percent of sleep disturbances were not related to individual outdoor noise events, but were instead the result of indoor noise sources and other non–noise-related factors. The results showed that there was less of an effect of noise on sleep in real-life conditions than had been previously reported from laboratory studies.

Federal Interagency Committee on Aviation Noise (FICAN). The interim FICON dose-response curve that was recommended for use in 1992 was based on the most pertinent sleep disturbance research that was conducted through the 1970s, primarily in laboratory settings. After that time, considerable field research was conducted to evaluate the sleep effects in peoples' normal home environment. Laboratory sleep studies tend to show higher values of sleep disturbance than field studies because people who sleep in their own homes are habituated to their environment and, therefore, do not wake up as easily (FICAN, 1997).

Based on the new information, FICAN updated its recommended dose-response curve in 1997, depicted as the lower curve in Figure C-3. This figure is based on the results of three field studies (Ollerhead, 1992; Fidell et al., 1994; Fidell et al., 1995a; Fidell et al., 1995b), along with the datasets from six previous field studies.

The new relationship represents the higher end, or upper envelope, of the latest field data. It should be interpreted as predicting the "maximum percent of the exposed population expected to be behaviorally awakened" or the "maximum percent awakened" for a given residential population. According to this relationship, a maximum of 3 percent of people would be awakened at an indoor SEL of 58 dB, compared to 10 percent using the 1992 curve. An indoor SEL of 58 dB is equivalent to outdoor SELs of 73 and 83 dB respectively assuming 15 and 25 dB noise level reduction from outdoor to indoor with windows open and closed, respectively.

Note the relatively low percentage of awakenings to fairly high noise levels. People think they are awakened by a noise event, but usually the reason for awakening is otherwise. For example, the 1992 U.K. Civil Aviation Authority study found the average person was awakened about 18 times per night for reasons other than exposure to an aircraft noise—some of these awakenings are due to the biological rhythms of sleep and some to other reasons that were not correlated with specific aircraft events.

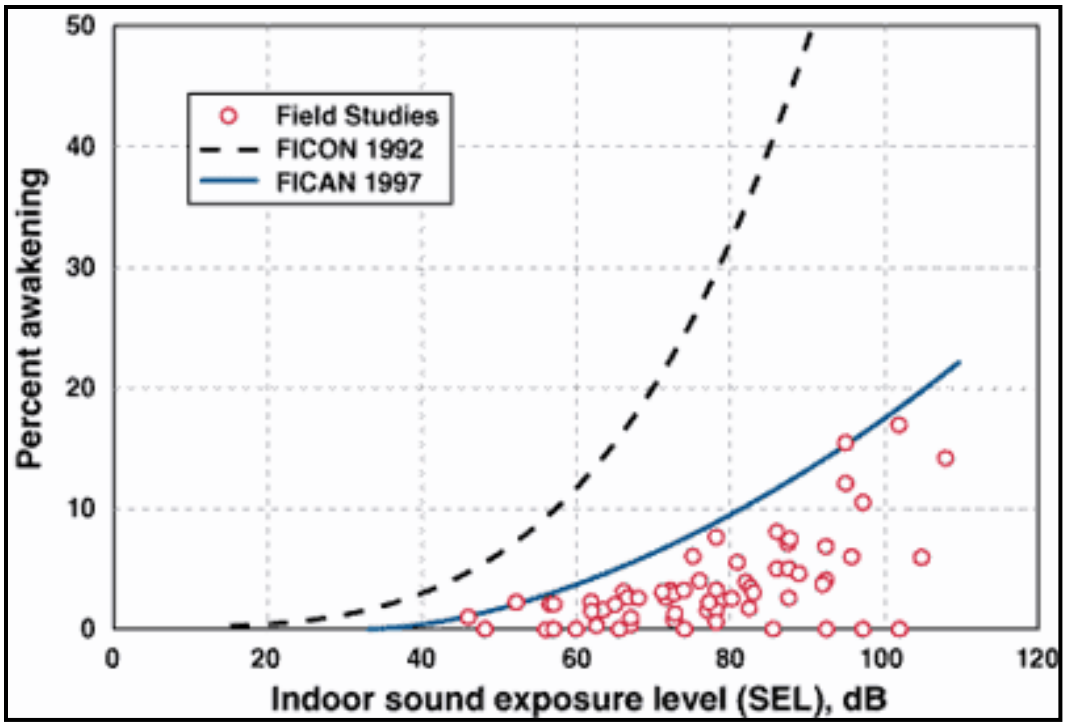

Figure C-3. FICAN's 1997 Recommended Sleep Disturbance Dose-Response Relationship

The FICAN 1997 curve is represented by the following equation:

$$Percent\ Awakenings = 0.0087 \times [SEL - 30]^{1.79}$$

Number of Events and Awakenings. In recent years, there have been studies and one proposal that attempted to determine the effect of multiple aircraft events on the number of awakenings. The German Aerospace Center (DLR) conducted an extensive study focused on the effects of nighttime aircraft noise on sleep and other related human performance factors (Basner, 2004). The DLR study was one of the largest studies to examine the link between aircraft noise and sleep disturbance and involved both laboratory and in-home field research phases. The DLR investigators developed a dose-effect curve that predicts the number of aircraft events at various values of L_{max} expected to produce one additional awakening over the course of a night. The dose-effect curve was based on the relationships found in the field studies.

In July 2008 ANSI and the Acoustical Society of America (ASA) published a method to estimate the percent of the exposed population that might be awakened by multiple aircraft noise events based on statistical assumptions about the probability of awakening (or not awakening) (ANSI, 2008). This method relies on probability theory rather than direct field research/experimental data to account for multiple events.

Figure C-4 depicts the awakenings data that form the basis and equations of ANSI S12.9-2008. The curve labeled 'Eq. (B1)' is the relationship between noise and awakening endorsed by FICAN in 1997. The ANSI recommended curve labeled 'Eq. (1)' quantifies the probability of awakening for a population of sleepers who are exposed to an outdoor noise event as a function of the associated indoor SEL in the bedroom. This curve was derived from studies of behavioral awakenings associated with noise events in "steady state" situations where the population has been exposed to the noise long enough to be habituated. The data points in Figure C-4 come from these studies. Unlike the FICAN curve, the ANSI 2008 curve represents the average of the field research data points.

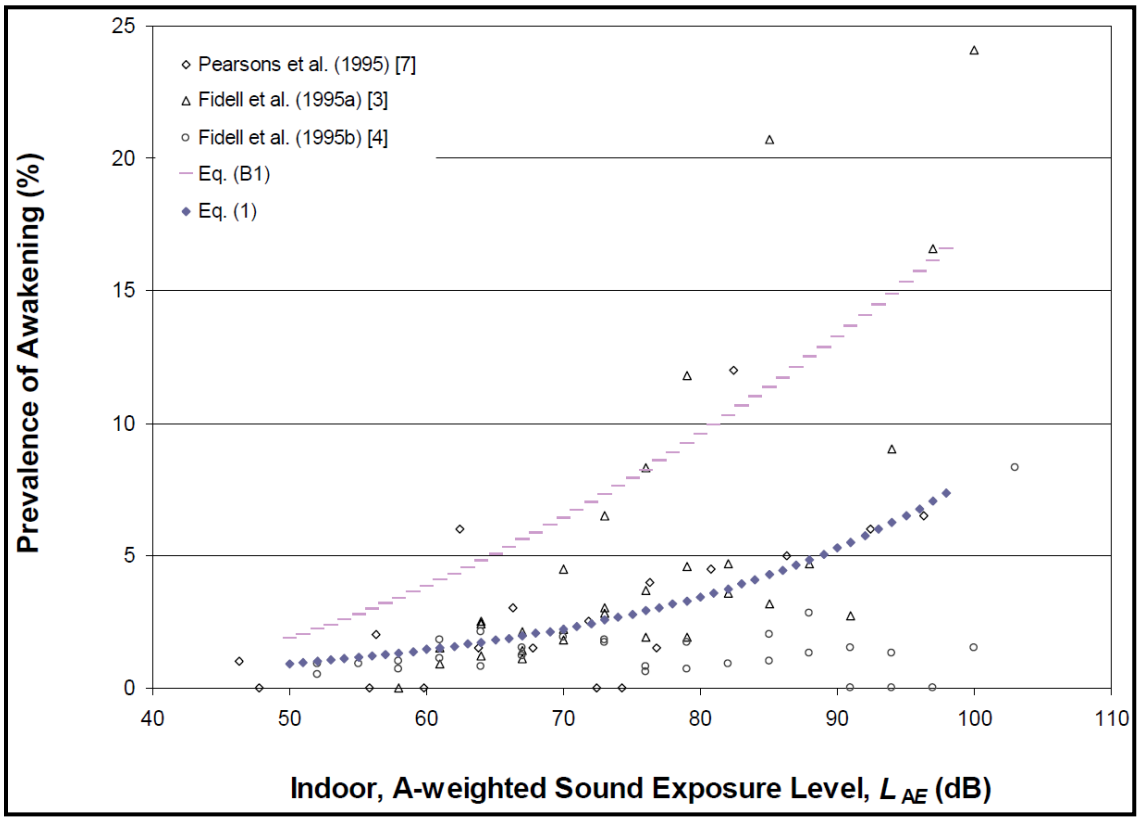

Figure C-4. Plot of Sleep Awakening Data versus Indoor SEL
Source: ANSI 2008

In December 2008, FICAN recommended the use of this new estimation procedure for future analyses of behavioral awakenings from aircraft noise (Figure C-5 and Figure C-6). In that statement, FICAN also recognized that additional sleep disturbance research is underway by various research organizations, and results of that work may result in additional changes to FICAN's position. Until that time, FICAN recommends the use of ANSI S12.9-2008.

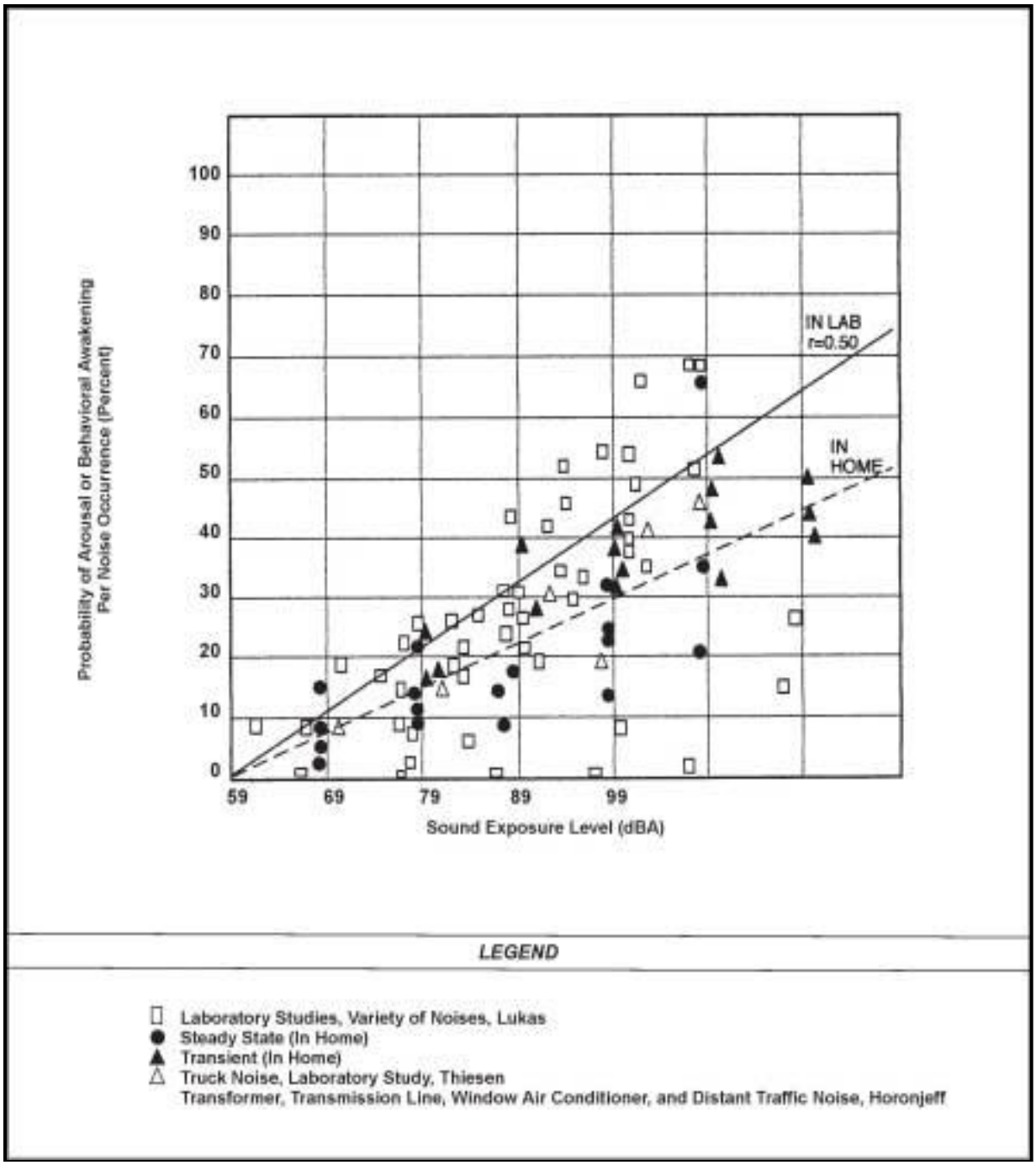

Figure C-5. Probability of Arousal or Behavioral Awakening in Terms of Sound Exposure Level

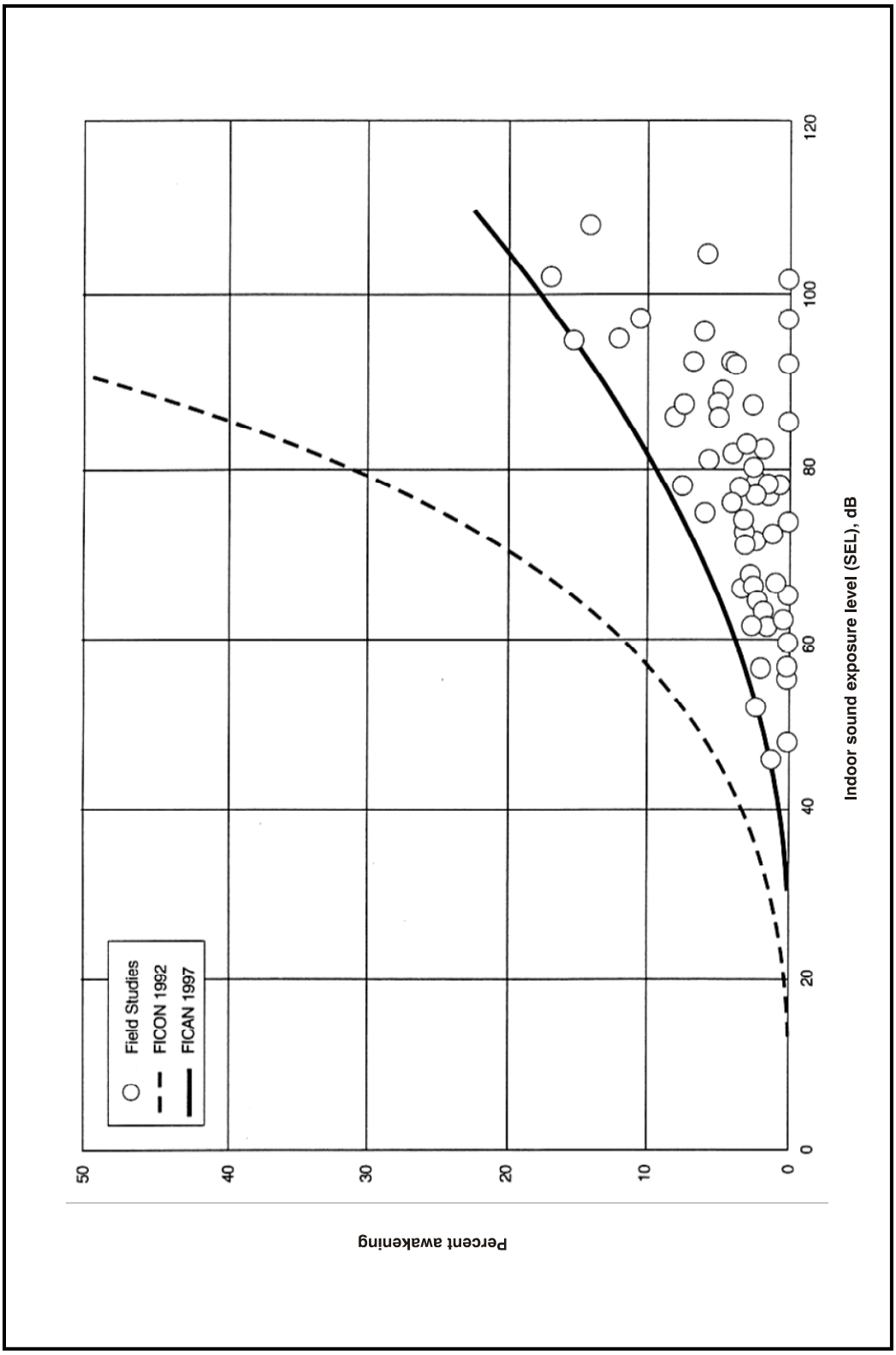

Figure C-6. Recommended Sleep Disturbance Dose-Response Relationship

Land Use Compatibility. As noted above, the inherent variability between individuals makes it impossible to predict accurately how any individual will react to a given noise event. Nevertheless, when a community is considered as a whole, its overall reaction to noise can be represented with a high degree of confidence. As described above, the best noise exposure metric for this correlation is the DNL or L_{dnmr} for military overflights. Impulsive noise can be assessed by relating CDNL to an "equivalent annoyance" DNL.

In June 1980, the ad hoc FICUN published guidelines (FICUN, 1980) relating DNL to compatible land uses. This committee was composed of representatives from the DoD; Transportation, Housing and Urban Development; USEPA; and the Veterans Administration. Since issuance of the FICUN guidelines, federal agencies have generally adopted the guidelines for their noise analyses. These guidelines are reprinted in Table C-3. The designations contained in the table do not constitute a federal determination that any use of land covered by the program is acceptable or unacceptable under federal, state, or local law. The responsibility for determining the acceptable and permissible land uses, and the relationship between specific properties and specific noise contours rests with the local authorities. The Federal Aviation Administration (FAA) determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise-compatible land uses.

It is important to note that the guidelines presented in Table C-3 are recommendations, and compliance with them is not mandatory.

Table C-3. Land Use Compatibility with Yearly Day–Night Average Sound Levels

Land Use	Yearly Day–Night Average Sound Level in Decibels					
	Below 65	65–70	70–75	75–80	80–85	Over 85
Residential Use						
Residential, other than mobile and transient lodgings	Y	N[1]	N[1]	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N[1]	N[1]	N[1]	N	N
Public Use						
Schools	Y	N[1]	N[1]	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Transportation	Y	Y	Y[2]	N[3]	Y[4]	Y[4]
Parking	Y	Y	Y[2]	Y[3]	Y[4]	N
Commercial Use						
Offices—business and professional	Y	Y	25	30	N	N
Wholesale and retail—building materials, hardware, and farm equipment	Y	Y	Y[2]	Y[3]	Y[4]	N
Retail trade—general	Y	Y	25	30	N	N
Utilities	Y	Y	Y[2]	Y[3]	Y[4]	N
Communication	Y	Y	25	30	N	N

Table C-3. Land Use Compatibility with Yearly Day–Night Average Sound Levels

Land Use	Yearly Day–Night Average Sound Level in Decibels					
	Below 65	65–70	70–75	75–80	80–85	Over 85
Manufacturing and Production						
Manufacturing—general	Y	Y	Y[2]	Y[3]	Y[4]	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y[6]	Y[7]	Y[8]	Y[8]	Y[8]
Livestock farming and breeding	Y	Y[6]	Y[7]	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports arenas and spectator sports	Y	Y[5]	Y5[6]	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

Data for this table were taken from the Standard Land Use Coding Manual.

Y (YES) = land use and related structures compatible without restrictions.

N (No) = land use and related structures are not compatible and should be prohibited.

NLR = Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.

25, 30, or 35 dB = land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structures.

(1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor-to-indoor NLR of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide an NLR of 20 dB; thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.

(2) Measures to achieve NLR 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.

(3) Measures to achieve NLR 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.

(4) Measures to achieve NLR 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.

(5) Land use compatible provided special sound reinforcement systems are installed.

(6) Residential buildings require an NLR of 25.

(7) Residential buildings require an NLR of 30.

(8) Residential buildings not permitted.

Effects on Children. The effect of aircraft noise on children is a controversial area. Certain studies indicate that, in certain situations, children are potentially more sensitive to noise compared to adults. For example, adults average roughly 10 percent better than young children on speech intelligibility tests in high noise environments (ASA, 2000). Some studies indicate that noise negatively impacts classroom learning (Shield and Dockrell, 2008).

In response to noise-specific and other environmental studies, Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (1997), requires federal agencies to ensure that their policies, programs, and activities address

environmental health and safety risks and to identify any disproportionate risks to children. While the issue of noise impacts on children's learning is not fully settled, in June 2002 ANSI released a new classroom acoustics standard entitled "Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools" (ANSI S12.60-2002). At present, complying with the standard is voluntary in most locations. Essentially, the criteria states that when the noisiest hour is dominated by noise from such sources as aircraft, the limits for most classrooms are an hourly average A-weighted sound level of 40 dB, and the A-weighted sound level must not exceed 40 dB for more than 10 percent of the hour. For schools located near airfields, indoor noise levels would have to be lowered by 35 to 45 dBA relative to outdoor levels (ANSI, 2002).

Non-auditory Health Effects. Non-auditory health effects of long-term noise exposure, where noise may act as a risk factor, have not been found to occur at levels below those protective against noise-induced hearing loss (as described above). Most studies attempting to clarify such health effects have found that noise exposure levels established for hearing protection will also protect against any potential non-auditory health effects, at least in workplace conditions. The lead paper at the National Institutes of Health Conference on Noise and Hearing Loss, held on 22–24 January 1990 in Washington, D.C., stated the following: "The non-auditory effects of chronic noise exposure, when noise is suspected to act as one of the risk factors in the development of hypertension, cardiovascular disease, and other nervous disorders, have never been proven to occur as chronic manifestations at levels below these criteria (an average of 75 dBA for complete protection against hearing loss for an eight-hour day)." At the 1988 International Congress on Noise as a Public Health Problem, most studies attempting to clarify such health effects did not find them at levels below the criteria protective of noise-induced hearing loss, and even above these criteria, results regarding such health effects were ambiguous. Consequently, it can be concluded that establishing and enforcing exposure levels to protect against noise-induced hearing loss would not only solve the noise-induced hearing loss problem but also any potential non-auditory health effects in the work place (von Gierke, 1990).

Although these findings were directed specifically at noise effects in the work place, they are equally applicable to aircraft noise effects in the community environment. Research studies regarding the non-auditory health effects of aircraft noise are ambiguous, at best, and often contradictory. Yet, even those studies that purport to find such health effects use time–average noise levels of 75 dB and higher for their research.

The potential for noise to affect physiological health, such as the cardiovascular system, has been speculated; however, no unequivocal evidence exists to support such claims (Harris, 1997). Conclusions drawn from a review of health effect studies involving military low-altitude flight noise, with its unusually high maximum levels and rapid rise in sound level, have shown no correlation to cardiovascular disease (Schwartze and Thompson, 1993). Since the aircraft fly predominantly at high altitudes, even less concern exists for such health effects. Additional unsupported claims include flyover noise that produces increased mortality rates, adverse effects on the learning ability of

middle- and low-aptitude students, aggravation of post-traumatic stress syndrome, increased stress, increase in admissions to mental hospitals, and adverse effects on pregnant women and the unborn fetus (Harris, 1997). Harris' comments are based on a report by The Health Council of The Netherlands (1996). That study discusses two epidemiological studies that looked at the hearing abilities of children whose mothers had been exposed to occupational noise during pregnancy. The results were conditionally qualified by the committee concluding "…that equivalent sounds levels of 85 dB(A) or higher during an 8-hour working day appear to be detrimental to the hearing of the unborn child," but then they also recommended that further research be undertaken to verify that conclusion.

In summary, there is no scientific basis for a claim that potential health effects exist for aircraft time–average sound levels below 75 dB.

Aircraft Noise Effects on Structures. Normally, the most sensitive components of a structure to airborne noise are the windows and, infrequently, the plastered walls and ceilings. An evaluation of the peak sound pressures impinging on the structure is normally sufficient to determine the possibility of damage. In general, at sound levels above 130 dB, there is the possibility of the excitation of structural component resonance. While certain frequencies (such as 30 Hz for window breakage) may be of more concern than other frequencies, conservatively, only sounds lasting more than 1 second above a sound level of 130 dB are potentially damaging to structural components (CHABA, 1977).

One study, directed specifically at low-altitude, high-speed aircraft, showed that there is little probability of structural damage from such operations (Sutherland, 1989). Sound levels at damaging frequencies (e.g., 30 Hz for window breakage or 15 to 25 Hz for whole-house response) produced by most military aircraft are rarely above 130 dB.

Noise-induced structural vibration may also cause annoyance to dwelling occupants because of induced secondary vibrations or "rattle" of objects (such as hanging pictures, dishes, plaques, and bric-a-brac) within the dwelling. Windowpanes may also vibrate noticeably when exposed to high levels of airborne noise, causing homeowners to fear breakage. In general, such noise-induced vibrations occur at sound levels above those considered normally compatible with residential land use. Thus, assessments of noise exposure levels for compatible land use should also be protective of noise-induced secondary vibrations.

Sonic Boom Effects on Structures. Sonic booms are commonly associated with structural damage. Most damage claims are for window panes, glass and plaster. Table C-4 summarizes the threshold of damage that might be expected at various overpressures. There is a large degree of variability in damage experience, and much of the damage depends on the pre-existing condition of a structure. Breakage data for glass, for example, spans a range of two to three orders of magnitude at a given overpressure. While glass can suffer damage at low overpressures, as shown in Table C-4, laboratory tests of glass (White, 1972) have shown that properly installed window glass will not break at overpressures below 10 psf, even when subjected to

repeated booms. In general, structural damage from sonic booms should be expected only for overpressures above 10 psf.

Table C-4. Possible Damage to Structures from Sonic Booms

Sonic Boom Overpressure Nominal (psf)	Type of Damage	Item Affected
0.5–2	Plaster	Fine cracks; extension of existing cracks, with more in ceilings, over doorframes, between some plaster boards.
	Glass	Rarely shattered, either partial or extension of existing.
	Roof	Slippage of existing loose tiles/slates; sometimes new cracking of old slates at nail hole.
	Damage to outside walls	Existing cracks in stucco extended.
	Bric-a-brac	Items carefully balanced or on edges can fall; fine glass, such as large goblets, can fall and break.
	Other	Dust falls in chimneys.
2–4	Glass, plaster, roofs, ceilings	Failures would have been difficult to forecast in terms of their existing, localized condition. Nominally in good condition.
4–10	Glass	Regular failures within a population of well-installed glass; industrial as well as domestic greenhouses.
	Plaster	Partial ceiling collapse of good plaster; complete collapse of very new, incompletely cured, or very old plaster.
	Roofs	High probability rate of failure in nominally good state, slurry-wash; some chance of failures in tiles on modern roofs; light roofs (bungalow) or large area can move bodily.
	Walls (out)	Old, free standing, but in fairly good condition, can collapse.
	Walls (in)	Inside (“party”) walls known to move at 10 psf.
Greater than 10	Glass	Some good glass will fail regularly to sonic booms from the same direction. Glass with existing faults could shatter and fly. Large window frames move.
	Plaster	Most plaster affected.
	Ceilings	Plaster boards displaced by nail popping.
	Roofs	Most slate/slurry roofs affected, some badly; large roofs having good tile can be affected; some roofs bodily displaced causing gale-end and will-plate cracks; domestic chimneys dislodged if not in good condition.
	Walls	Internal party walls can move even if carrying fittings such as hand basins or taps; secondary damage due to water leakage.

Table C-4. Possible Damage to Structures from Sonic Booms

Sonic Boom Overpressure Nominal (psf)	Type of Damage	Item Affected
	Bric-a-brac	Some nominally secure items can fall; e.g., large pictures, especially if fixed to party walls.

Source: Haber and Nakaki, 1989

Noise Effects on Historical and Archaeological Sites. Aircraft noise may affect historical sites more severely than newer modern structures because of the potential for increased fragility of structural components of historical buildings and other historical sites. There are limited scientific studies of such effects to provide guidance for their assessment.

One study involved the measurement of sound levels and structural vibration levels in a superbly restored plantation house, originally built in 1795, and now situated approximately 1,500 feet from the centerline at the departure end of Runway 19L at Washington Dulles International Airport. These measurements were made in connection with the proposed scheduled operation of the supersonic Concorde airplane at Dulles (Wesler, 1977). There was special concern for the building's windows, since roughly half of the 324 panes were original. No instances of structural damage were found. Interestingly, despite the high levels of noise during Concorde takeoffs, the induced structural vibration levels were actually less than those induced by touring groups and vacuum cleaning within the building itself.

As noted above for the effects of noise-induced vibrations of normal structures, assessments of noise exposure levels for normally compatible land uses should also be protective of historic and archaeological sites.

C.4 NOISE IMPACTS MODELING

C.4.1 Aircraft Noise

Subsonic Aircraft Noise Modeling. An aircraft in subsonic flight emits noise from two sources: the engines and flow noise around the airframe. To estimate noise impacts on the ground, the DoD first measures noise from each aircraft in several flight configurations in straight and level flight at a reference altitude above an array of microphones. These measurements are stored in the NOISEFILE database. Next, this information on aircraft source noise is applied to a computer model to show how aircraft noise can be expected to propagate in real-world conditions. The algorithms at the core of these models account for spherical spreading, atmospheric absorption, and lateral attenuation. Spherical spreading is, in essence, the reduction in noise due to the spreading of sound energy away from its source. Sound energy decreases by approximately 6 dB every time the distance between the source and receiver is doubled. Daily and hourly variations in atmospheric conditions (such as humidity and clouds) can alter the amount of sound energy at a given location. The noise models

use monthly average temperature and humidity conditions to derive acoustically average atmospheric absorption coefficients for each given location. Lateral attenuation, or the loss of sound energy due to reflection of sound by the ground, depends upon the altitude of the aircraft and the distance to the receiver.

The *MOA and Range NOISEMAP (MR_NMAP)* suite of computer programs is used for computing subsonic aircraft noise underneath SUAs. The suite of computer programs includes MR_OPS (Version 1), OMEGA10R, MRNMAP (Version 2.2), NMPlot, and NOISEFILE Version 6.4 as follows:

- MR_OPS – This program allows for entry of airspace information, distribution of sorties, flight profiles (average power settings, altitude distributions, and speeds), and numbers of sorties. "Distribution of sorties" refers to the modeling of airspace utilization via three broad representations: uniformly distributed sorties for modeling of MOAs and Restricted Areas, normally distributed operations for modeling of MTRs, and defined tracks for modeling race tracks, air refueling tracks, and other routes within MOAs or Restricted Areas.
- OMEGA10R – This program extrapolates/interpolates the reference single event Sound Exposure Level (SEL) for each model of aircraft from the NOISEFILE Version 6.4 database, taking into consideration the specified speeds, engine power settings, and environmental conditions appropriate to each flight operation, and generates tables of SEL versus altitude.
- MR_NMAP – The core MR_NMAP program incorporates the number of sorties between 0700–2200 and between 2200–0700, specified horizontal distributions, volume of the airspace, and profiles of the aircraft to calculate the Onset Rate Adjusted Day Night Average Sound Level (Ldnmr) as follows: (a) Ldnmr at points of a regularly spaced grid, (b) Ldnmr for an entire piece of airspace, or (c) maximum Ldnmr under the centerline of MTRs or similar routes.
- NMPLOT – From calculations of Ldnmr at many points on the ground, the NMPLOT program draws contours of equal Ldnmr values for overlay onto land-use maps. Ldnmr values are measured in A-weighted decibels denoted dBA or simply dB.

The *NOISEMAP* suite of computer programs was used for computing subsonic aircraft noise in the vicinity of Creech AFB. The NOISEMAP suite of computer programs includes BaseOps, OMEGA10, OMEGA11, NOISEMAP and NMPlot. The suite also includes the NOISEFILE databases. The different modules are described in the following sections.

- BASEOPS – The BaseOps program allows entry of runway coordinates, airfield information, flight tracks, flight profiles (engine thrust settings, altitudes, speeds, and pitch, yaw, roll and nacelle angles for tilt rotors and helicopters), numbers of daily flight operations, and pre-flight and engine ground run-up spots and operations.
- OMEGA10 – For fixed-wing and helicopters modeled using NOISEMAP, the OMEGA10 program calculates SEL versus distance for each model of aircraft

from the NOISEFILE database, taking into consideration the specified speeds, engine thrust settings, and environmental conditions appropriate to each type of flight operation. The NOISEFILE database contains one-third octave band sound data for pre-flight run-up and flight operations by most military aircraft and some civil aircraft. The OMEGA10 output is used by NOISEMAP in subsequent calculations.

- OMEGA11 - The OMEGA11 program calculates maximum A-weighted sound levels from the NOISEFILE database for each model of aircraft taking into consideration the engine thrust settings and environmental conditions appropriate to ground engine maintenance run-up operations. Similar to the OMEGA10 output, the OMEGA11 output is also used by NOISEMAP in subsequent calculations.

NOISEMAP uses the OMEGA10 and OMEGA11 outputs, incorporates the number of operations between 0700-2200 and 2200-0700 hours, flight paths, and profiles of the aircraft to calculate the Day-Night Average Sound Level (DNL) at a series of points on the ground around the facility. This process results in a "grid" file containing noise levels at different points of a user specified rectangular area. NOISEMAP Version 7 has been expanded to include atmospheric sound propagation effects over varying terrain, including hills and mountainous regions, as well as regions of varying acoustical impedance—for example, water around coastal regions

Supersonic Aircraft Noise Modeling The BOOMAP model was used to model supersonic noise. The tool is based on long-term sonic boom measurements of Air Combat Maneuvers (ACM) in White Sands Proving Grounds, New Mexico (Plotkin et al. 1989); the eastern portion of the Goldwater Range, Arizona (Plotkin et al. 1992); the Elgin MOA at Nellis AFB, Nevada (Frampton et al. 1993); and the western portion of the Goldwater Range (Page et al. 1994). Analyses of these observations were developed into the empirical BOOMAP model (Plotkin et al. 1992). BOOMAP, therefore, accounts for the statistical variations in ACM maneuvers when computing C-weighted DNL (CDNL) levels and the number of sonic booms per month on the ground underneath an SUA. CDNL values are measured in C-weighted decibels and are denoted dBC.

C.4.2 Munitions Noise

Noise from detonation of large caliber weapons (20mm or greater) is computed using DoD's Blast Noise (BNOISE) program. BNOISE is a collection of computer programs which together can produce CDNL contours for impulsive sources such as guns, artillery, mortars, demolitions, bombs, etc. BNOISE Version 2 is used in this analysis and the required data include:

- Firing and target areas (location, point or area distribution, and elevation)
- Activity data (activity name, site weather, and detailed activity information such as firing location, firing noise source, target location, target noise source, trajectory information, and number of shots fired between 0700-2200 local time and 2200-0700 local time

- Metrics (noise metrics and assessment period)
- Grid area (rectangular grid area defined by a length, a width and a spacing)

Similar to MRNMAP, the BNOISE computer generates a grid file which is a collection of noise levels at equally spaced points on a grid. The NMPLOT program uses the "grid" file to draw contours of equal CDNL for overlay onto base maps.

To assess noise effects, the USACHPPM has defined three noise zones to be considered in land use planning. The zones are described by the noise levels to which they are exposed, and based on sociological considerations, compatible land uses are recommended.

Noise Zone I (NZ I) includes all areas in which the PK_{15}(met) decibel level is less than 87 dB (for small arms), the A-weighted DNL (ADNL) is less than 65 dB (for aircraft), and the CDNL is less than 62 dB (for large arms and explosions). NZ I is usually the furthest zone from the noise source, and it basically includes all areas not in either of the next two zones. As a rule, this area is suitable for all types of land use.

Noise Zone II (NZ II) is the next furthest area away from the noise source where the PK_{15}(met) decibel level is between 87 and 104 dB, the ADNL is between 65 and 75 dB, or the CDNL is between 62 and 70 dB. The noise exposure here is considered significant, and the use of land in this zone should generally be limited to activities such as manufacturing, warehousing, transportation, and resource protection. Residential use is strongly discouraged; however, if the community determines that this land must be used for houses, there should be a requirement that NLR features be integrated into the design and construction of houses. Further details of NLR ideas and strategies are available from USACHPPM.

Noise Zone III (NZ III) is the area closest to the source of the noise where the PK_{15}(met) decibel level is greater than 104 dB, the ADNL is greater than 75 dB, or the CDNL is greater than 70 dB. The noise level is so severe that no noise-sensitive uses should be considered in this area.

One final zone is the more informal Land Use Planning Zone. This zone is at the upper end of NZ I and is defined by a CDNL of 57 to 62 dB or an ADNL of 60 to 65 dB. It accounts for the fact that some installations have seasonal variability in their operations (or several unusually busy days during certain times of the year), and that averaging those busier days over the course of a year (as with the DNL) effectively dilutes their impact. Showing this extra zone creates one more added buffer layer to encroachment, and it signals to planners that encroachment into this area is the beginning of where complaints may become an issue. It also signals that extra care should be taken when approving plans.

Table C-5 shows all of the noise zones by the respective noise levels.

Table C-5. Noise Zone Levels

Zone	Noise Limit Aviation ADNL in A-Weighted dB	Noise Limit Impulsive CDNL in C-Weighted dB
Land Use Planning Zone	60–65	57–62
Noise Zone I	< 65	< 62
Noise Zone II	65–75	62–70
Noise Zone III	> 75	> 70

Source: Army Regulation 200-1, Environmental Protection and Enhancement, 13 December 2007.
ADNL = A-Weighted DNL; CDNL = C-Weighted DNL; PK_{15}(met) = Single Event Peak Level exceeded by 15% of events; < = less than; > = greater then; N/A = Not Applicable
Although local conditions regarding the need for housing may require noise-sensitive land uses in NZ II, on or off base, this type of land use is strongly discouraged. The absence of viable alternative development options should be determined, and an evaluation should be conducted locally prior to local approvals, indicating that a demonstrated community need for the noise-sensitive land use would not be met if development were prohibited in NZ II.
Where the community determines that these uses must be allowed, measures to achieve an outdoor-to-indoor NLR of at least 25 to 30 dB in NZ II, from small arms and aviation noise, should be incorporated into building codes and contained in individual approvals. The NLR for communities subjected to large-caliber weapons and the weapons system noise is lacking scientific studies to accomplish the recommended NLR. For this reason, it is strongly discouraged that noise-sensitive land uses be allowed in NZ II where large-caliber weapons use occurs.
Normal permanent construction can be expected to provide a NLR of 20 dB for aircraft and small arms; thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction, and they normally assume mechanical ventilation, upgraded Sound Transmission Class ratings in windows and doors, and closed windows year-round. Additional consideration should be given to modifying NLR levels based on peak noise levels or vibrations.
NLR criteria will not eliminate outdoor noise problems. However, building location and site planning and the design and use of berms and barriers can help mitigate outdoor noise exposure NLR, particularly from ground-level aircraft sources. Barriers are generally not effective in noise reduction for large arms such as artillery and armor or large explosions.

C.4.3 Construction Noise Modeling

Construction noise was modeled using the Roadway Construction Noise Model (RCNM) version 1.00, the Federal Highway Administration's (FHWA's) standard model for the prediction of construction noise (FHWA, 2006). The RCNM has the capability to model the types of construction equipment that are expected to be the dominant noise sources during construction associated with this action. The program uses a database of construction equipment source noise taken at a standard distance of 50 feet. Information on the noise level of each piece of equipment involved in construction is combined with data on what percentage of the time each piece of equipment would be running and the length of the workday to produce an equivalent noise level for the work site. The model adjusts for sound barriers that may reduce impact of the sound as well as a sound's being impulsive (banging), which increases the intrusiveness of the sound. The model yields L_{eq} and L_{max} at various distances and/or receptor locations.

C.5 NOISE IMPACTS MODELING RESULTS

C.5.1 Aircraft Noise Results

Subsonic Aircraft Noise Modeling Results. MR_NMAP was used to calculate the overall noise exposure for subsonic operations for Restricted Areas, MOAs/ATCAAs, and MTRs, and NOISEMAP for Creech AFB. The aircraft sorties were distributed uniformly within Restricted Areas and MOAs/ATCAAs, and normally across the MTRs.

C.5.1.1 Restricted Areas, MOAs/ATCAAs, and MTRs

Baseline: Table C-6 presents the resulting noise levels for Restricted Areas, MOAs/ATCAAs and MTRs (also depicted in Figure C-7). The Baseline Ldnmr values for Restricted Areas, MOAs/ATCAAs and MTRs were calculated to vary from less than 45 dB to 69 dB.

Alternatives 2 and 3: Table C-6 also presents the results for Alternatives 2 and 3 (also shown in Figure C-7).With a 30% increase in operations, the Ldnmr values for Restricted Areas, MOAs/ATCAAs and MTRs would be expected to vary from less than 45 dB to 70 dB, an average 1 dB increase. For example, the Ldnmr value within R-4806 would be expected to increase from 60 dB for Baseline to 61 dB for Alternatives 2 and 3.

Table C-6. Summary of Ldnmr Values for SUAs

SUA Name	Baseline	Alternative 2	Alternative 3
	L_{dnmr} (dBA)	L_{dnmr} (dBA) (Change)	L_{dnmr} (dBA) (Change)
R-4806	60	61 (+1)	61 (+1)
R-4807	66	67 (+1)	67 (+1)
R-4808	<45	46 (+1)	46 (+1)
R-4809	69	70 (+1)	70 (+1)
Caliente	67	68 (+1)	68 (+1)
Coyote	67	68 (+1)	68 (+1)
Elgin	60	61 (+1)	61 (+1)
Reveille	61	62 (+1)	62 (+1)
Sally	<45	<45 (+0)	<45 (+0)
VR-209	<45	<45 (+0)	<45 (+0)
VR-222	<45	<45 (+0)	<45 (+0)

C.5.1.2 Creech AFB

Baseline: The analysis of Creech AFB operations results in DNL contours of 65 to 85 dB plotted in increments of 5 dB for an average annual day condition (Figure C-7). The 65 dB contour extends approximately 2 NM to the southwest and southeast mostly due to transient Military and RQ-170 operations.

Alternatives 2 and 3: With a 30% increase in operations, the 65 dB contour would be expected to extend slightly over 2 NM to the southwest and southeast due to transient Military and RQ-170 operations and the overall increase in the number of operations.

Supersonic Aircraft Noise Modeling Results. Aircraft flight in excess of the speed of sound (Mach 1) generate sonic boom. The BOOMAP software was used to analyze the operational data for supersonic flights (sections 4 and 5) and generate the CDNL values associated with these operations.

C.5.1.3 Restricted Areas and MOAs/ATCAAs

Baseline: Table C-7 and Figure C-8 show the CDNL values associated with Baseline supersonic operations. For example, Table C-7 shows the CDNL values for the Baseline Condition vary from 51 dBC to 61 dBC. The number of sonic booms expected per day varies from 1 to 5.

Alternatives 2 and 3: Table C-7 and Figure C-8 also show the CDNL values associated with Alternatives 2 and 3.With a 30% increase in operations, the CDNL values would be expected to vary from 52 dBC to 62 dBC, an average 1 dBC increase. The number of sonic booms per day would be expected to increase for some of the SUAs and could vary from 1 to 6.

Table C-7. Summary of CDNL Values for SUA

SUA Name	Baseline		Alternative 2		Alternative 3	
	CDNL (dBC)	Booms per Day	CDNL(dBC) (Change)	Booms per Day (Change)	CDNL(dBC) (Change)	Booms per Day (Change)
R-4806	58	1	59 (+1)	2 (+1)	59	2 (+1)
R-4807	51	2	52 (+1)	2 (+0)	52	2 (+0)
R-4808	54	1	55 (+1)	1 (+0)	55	1 (+0)
R-4809	60	1	61 (+1)	2 (+1)	61	2 (+1)
Caliente	61	5	62 (+1)	6 (+1)	62	6 (+1)
Coyote	60	2	61 (+1)	3 (+1)	61	3 (+1)
Elgin	54	1	55 (+1)	1 (+0)	55	1 (+0)
Reveille	56	1	57 (+1)	1 (+0)	57	1 (+0)
Sally	57	1	58 (+1)	2 (+1)	58	2 (+1)

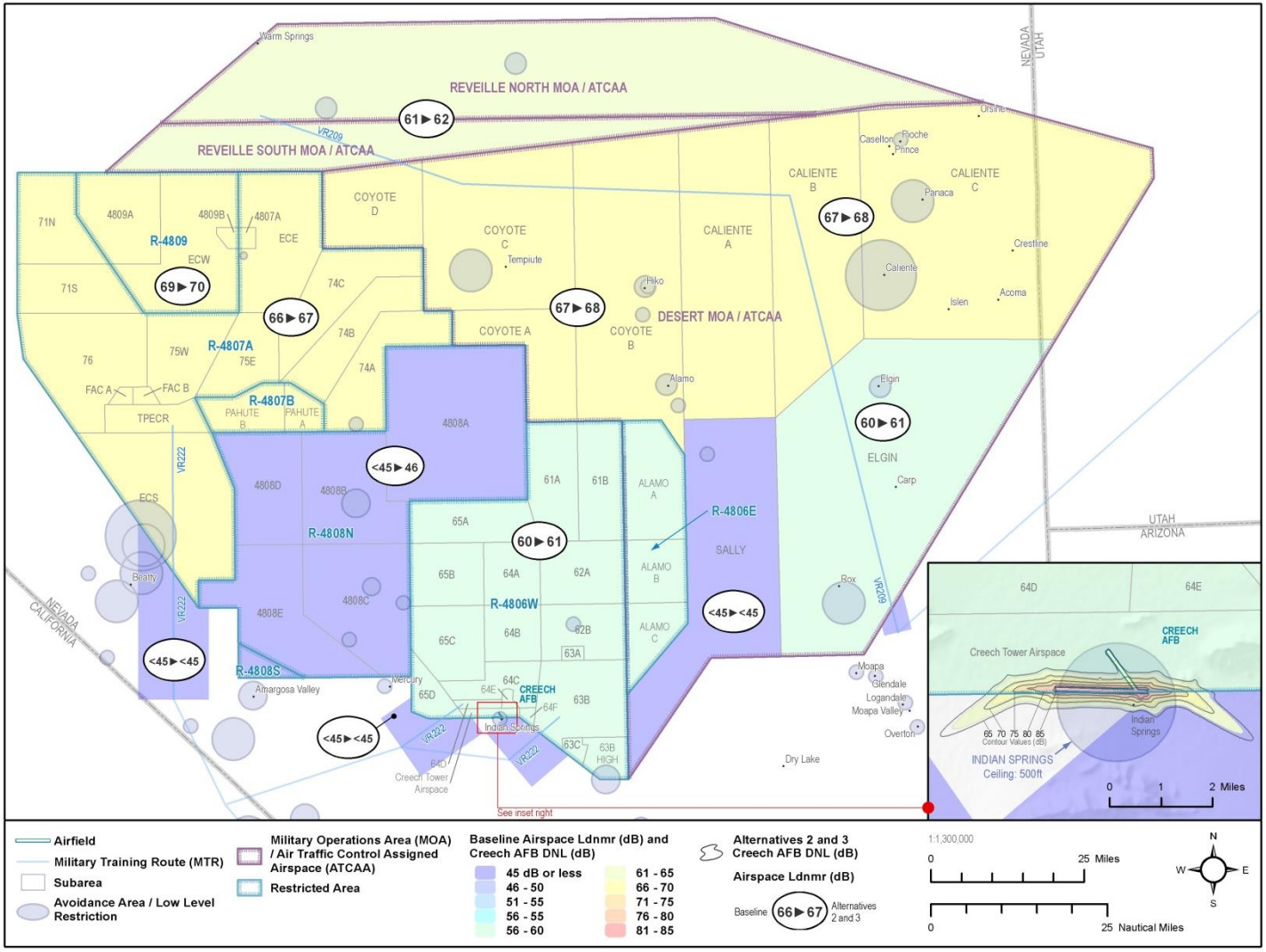

Figure C-7. Subsonic Noise Exposure Within the NTTR

In general, sonic booms may or may not reach the ground depending on environmental and flight conditions. Several factors influence the trajectory of a sonic boom and its magnitude on the ground, for example, aircraft altitude, temperature gradients, aircraft attitude, etc. Table C-8 shows, for selected aircraft, typical sonic boom peak overpressures that could be expected on the ground (in pounds per square foot) at various altitudes and Mach numbers.

Table C-8. Typical Sonic Boom Peak Overpressures (pounds per square foot)

Aircraft Type	Mach 1.1	Mach 1.2	Mach 1.3	Mach 1.4
10,000 feet AGL				
F-15	4.98	5.4	5.72	5.99
F-16	4.03	4.38	4.64	4.85
F-18	4.63	5.02	5.32	5.57
F-22*	5.02	5.48	5.82	6.1
F-35*	4.4	4.83	5.13	5.38
20,000 feet AGL				
F-15	2.68	2.87	3.04	3.17
F-16	2.16	2.32	2.45	2.56
F-18	2.48	2.66	2.8	2.93
F-22*	2.73	2.96	3.13	3.27
F-35*	2.4	2.61	2.77	2.9
30,000 feet AGL				
F-15	No Boom	1.9	1.99	2.07
F-16	No Boom	1.53	1.6	1.66
F-18	No Boom	1.74	1.82	1.89
F-22*	No Boom	1.99	2.09	2.18
F-35*	No Boom	1.78	1.87	1.95

* F-22 modeled as Fixed Wing Fighter of length 62.1 feet and weight 65,000 lbs.

* F-35 modeled as Fixed Wing Fighter of length 50.5 feet and weight 50,000 lbs.

Large Caliber Weapons Noise Modeling Results. The BNOISE computer program was used to analyze the operational data for large caliber weapons in sections 4 and 5, and to calculate the overall blast noise exposure in CDNL. The resulting noise levels are presented in Figure C-9. The 57, 62 and 70 dBC levels are reported consistent with AR 200-1 recommending the reporting of a Land Use Planning Zone (LUPZ) (57-62 dBC) and a Noise Zone I (less than 62 dBC) where noise-sensitive land uses such as housing, schools, and medical facilities need to be carefully managed, a Noise Zone II (62-70 dBC) where noise-sensitive land uses are normally not recommended and a Noise Zone III (70 dBC plus) where noise-sensitive land uses are not recommended.

Baseline: The CDNL contours for Baseline Conditions in Figure C-9 are generally centered around the most active target complexes. The 57 dBC contours extend approximately 2–3 NM from active target areas.

Alternatives 2 and 3: With an increase of 30% in large caliber munitions expenditure, the CDNL contours for Alternatives 2 and 3 would be expected to show a slight increase relative to Baseline conditions of approximately 1 dBC. The 57 dBC contours would be expected to continue to extend approximately 2–3 NM from active target areas.

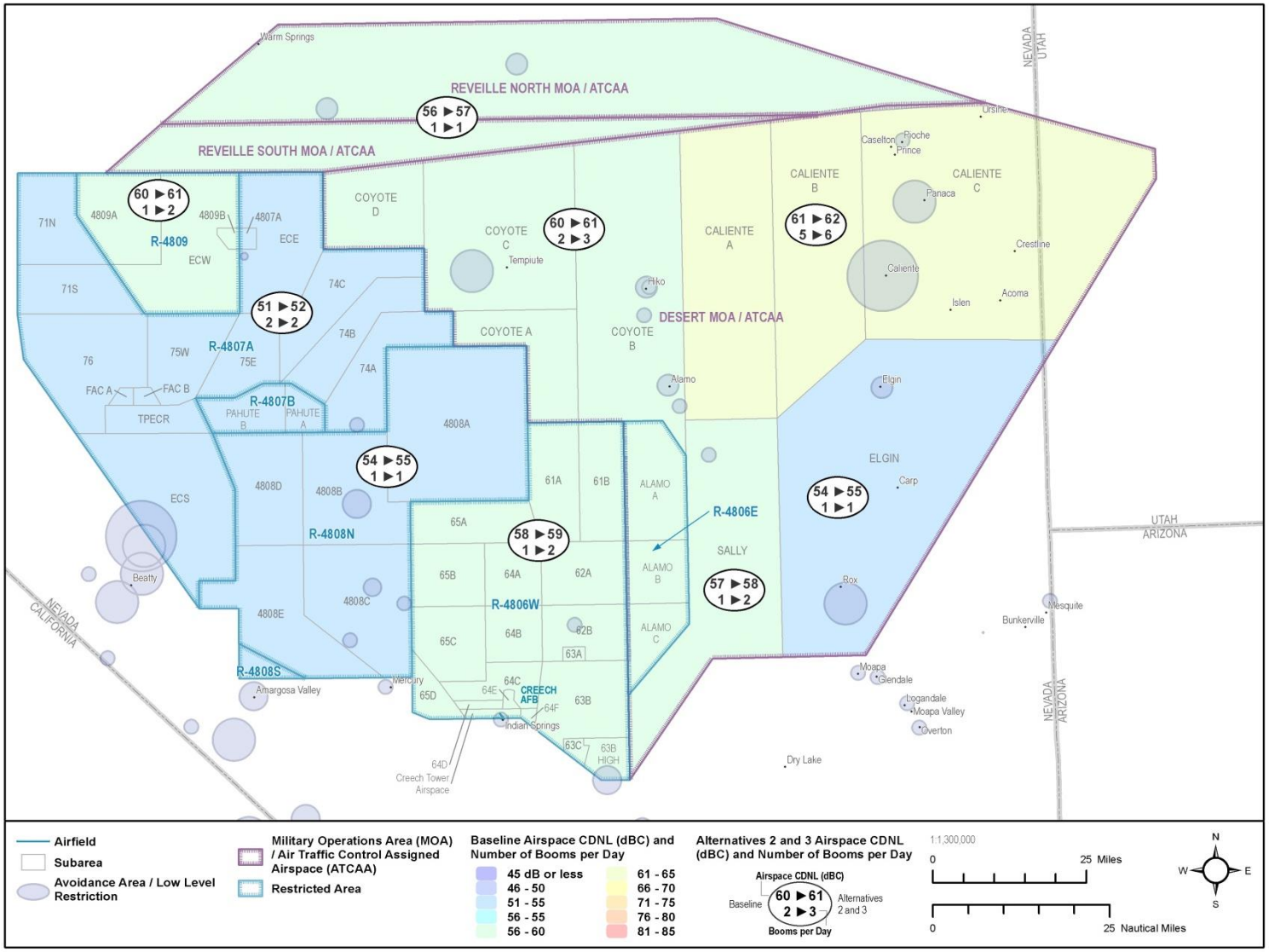

Figure C-8. Supersonic Noise Exposure Within the NTTR

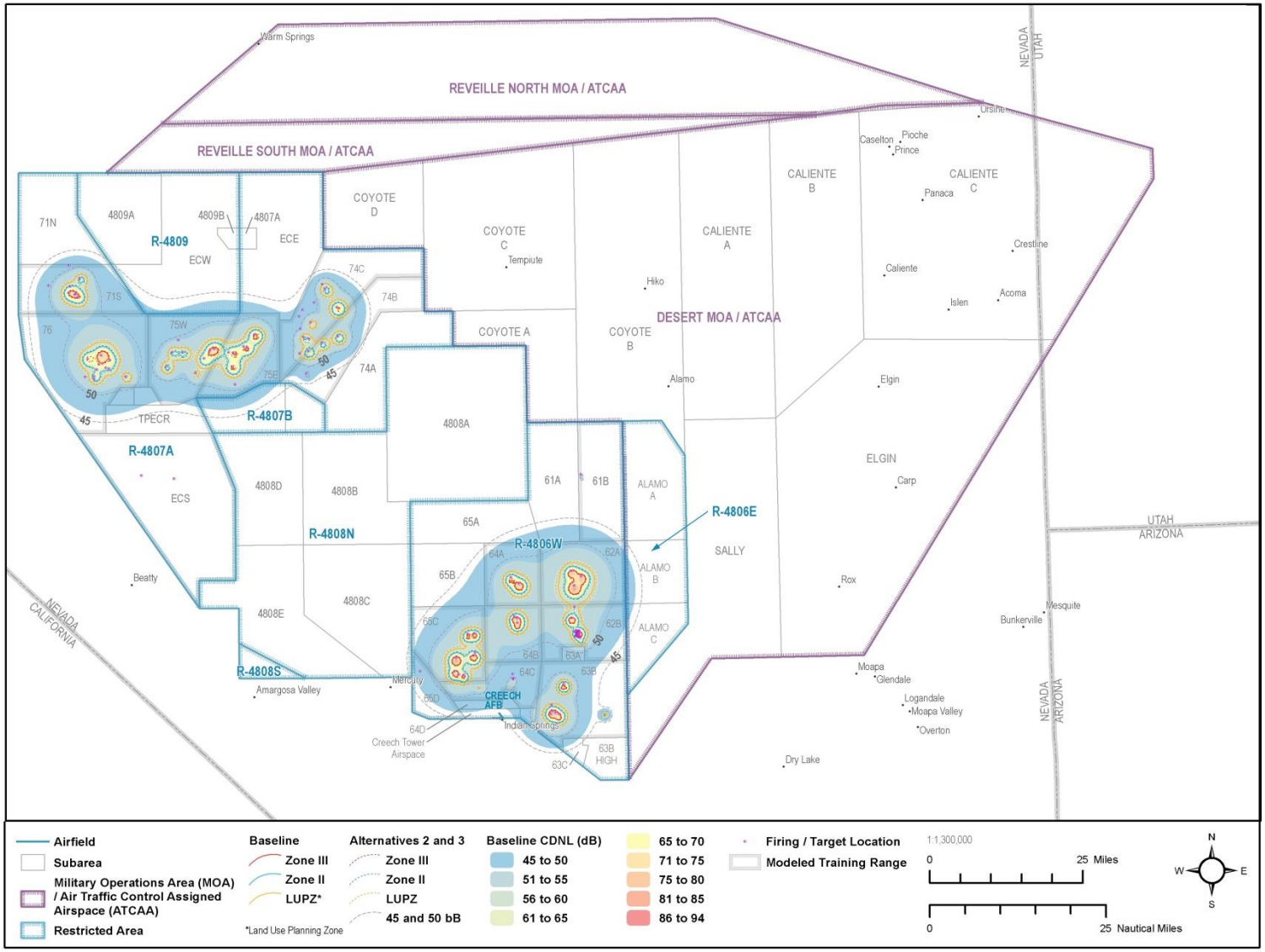

Figure C-9. Large Caliber Weapons Noise Exposure Within the NTTR

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APPENDIX D

AIR QUALITY

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ACRONYMS, ABBREVIATIONS, AND SYMBOLS

µg/m³	micrograms per cubic meter
ACAM	Air Conformity Applicability Model
AGL	above ground level
APU	auxiliary power unit
BAPC	Bureau of Air Pollution Control
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Refagulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2-e	carbon dioxide equivalents
CY	calendar year
EAC	early action compact
ETR	engine thrust ratio
FFR	fuel flow rate
GBU	guided bomb unit
GHG	greenhouse gas
GOV	government-owned vehicle
HAP	hazardous air pollutant
lb	pound
mg/m³	milligrams per cubic meter
mm	millimeter
N_2O	nitrous oxide
NAA	No Action Alternative
NAAQS	National Ambient Air Quality Standards
NDEP	Nevada Division of Environmental Protection
NEI	National Emissions Inventory
NEW	net explosive weight
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
O_3	ozone
Pb	lead
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
ppm	parts per million
ROI	region of influence
SO_2	sulfur dioxide
TGO	touch and go
TP	target practice
U.S.	United States
EPA	U.S. Environmental Protection Agency
VMT	volume of miles traveled
VOC	volatile organic compound
yr	year

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D.1 AIR QUALITY

This appendix presents an overview of the Clean Air Act (CAA) and the state of Nevada air quality program. The appendix also discusses emissions factor development and calculations, including the assumptions used for the air quality analyses presented in the Air Quality sections.

D.1.1 Air Quality Program Overview

In order to protect public health and welfare, the U.S. Environmental Protection Agency (EPA) has developed numerical concentration-based standards, or National Ambient Air Quality Standards (NAAQS), for six "criteria" pollutants (based on health-related criteria) under the provisions of the CAA Amendments of 1970. There are two kinds of NAAQS: primary and secondary standards. Primary standards prescribe the maximum permissible concentration in the ambient air to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards prescribe the maximum concentration or level of air quality required to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings (40 Code of Federal Regulations [CFR] 50).

The CAA gives states the authority to establish air quality rules and regulations. These rules and regulations must be equivalent to, or more stringent than, the federal program. The Nevada Division of Environmental Protection's (NDEP) Bureau of Air Pollution Control (BAPC) administers the state's air pollution control program under the authority of the Nevada Revised Statutes (NRS) 445B.100 through 445B.825, inclusive, and NRS 486A.010 through 486A.180, inclusive. Washoe and Clark counties administer air quality programs within each of their respective jurisdictions. The Clark County Department of Air Quality is the air pollution control agency for all of Clark County, Nevada.

The Nevada Ambient Air Quality Standards differ from the EPA's NAAQS for several pollutants and are included in Table D-1. Summary of Nevada and National Ambient Air Quality Standards. However, in accordance with Nevada Administrative Code 445B.22097, Nevada standards are only to be used "in considering whether to issue a permit for a stationary source and shall ensure that the stationary source will not cause the Nevada standards to be exceeded in areas where the general public has access" and further states that the NAAQS are to be used in determinations of attainment or nonattainment.

Based on measured ambient air pollutant concentrations, the EPA designates areas of the United States as having air quality better than (attainment) the NAAQS, worse than (nonattainment) the NAAQS, and unclassifiable. The areas that cannot be classified (on the basis of available information) as meeting or not meeting the NAAQS for a particular pollutant are "unclassifiable" and are treated as attainment until proven otherwise. Attainment areas can be further classified as "maintenance" areas, which are areas previously classified as nonattainment but where air pollutant concentrations

have been successfully reduced to below the standard. Maintenance areas are under special maintenance plans and must operate under some of the nonattainment area plans to ensure compliance with the NAAQS. Clark, Lincoln, and Nye counties are in compliance with the NAAQS. Therefore, every county within the project region of influence (ROI) is classified as being in attainment.

A general conformity analysis is required to be conducted for areas designated as nonattainment or maintenance of the NAAQS if the action's direct and indirect emissions have a potential to emit one or more of the six criteria pollutants at or above concentrations standards shown in Table D-1 or the *de minimis* emission rate thresholds in Table D-2 or Table D-3.

Table D-1. Summary of Nevada and National Ambient Air Quality Standards

		NEVADA STANDARDS[a]		NATIONAL STANDARDS[b]		
Pollutant	**Averaging Time**	**Concentration[c]**	**Method[d]**	**Primary[c, e]**	**Secondary[c, f]**	**Method[d]**
Ozone	8 hours	0.070 ppm	Chemi-luminescence	0.070 ppm	Same as primary	Chemi-luminescence
Ozone-Lake Tahoe Basin, #90	1 hour	0.10 ppm(195 µg/m^3)	Ultraviolet absorption	--	--	--
Carbon monoxide less than 5,000′above mean sea level	8 hours	9 ppm(10,500 µg/m^3)	Nondispersive infrared photometry	9 ppm(10 mg/m^3)	None	Nondispersive infrared photometry
Carbon monoxide at or greater than 5,000′ above mean sea level		6 ppm(7,000 µg/m^3)				
Carbon monoxide at any elevation	1 hour	35 ppm(40,500 µg/m^3)		35 ppm(40 mg/m^3)		
Nitrogen dioxide	Annual arithmetic mean	0.053 ppm(100 µg/m^3)	Gas phase chemi-luminescence	53 ppb[g]	Same as primary	Gas phase chemi-luminescence
	1 hour	100 ppb	--	100 ppb	None	
Sulfur dioxide	Annual arithmetic mean	0.030 ppm(80 µg/m^3)	Ultraviolet fluorescence	0.03 ppm[h](1971 standard)	None	Spectro-photometry (Pararosaniline method)
	24 hours	0.14 ppm(365 µg/m^3)		0.14 ppm[h](1971 standard)		
	3 hours	0.5 ppm(1,300 µg/m^3)		None	0.5 ppm	
	1 hour	75 ppb	--	75 ppb	None	
Particulate	24 hours	150 µg/m^3	High volume	150 µg/m^3	Same as	High or low

Table D-1. Summary of Nevada and National Ambient Air Quality Standards

		NEVADA STANDARDS[a]		NATIONAL STANDARDS[b]		
Pollutant	**Averaging Time**	**Concentration[c]**	**Method[d]**	**Primary[c, e]**	**Secondary[c, f]**	**Method[d]**
matter as PM_{10}			PM_{10} sampling		primary	volume PM_{10} sampling
	Annual arithmetic mean	12.0 µg/m^3	--	12.0 µg/m^3	Same as primary	Low volume $PM_{2.5}$ sampling
as $PM_{2.5}$	24 hours	35 µg/m^3	--	35 µg/m^3	Same as primary	
Lead (Pb)	Rolling 3 mo. average	0.15 µg/m^3	High volume sampling, acid extraction and atomic absorption spectrometry	0.15 µg/m^3	Same as primary	High volume sampling, acid extraction and atomic absorption spectrometry
Hydrogen sulfide	1 hour	0.08 ppm (112 µg/m^3)[i]	Ultraviolet fluorescence	--	--	--

[a] The Director shall use the Nevada standards in considering whether to issue a permit for a stationary source and shall ensure that the stationary source will not cause the Nevada standards to be exceeded in areas where the general public has access. For the 2006 particulate matter as $PM_{2.5}$ 24-hour and annual standards, the 2010 nitrogen dioxide 1-hour standard and the 2010 sulfur dioxide 1-hour standard, the Director shall use the form of the standards set forth in 40 CFR 50.11, 50.13 and 50.17, as those provisions existed on June 23, 2014, to ensure that the Nevada standard is no more stringent than the National standard in determining whether the stationary source will comply with the Nevada standards in areas where the general public has access.

[b] The National standards are used in determinations of attainment or nonattainment. The form of a National standard is the criteria which must be satisfied for each respective concentration level of a standard for the purposes of attainment. The form for each National standard is set forth in 40 CFR Part 50 and may be viewed at http://www.epa.gov/air/criteria.html.

[c] Where applicable and except as otherwise described in Note G, concentration is expressed first in units in which it was adopted. Measurements of air quality that are expressed as mass per unit volume, such as micrograms per cubic meter, must be corrected to a reference temperature of 25 degrees Centigrade and a reference pressure of 760 mm of Hg (1,013.2 millibars), except measurements of particulate matter as $PM_{2.5}$ and lead (Pb), which are calculated in micrograms per cubic meter at local conditions; "ppb" in this table refers to parts per billion by volume, or nanomoles of regulated air pollutant per mole of gas; "ppm" refers to parts per million by volume, or micromoles of regulated air pollutant per mole of gas; "µg/m^3" refers to micrograms per cubic meter.

[d] Reference method as described by the EPA. Any reference method specified in accordance with 40 CFR Part 50 or any reference method or equivalent method designated in accordance with 40 CFR Part 53 may be substituted.

[e] National primary standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[f] National secondary standards are the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a regulated air pollutant.

[g] The official National annual standard for nitrogen dioxide is 0.053 ppm. The National annual standard is identified in this table in equivalent units of parts per billion for the purpose of simplifying its comparison with the National 1-hour standard which is also identified in parts per billion.

[h] The 1971 National sulfur dioxide standards remain in effect for an area until 1 year after the area is designated for the 2010 National sulfur dioxide standard, except that in an area designated nonattainment for the 1971 National sulfur dioxide standards, the 1971 standards remain in effect until an implementation plan to attain or maintain the 2010 National sulfur dioxide standards is approved.

[i] The ambient air quality standard for hydrogen sulfide does not include naturally occurring background concentrations.

1. These standards of quality for ambient air are minimum goals, and it is the intent of the Commission to protect the existing quality of Nevada's air to the extent that it is economically and technically feasible. [Environmental Comm'n, Air Quality Reg. §§ 12.1-12.1.6, eff. 11-7-75; A and renumbered as § 12.1, 12-4-76; A 12-15-77; 8-28-79; §§ 12.2-12.4, eff. 11-7-75; § 12.5, eff. 12-4-76; A 8-28-79] — (NAC A 10-19-83; 9-5-84; 12-26-91; 10-30-95; R103-02, 12-17-2002; R198-03, 4-26-2004; R038-12, 9-14-2012; R042-13, 12-23-2013; R145-13, 6-23-2014; R027-15, 10-27-2015)

Table D-2. Emission Rates for Criteria Pollutants in Nonattainment Areas[1]

Pollutant	Emission Rate (tons/year)
Ozone (VOCs or NO_x)	
Serious nonattainment areas	50
Severe nonattainment areas	25
Extreme nonattainment areas	10
Other ozone nonattainment areas outside an ozone transport region	100
Marginal and moderate nonattainment areas inside an ozone transport region	
VOCs	50
NO_x	100
CO: All nonattainment areas	100
SO_2 or NO_2: All nonattainment areas	100
PM_{10}	
Moderate nonattainment areas	100
Serious nonattainment areas	70
$PM_{2.5}$	
Direct emissions	100
SO_2	100
NO_x (unless determined not to be a significant precursor)	100
VOCs or ammonia (if determined to be significant precursors)	100
Pb: All nonattainment areas	25

Source: EPA, 2006

CO = carbon monoxide; NO_2 = nitrogen dioxide; NO_x = nitrogen oxides; VOC = volatile organic compound; Pb = lead; $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns; PM_{10} = particulate matter with a diameter less than or equal to 10 microns; SO_2 = sulfur dioxide

1. *De minimis* threshold levels for conformity applicability analysis.

Table D-3. Emission Rates for Criteria Pollutants in Attainment (Maintenance) Areas[1]

Pollutant	Emission Rate (tons/year)
Ozone (NO_x, SO_2, or $NO_{2)}$: All maintenance areas	100
Ozone (VOCs)	
Maintenance areas inside an ozone transport region	50
Maintenance areas outside an ozone transport region	100
CO: All maintenance areas	100
PM_{10}: All maintenance areas	100
$PM_{2.5}$	
Direct emissions	100
SO_2	100
NO_x (unless determined not to be a significant precursor)	100
VOCs or ammonia (if determined to be significant precursors)	100
Pb: All maintenance areas	25

Source: EPA, 2006

CO = carbon monoxide; NO_x = nitrogen oxides; VOC = volatile organic compound; Pb = lead; $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns; PM_{10} = particulate matter with a diameter less than or equal to 10 microns; SO_2 = sulfur dioxide

1. *De minimis* threshold levels for conformity applicability analysis.

Each state is required to develop a State Implementation Plan (SIP) that sets forth how CAA provisions will be imposed within the state. The SIP is the primary means for the implementation, maintenance, and enforcement of the measures needed to attain and maintain the NAAQS within each state and includes control measures, emissions limitations, and other provisions required to attain and maintain the ambient air quality

standards. The purpose of the SIP is twofold. First, it must provide a control strategy that will result in the attainment and maintenance of the NAAQS. Second, it must demonstrate that progress is being made in attaining the standards in each nonattainment area. The State of Nevada last revised the SIP *Nevada Revised Statutes* and *Regulatory Elements: Air Pollution* and on November 11 and 28, 2012, respectively (NDEP, 2012a, 2012b).

In attainment areas, major new or modified stationary sources of air emissions on and in the area are subject to Prevention of Significant Deterioration (PSD) review to ensure that these sources are constructed without causing significant adverse deterioration of the clean air in the area. A major new source is defined as one that has the potential to emit any pollutant regulated under the CAA in amounts equal to or exceeding specific major source thresholds, that is, 100 or 250 tons/year based on the source's industrial category. A major modification is a physical change or change in the method of operation at an existing major source that causes a significant "net emissions increase" at that source of any regulated pollutant. Table D-4 lists the PSD significant emissions rate thresholds for selected criteria pollutants (EPA, 1990).

Table D-4. Criteria Pollutant Significant Emissions Rate Increases Under PSD Regulations

Pollutant	Significant Emissions Rate (tons/year)
PM_{10}	15
$PM_{2.5}$	10
Total suspended particulates	25
SO_2	40
NO_x	40
Ozone (VOCs)	40
CO	100

Source: Title 40 CFR Part 51

CO = carbon monoxide; NO_x = nitrogen oxides; VOC = volatile organic compound; Pb = lead; $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns; PM_{10} = particulate matter with a diameter less than or equal to 10 microns; PSD = Prevention of Significant Deterioration; SO_2 = sulfur dioxide; VOC = volatile organic compound

The goals of the PSD program are to (1) ensure economic growth while preserving existing air quality; (2) protect public health and welfare from adverse effects that might occur even at pollutant levels better than the NAAQS; and (3) preserve, protect, and enhance the air quality in areas of special natural recreational, scenic, or historic value, such as national parks and wilderness areas. Sources subject to PSD review are required by the CAA to obtain a permit before commencing construction. The permit process requires an extensive review of all other major sources within a 50-mile radius and all Class I areas within a 62-mile radius of the facility. Emissions from any new or modified source must be controlled using best available control technology. The air quality, in combination with other PSD sources in the area, must not exceed the maximum allowable incremental increase identified in Table D-5. National parks and wilderness areas are designated as Class I areas, where any appreciable deterioration in air quality is considered significant. Class II areas are those where moderate,

well-controlled industrial growth could be permitted. Class III areas allow for greater industrial development.

Table D-5. Federal Allowable Pollutant Concentration Increases Under PSD Regulations

Pollutant	Averaging Time	Maximum Allowable Concentration ($\mu g/m^3$)		
		Class I	Class II	Class III
PM_{10}	Annual	4	17	34
	24-hour	8	30	60
SO_2	Annual	2	20	40
	24-hour	5	91	182
	3-hour	25	512	700
NO_2	Annual	2.5	25	50

Source: Title 40 CFR Part 51

NO_2 = nitrogen dioxide; PM_{10} = particulate matter with a diameter less than or equal to 10 microns; PSD = Prevention of Significant Deterioration; SO_2 = sulfur dioxide; g/m³ = micrograms per cubic meter

The Nevada Ambient Air Quality Monitoring Program of the Bureau of Air Quality Planning operates an ambient air quality monitoring network of gaseous and particulate pollutant monitors throughout rural Nevada, except those areas in Washoe and Clark County. Washoe and Clark County operate and maintain monitoring networks separate from the State and publish their findings independently (NDEP, 2016). The air quality is monitored for carbon monoxide, lead, nitrogen dioxide, ozone, and particulate matter. The monitors tend to be concentrated in areas with the largest population densities. Not all pollutants are monitored in all areas. The air quality monitoring network is used to identify areas where the ambient air quality standards are being violated and plans are needed to reduce pollutant concentration levels to be in attainment with the standards. Also included are areas where the ambient standards are being met, but plans are necessary to ensure maintenance of acceptable levels of air quality in the face of anticipated population or industrial growth.

The end result of this attainment/maintenance analysis is the development of local and statewide strategies for controlling emissions of criteria air pollutants from stationary and mobile sources. The first step in this process is the annual compilation of the ambient air monitoring results, and the second step is the analysis of the monitoring data for general air quality, exceedances of air quality standards, and pollutant trends.

The Nevada Air Pollution Control Program (NAPCP) currently operates monitors in Carson City, Gardnerville, Stateline, Fernley, Fallon, Elko, and Pahrump. The number of monitoring sites and their locations vary from year to year due to special purpose monitoring, temporary monitoring, and closing sites that are no longer needed. Due to the unique shape and wind patterns in the Las Vegas Valley, high concentration levels occur in different areas for the different pollutants. For example, CO occurs on calm cold days in the lowest (and eastern) part of the valley. In addition, ozone occurs on hot sunny days in the northwest and at higher elevations. Therefore, monitoring sites measure different pollutants based on their location within the valley (Clark County, 2016). Over the years of record, the general trend has been decreasing for all criteria pollutants and remaining below the NAAQS (NDEP, 2011).

D.1.2 Project Calculations

D.1.2.1 Methodology

In order to evaluate air emissions and their impact on the overall ROI, the emissions associated with the Proposed Action activities were evaluated in accordance with the tiered approach outlined in the *Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide – Fundamentals, Volume I and Volume II – Advanced Assessments*. The first step was to conduct an assessment to determine if the action was exempt for air quality analysis. The Proposed Action was not subject to any categorical exclusions or General Conformity exemptions. Since the Proposed Action is not subject to any exemptions under Tier I, a quantitative assessment (Tier II) was completed. The Tier II assessment requires a formal evaluation of air impacts based on a quantitative net change emission inventory of the annual net total direct and indirect emissions of pollutants of concern. It should be noted that in the case of the NTTR Proposed Action, there were not any net emissions realized.

Air quality impacts were evaluated quantitatively based on a two-pronged approach. Potential impacts to air quality were first identified as the total emissions of any primary pollutant that equals 250 tons per year for that pollutant based on the federal New Source Review/PSD major stationary source threshold. In addition to primary pollutants, greenhouse gases (GHGs) were compared to an indicator level of 75,000 tons of GHGs. This established a first-level indicator of potential significance for both primary pollutants and GHGs.

However, since the majority of the emissions related to the Proposed Action and alternatives would result from activities associated with mobile sources, a second-level indicator was deemed appropriate. Consequently, if the evaluation showed that the first-level indicators for primary pollutants and GHGs would be exceeded, each pollutant was evaluated and compared with the total ROI emissions (Lincoln, Clarke, and Nye Counties) on a pollutant-by-pollutant basis against the ROI's 2014 National Emissions Inventory data.

Potential impacts to air quality are evaluated with respect to the extent, context, and intensity of the impact in relation to relevant regulations, guidelines, and scientific documentation. The Council on Environmental Quality (CEQ) defines significance in terms of context and intensity in 40 CFR 1508.27. This requires that the significance of the action must be analyzed with respect to the setting of the Proposed Action and based relative to the severity of the impact. The CEQ National Environmental Policy Act Regulations (40 CFR 1508.27(b)) provide 10 key factors to consider in determining an impact's intensity.

Intensity refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:

(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect will be beneficial.

(2) The degree to which the proposed action affects public health or safety.

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

(10) Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.

To provide a more conservative analysis, the three counties were selected as the ROI instead of the EPA-designated Air Quality Control Region, which is a much larger area. Air quality impacts would be considered significant if the increases in annual emissions of a pollutant would be anticipated to: (1) cause or contribute to a violation of any national or state ambient air quality standard; (2) expose sensitive receptors to substantially increased pollutant concentrations; (3) exceed any evaluation criteria established by an SIP or permit limitations/requirements; or (4) be anticipated to cause an exceedance of the NAAQS or contribute to nonattainment.

The Air Conformity Applicability Model (ACAM) Version 5.0.7 was utilized to provide a level of consistency with respect to emissions factors and calculations. The ACAM provides estimated air emissions from proposed federal actions in areas designated as nonattainment and/or maintenance for each specific criteria and precursor pollutant as defined in the NAAQS. ACAM was utilized to calculate construction emissions. Emission factors for aircraft were also obtained from ACAM. Munitions emission factors were used from EPA's AP-42, Fifth Edition (Volume I, Chapter 15: Ordnance Detonation), and calculated based on the net weight of the explosive (or a conversion factor for pounds per item) and the number of times that the munition was used annually. Threat emitter generator emissions factors were obtained from the *Air Emissions Guide for Air Force Mobile Sources* (U.S. Air Force, 2016), and calculated based on the horsepower and annual hours of operation. Equations and emission factors can be found in this appendix.

D.1.2.2 Construction Emissions

Calculations for construction emissions were completed using the methodologies described in the U.S. Air Force *Air Quality Environmental Impact Analysis Process (EIAP) Guide* (U.S. Air Force, 2016). As previously indicated, Lincoln and Nye Counties are designated as "attainment", and Clark County was redesignated to maintenance on November 5, 2014.

The ACAM was used to provide a level of consistency with respect to emissions factors and calculations. The ACAM evaluates the individual emissions from different sources associated with the construction phases. Phase I is the site preparation phase and Phase II is the actual construction phase. For emitter pad, roadway, and runway construction, these sources include grading activities, paving, construction worker trips, stationary equipment (such as saws and generators), and mobile equipment emissions (U.S. Air Force, 2014). Formulas and assumptions included in the ACAM program calculations are provided below in Sections D.1.2.3 through D.1.2.7.

Due to limited information, certain assumptions were made to develop the air quality analysis. It was assumed that there would be a number of 150' by 150' emitter pads constructed. Analysis calculated the emissions for construction of 15 such pads, to provide a conservative estimate for the number of pads ultimately constructed and representative data for various potential increased numbers of emitters. It was further assumed that for Alternatives 2 and 3, approximately 4 acres of roadway improvements would be required in order to facilitate installation, maintenance, and potential relocation of threat emitters and relays. Additionally, under Alternative 3C, it was assumed that surface improvements of approximately 13 acres would be necessary in order to prepare the runway to be used in Forward Area Arming and Refueling Points activities.

The total square footage of each construction footprint was entered into the ACAM. Based on these assumptions, the construction emissions were calculated using the methodology expressed below.

D.1.2.3 Grading Activities

Grading activities are divided into grading equipment emissions and grading operations emissions.

Grading equipment emissions are combustive emissions from equipment engines and are calculated in the following manner:

$$VOC = 0.22 \text{ (lb/acre/day)} * \text{acres} * DPY_1/2{,}000$$

$$NO_x = 2.07 \text{ (lb/acre/day)} * \text{acres} * DPY_1/2{,}000$$

$$PM_{10} = 0.17 \text{ (lb/acre/day)} * \text{acres} * DPY_1/2{,}000$$

$$CO = 0.55 \text{ (lb/acre/day)} * \text{acres} * DPY_1/2{,}000$$

$$SO_2 = 0.21 \text{ (lb/acre/day)} * \text{acres} * DPY_1/2{,}000$$

Where

acres = number of gross acres to be graded during Phase I construction

DPY_1 = number of days per year used for grading during Phase I construction

2,000 = conversion factor from pounds to tons

All emissions are represented as tons per year.

Grading operations emissions are fugitive dust and tiny soil particles distributed into the air through ground disturbance and are calculated using a similar equation.

Emissions calculation:

$$PM_{10} \text{ (tons/yr)} = 60.7 \text{ (lb/acre/day)} * \text{acres} * DPY_1/2{,}000$$

Where

acres = number of gross acres to be graded during Phase I construction

DPY_1 = number of days per year used for grading during Phase I construction

2,000 = conversion factor from pounds to tons

The calculations assumed there were no controls used to reduce fugitive emissions. Also, it was assumed construction activities would occur within a single calendar year to provide a conservative estimate.

D.1.2.4 Construction Worker Trips

Construction worker trips during the construction phases of the project are calculated and represented as a function of the number of facilities constructed and/or square feet of commercial construction.

Calculation:

*Trips (trips/day) = 0.42 (trip/facility/day) * Area of training facilities*

Where:

Areas of training facilities = total square footage of construction projects to be constructed in the given year of construction

Total daily trips are applied to the following factors depending on the corresponding years.

Year 2009:

- VOC_E = 0.016 * trips
- NOx_E = 0.015 * trips
- PM_{10E} = 0.0022 * trips
- CO_E = 0.262 * trips

Year 2010 and beyond:

- VOC_E = 0.012 * trips
- NOx_E = 0.013 * trips
- PM_{10E} = 0.0022 * trips
- CO_E = 0.262 * trips

To convert from pounds per day to tons per year:

$$VOC\ (tons/yr) = VOC_E * DPY_{II}/2{,}000$$

$$NOx\ (tons/yr) = NOx_E * DPY_{II}/2{,}000$$

$$PM_{10}\ (tons/yr) = PM10_E * DPY_{II}/2{,}000$$

$$CO\ (tons/yr) = CO_E * DPY_{II}/2{,}000$$

Where

2,000 = conversion factor from pounds to tons

DPY_{II} = number of days per year during Phase II construction activities

D.1.2.5 Stationary Equipment

Emissions from stationary equipment occur when gasoline-powered equipment (e.g., saws, generators) are used at the construction site.

Emissions calculations:

$$VOC = 0.198\ pounds\ (lbs)/day * (GRSQFT) * DPY_{II}/2{,}000$$

$$NO_x = 0.137\ lbs/day * (GRSQFT) * DPY_{II}/2{,}000$$

$$PM_{10} = 0.004\ lbs/day * (GRSQFT) * DPY_{II}/2{,}000$$

$$CO = 5.29 \text{ lbs/day} * (GRSQFT) * DPY_{II}/2{,}000$$

$$SO_2 = 0.007 \text{ lbs/day} * (GRSQFT) * DPY_{II}/2{,}000$$

Where

GRSQF = gross square feet of commercial buildings to be constructed during Phase II

DPY_{II} = number of days per year during Phase II construction

2,000 = conversion factor from pounds to tons

D.1.2.6 Mobile Equipment

Mobile equipment (such as forklifts and dump trucks) emissions include pollutant releases generated by the equipment during Phase II construction.

Emissions calculations:

$$VOC = 0.17 \text{ lbs/day} * (GRSQFT) * DPY_{II}/2{,}000$$

$$NO_x = 1.86 \text{ lbs/day} * (GRSQFT) * DPY_{II}/2{,}000$$

$$PM_{10} = 0.15 \text{ lbs/day} * (GRSQFT) * DPY_{II}/2{,}000$$

$$CO = 0.78 \text{ lbs/day} * (GRSQFT) * DPY_{II}/2{,}000$$

$$SO_2 = 0.23 \text{ lbs/day} * (GRSQFT) * DPY_{II}/2{,}000$$

Where

GRSQF = gross square feet of training area to be constructed during Phase II

DPY_{II} = number of days per year during Phase II construction

2,000 = conversion factor from pounds to tons

D.1.2.7 Vehicle Emissions

Vehicle emissions are generated from on-road government use, off-road base-support vehicles, and maintenance construction vehicles. Since specific numbers and types of vehicles for each base are difficult to obtain, emissions from this category were based on historical installation fuel consumption data.

D.1.2.7.1 On-Road Government-Owned Vehicle (GOV)

Emissions calculation:

$$E_p = N \times F \times GOVVMT \times \frac{EF_p}{454 \times 2000}$$

Where

N = number of personnel realigned

F = fraction of the year the personnel operate

GOVVMT = per-employee volume of miles traveled (VMT), miles/employee

EF_p = emissions factor for pollutant, *p*, grams/mile. These factors were determined from MOVES 2014a for total hydrocarbons (VOCs), CO, and NO_x for the chosen fleet mix.

454 = conversion factor from grams to pounds

2,000 = conversion factor from pounds to tons

D.1.2.7.2 Off-Road Base-Support Vehicles

A variety of off-road base-support vehicles are used at typical Air Force installations. There are many types of these vehicles, both gasoline and diesel fueled. Since specific numbers and types of vehicles for each base are difficult to obtain, emissions from this category were based on historical installation fuel consumption data.

Emissions calculation:

$$E_p = N \times F \times \frac{EF_p}{2000}$$

Where

N = number of personnel realigned

F = fraction of the year the personnel operate

EF_p = per employee emissions factor, pounds.

The emissions factors are as follows:

SO_2 = 0.24, PM_{10} = 0.34, CO = 7.91, VOC = 0.74

2,000 = conversion factor from pounds to tons

D.1.2.8 Aircraft Emissions

Due to limited information, certain assumptions were made to develop the air quality analysis. The baseline aircraft emissions were calculated using the operations and scheduling data obtained from operators, schedulers, and air traffic controllers for calendar year (CY) 2015. This level of activity is assumed representative of an average baseline year of aircraft operations in NTTR airspace.

D.1.2.8.1 Aircraft Flying Operations

Aircraft operations of concern are those that occur from ground level up to 3,000 feet above ground level (AGL). The 3,000-foot AGL ceiling was assumed as the atmospheric mixing height above which any pollutant generated would not contribute to increased pollutant concentrations at ground level. This is the default value suggested by the EPA in *Procedures for Emission Inventory Preparation Volume IV: Mobile Sources* (EPA, 1992). While the *aircraft operation of interest* within the mixing zone is typically the landing and takeoff (LTO) cycle, because air installation operations are not included in the analysis, the operations of concern are any low-level testing or training operations that occur below 3,000'.

For each mode of operation, an aircraft engine operates at a specified power setting and for a specific period (time in mode). The pollutant emission rate is a function of the engine's operating mode, the fuel flow rate, and the engine's overall efficiency. Emissions for a particular aircraft are calculated by knowing the specific engine pollutant emissions factors for each mode of operation and the time of operation in that mode.

The U.S. Air Force has developed emissions factors for aircraft engines, and Table D-6 presents an example of the emissions factors and aircraft engine performance data for each of the aircraft type used in this analysis. The table lists the various engine modes, time in for each mode, fuel flow, and corresponding pollutant emissions factors. Using these data, as well as information on activity levels (i.e., number of sorties/LTO operations), pollutant emissions for each aircraft were calculated.

Table D-6. Aircraft Performance Data and Emissions Factors

Aircraft Type	Power Setting	Fuel Flow	VOC	SO_x	NO_x	CO	PM_{10}	$PM_{2.5}$	CO_2e
F-16C	Idle	1,006	2.05	1.06	6.21	24.06	2.49	2.24	3,234
	Approach	3,252	0.05	1.06	17.93	1.22	2.37	2.13	3,234
	Intermediate	5,651	0.07	1.06	26.55	0.38	1.58	1.42	3,234
	Military	8,888	0.11	1.06	34.32	0.56	1.58	1.42	3,234
	After Burn	40,122	0.69	1.06	6.63	10.42	3.04	2.74	3,234
F-15E/I	Idle	1,084	7.94	1.06	4.61	35.3	2.06	1.85	3,234
	Approach	3,837	5.12	1.06	12.53	1.92	2.63	2.37	3,234
	Intermediate	5,770	2.89	1.06	22.18	0.86	2.06	1.85	3,234
	Military	96,79	1.79	1.06	29.32	0.86	1.33	1.2	3,234
	After Burn	41,682	1.53	1.06	8.37	11.99	1.15	1.04	3,234

Source: U.S. Air Force, 2016

CO = carbon monoxide; hr = hour; lb = pound; NO_x = nitrous oxides; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; VOC = volatile organic compound

Aircraft flying operations were calculated using ACAM emission factors and applying them to the operational parameters provided by operators in order to calculate the emissions based on time in mode below 3,000 for each particular aircraft. The operational parameters used are reflective of the data used for noise analysis. Only those portions of the flying operation that take place below the atmospheric mixing

height are considered (these are the only emissions presumed to affect ground-level concentrations).

Emissions calculation based on aircraft flying operations:

$$Ep = N * F * OPS * NUMEG * (\Sigma TIMi * EFi,p)/2,000)$$

Where

N = number of aircraft

F = fraction of the year the aircraft operate

OPS = the number of operations [total LTOs and touch and go (TGOs)] per year for each aircraft in the Proposed Action unit

TIMi = time in mode for aircraft operating mode, *i*, hours

The engine operating mode used in the emissions factors is correlated to the aircraft operating mode as follows.

M = number of aircraft operating modes (five for LTOs; three for TGOs)

NUMEG = the number of engines for the aircraft type

EFi,p = emissions factor for pollutant, *p*, for each engine operating mode, *i*, lb/hr

2,000 = conversion from pounds to tons

Air emissions were estimated for each criteria pollutant based on fuel flow rates for each engine mode (e.g., idle, taxi, intermediate, military) per the flight profiles provided by NTTR XP. Emissions were then calculated for airspace in the following manner:

$$Ep = (T_{airspace} * (FFR/1000) * EI_p)/2000$$

Where

E_p = Emissions of pollutant, p, in tons per year

$T_{airspace}$ = Time all aircraft in airspace below 3,000 feet AGL (hours per year)

FFR = Fuel flow rate (pounds per hour)

1000 = Factor for converting pound per hour to 1,000 pounds per hour

EI_p = Emission Index for pollutant, p (pounds per 1,000 pounds of fuel)

2000 = Factor to convert pounds to tons

Airspace units cover large areas of ground and often cover multiple counties. Due to the large area and uncertainty of knowing the precise area within any airspace an aircraft may be operating, the emissions were compared to a ROI consisting of all counties that underlay the airspace.

D.1.2.9 Munition Emissions

Munition emissions for NTTR operations were calculated using similar methodology, using operational parameters and munitions quantities consistent with those used for noise analysis. Emissions from munitions expended on each of the test areas were calculated based on surrogate munitions from each category of munitions expended on the test areas. Table D-7 shows the surrogates and the per item emission factors for each munition based on its Net Explosive Weight (NEW) used in this analysis.

Table D-7. Munitions for NTTR Operations Emissions Factors

Munition Type	Surrogate	DODIC	Emissions Factor (lbs/item)							
			CO	NO_x	PM_{10}	$PM_{2.5}$	SO_x	VOCs	CO_2	CH_4
5.56mm	M855 5.56-mm Ball Cartridge	A059	1.60E-03	8.50E-05	3.90E-05	2.80E-05			7.50E-04	6.70E-06
7.62mm	M80 7.62-mm Ball Cartridge	A143	2.30E-03	9.70E-05	5.10E-05	3.80E-05			1.20E-03	1.00E-05
.50 Caliber	A518, M903 .50 Caliber SLAP Ball Cartridge	A518	9.60E-03	8.50E-05	2.10E-04	1.80E-04			5.30E-03	8.00E-05
.50 Caliber	A557, .50 Cal Ball/Tracer Cart	A557	1.10E-02	1.20E-03	3.10E-04	1.90E-04			5.10E-03	1.30E-04
20mm	A652, M220 20-mm Target Practice Tracer Cartridge	A652	3.30E-02	4.30E-04	6.60E-04	4.60E-04			1.60E-02	2.50E-04
30mm	B129, M789 30-mm High Explosive Dual Purpose Cartridge	B129	8.60E-04	2.00E-04	3.90E-03	2.50E-03			4.40E-03	4.60E-05
40mm	B542, M430 40-mm High Explosive Dual Purpose Cartridge	B542	4.00E-03	1.30E-03	9.50E-03	5.10E-03			4.90E-02	8.90E-05
2.75"	H163, 2.75-inch Rocket with M151 High Explosive Warhead	H163	4.00E-01	5.60E-03	2.40E-01	1.20E-01			7.00E-01	1.20E-02
Bombs	M023, M112 Demo Block Charge	M023	2.10E-02	6.30E-03	2.10E-02	1.50E-02	1.20E-04		6.30E-01	1.30E-03
Bombs	M030, 1/4-lbs Demo Block Chg (TNT)	M030	2.00E-02	1.20E-02	5.00E-02	1.90E-02	3.20E-04		1.40E+00	2.00E-05
Trintonal Surrogate[1]	Tritonal	NA	3.98E-03	1.54E-04	3.69E-01	3.69E-01	1.58E-04	2.63E-04	5.25E-01	NA
Signal smoke (BDU)	M4A2 Floating HC Smoke Pot	K867	5.30E-01	2.80E-03	3.00E+01	2.30E+01	3.2s-3	2.20E-02	5.30E-01	NA

Source: EPA, 2009a

CO = carbon monoxide; GBU = guided bomb unit; lb = pounds; mm = millimeter; NEW = net explosive weight; NO_x = nitrogen oxides; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 microns or less; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; SO_x = sulfur oxides

[1]Source: U.S. Army, 1996. Characterization of Emissions Produced by the Open Burning/Open Detonation of Complex Munitions.

Emissions calculation:

*Pollutant Emissions = EF*NEW*Qty/2,000*

Where

pollutant emissions = emissions for the associated pollutant (i.e., CO or NO_x) (tons/yr)

EF = emissions factor for the pollutant (lb/lb NEW)

NEW = net explosive weight (lb NEW/item)

Qty = quantity (item/year)

2,000 = conversion from pounds to tons (1 ton = 2,000 pounds)

D.1.2.10 Generator Emissions

Available emissions factors (AP-42, Compilation of Air Pollutant Emission Factors) were utilized (EPA, 1996). These factors were then multiplied by the total number of hours of operation for each generator by size class. The annual number of pounds of each emission was then converted to tons. Annual emissions for each generator were then summed to calculate total generator emissions annually.

Emissions calculation:

*Emissions = (HR*EF)/2000*

Where:

Emissions = Ordnance Emissions (tons per year)

HR = Hours of generator operation per year

EF = Emissions factor

Table D-8. Emission Factors for Diesel and Turbine Engines

Pollutant	Emission Factor (lb/hp-hr)	Emission Factor (LB/MMBtu)
NOx		
Uncontrolled	0.024	3.2
Controlled	0.013	1.9
CO	5.50E-03	0.85
SO_x[1]	8.09E-03	1.01
CO_2e	1.16	165
PM	0.0007	0.1
TOC	7.05E-04	0.09
CH_4[2]	7.05E-04	0.09

Source: EPA, 1996. AP-42, Fifth Edition, Volume I Chapter 3: Stationary Internal Combustion Sources

1 SOx mult times S1= % sulfur in fuel oil

2 Based on data from 1 engine, TOC is by weight 9% methane and 91% nonmethane

D.2 NATIONAL EMISSIONS INVENTORY

The NEI is operated under the EPA's Emissions Factor and Inventory Group, which prepares the national database of air emissions information with input from numerous state and local air agencies, tribes, and industries. The database contains information on stationary and mobile sources that emit criteria air pollutants and hazardous air pollutants (HAPs). The database includes estimates of annual emissions, by source, of air pollutants in each area of the country on a yearly basis. The NEI includes emissions estimates for all 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. Emissions estimates for individual point or major sources (facilities), as well as county-level estimates for area, mobile, and other sources, are currently from an extract of EPA's NEI database. The current version of the NEI is the 2014 NEI Database, last updated October 6, 2016. Data were extracted in October 2016.

Criteria air pollutants are those for which the EPA has set health-based standards. Four of the six criteria pollutants are included in the NEI database:

- Carbon monoxide (CO)
- Nitrogen oxides (NO_x)
- Sulfur dioxide (SO_2)
- Particulate matter (PM_{10} and $PM_{2.5}$)

The NEI also includes emissions of VOCs, which are ozone precursors, emitted from motor vehicle fuel distribution and chemical manufacturing, as well as other solvent uses. VOCs react with nitrogen oxides in the atmosphere to form ozone. The NEI database defines three classes of criteria air pollutant sources:

Point sources. Stationary sources of emissions, such as an electric power plant, that can be identified by name and location. A "major" source emits a threshold amount (or more) of at least one criteria pollutant and must be inventoried and reported. Many states also inventory and report stationary sources that emit amounts below the thresholds for each pollutant.

- *Area sources*. Small point sources such as a home or office building or a diffuse stationary source such as wildfires or agricultural tilling. These sources do not individually produce sufficient emissions to qualify as point sources. Dry cleaners are one example; for instance, a single dry cleaner within an inventory area typically will not qualify as a point source, but collectively the emissions from all of the dry cleaning facilities in the inventory area may be significant and therefore must be included in the inventory.
- *Mobile sources*. Any kind of vehicle or equipment with a gasoline or diesel engine (such as an airplane or ship).

The following are the main sources of criteria pollutant emissions data for the NEI:

- For electric generating units, EPA's Emissions Tracking System/Continuous Emissions Monitoring Data and Department of Energy fuel use data.

- For other large stationary sources, state data and older inventories where state data were not submitted.
- For on-road mobile sources, the Federal Highway Administration's estimate of vehicle miles traveled and emissions factors from EPA's MOVES 2014a Model.
- For non-road mobile sources, EPA's MOVES 2014a Model.
- For stationary area sources, state data, EPA-developed estimates for some sources, and older inventories where state or EPA data were not submitted.
- State and local environmental agencies supply most of the point source data. EPA's Clean Air Market program supplies emissions data for electric power plants.

D.2.1 Greenhouse Gases

GHGs are chemical compounds in the earth's atmosphere that trap heat. Gases exhibiting greenhouse properties come from both natural and human sources. Water vapor, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) are examples of GHGs that have both natural and manmade sources, while other gases such as those used for aerosols are exclusively manmade. In the United States, GHG emissions come mostly from energy use. These are driven largely by economic growth, fuel used for electricity generation, and weather patterns affecting heating and cooling needs.

Typically, GHG emissions are represented as CO_2 equivalents (CO_2e) based on the molecule's global warming potential or ability to trap heat in the atmosphere relative to CO_2 (EPA, 2005). Therefore, all GHG emissions calculations and analysis in this document are represented in CO_2e.

The Air Force has adopted guidance that recommends that any activity that generates more than 75,000 tons of GHGs is significant. Any GHG analysis contained in this document was prepared in accordance with the *Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide – Fundamentals, Volume I and Volume II – Advanced Assessments*. The potential effects of GHG emissions from the Proposed Action are by nature global. Given the global nature of climate change and the current state of the science, it is not useful at this time to attempt to link the emissions quantified for local actions to any specific climatological change or resulting environmental impact. Nonetheless, the GHG emissions from the No Action Alternative and the Proposed Action Alternatives have been quantified to the extent feasible in this LEIS for information and comparative purposes.

D.2.1.1 GHG Construction Emissions

Combustion of fossil fuels by construction equipment and constructions workers' vehicles during commutes to and from the site would contribute to increased GHG emissions. Construction equipment emits approximately 22.2 pounds of CO_2 per gallon of diesel and worker vehicles emit 19.4 pounds of CO_2 per gallon of gasoline (EPA, 2009b). These emission rates can be decreased with less idling and improved

maintenance of equipment. Of 250 potential working days, 90.5 percent (or 238 days) are suitable for construction activities (i.e., no precipitation greater than 0.10 inches) (National Weather Service, 2016). These vehicles were assumed to each combust 4 gallons of diesel per hour (Fusetti and Monahan, 2008).

Stationary sources for construction were also included in the analysis. It was assumed that a number of small diesel-fueled generators would be operated during working hours. Each generator was assumed to combust one gallon per hour of operation.

It was assumed that construction workers would be required to commute each day for 238 work days. ACAM estimates the average commute to be 25 miles one-way, and 23.9 miles per gallon average was assumed for commuter vehicles (EPA, 2009b).

D.2.1.2 GHG Operational Emissions

Combustion of fuels during flight operations would also cause GHG emissions. Emissions were calculated using the same methodology and operational parameters as for the criteria pollutants discussed above. The emissions factors for were also obtained from ACAM Version 5.0.7. Calculations were based on the estimated annual sorties for each aircraft under each alternative as discussed above for aircraft criteria pollutant emissions.

GHG emissions from munitions use were calculated using emissions factors on a per item basis as outlined in AP-42 (EPA, 2009a).

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APPENDIX E

VISUAL RESOURCES

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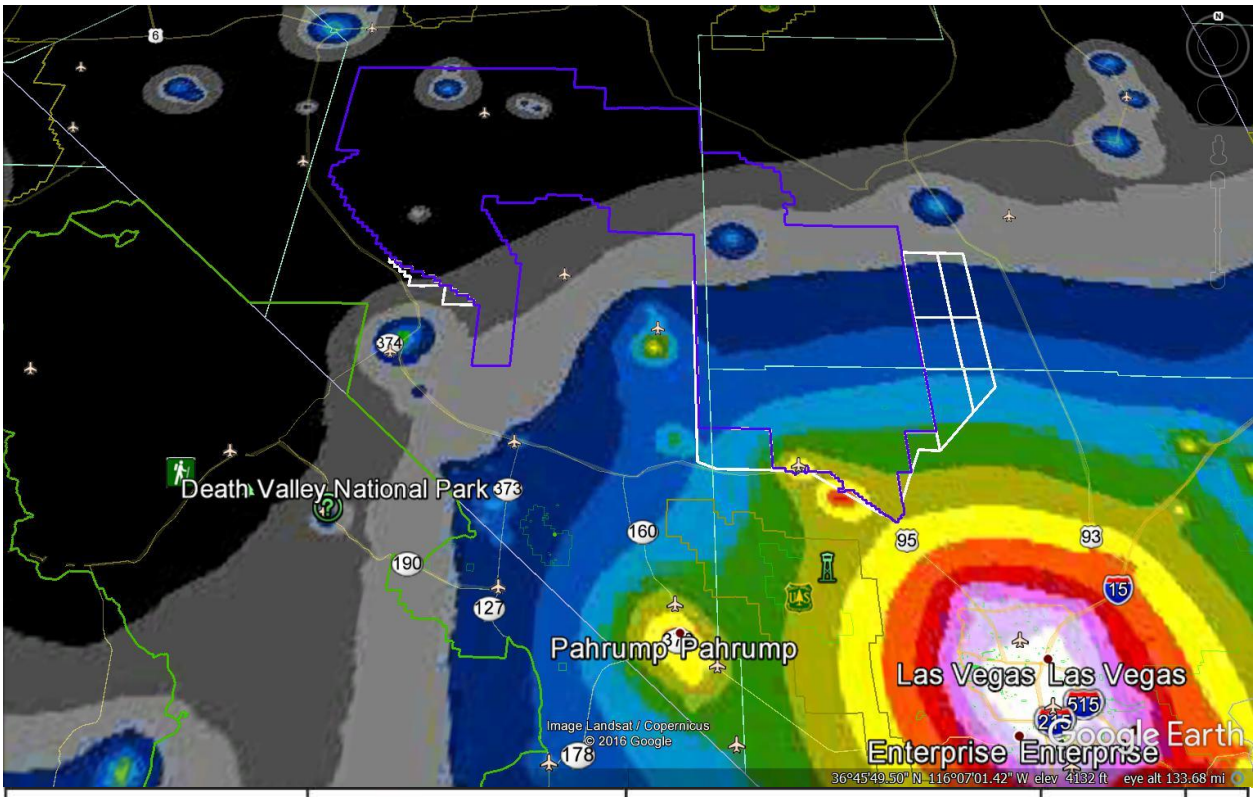
E.1 VISUAL RESOURCES

Natural darkness (darkness undiminished by artificial light) is recognized as an important and increasingly rare natural resource. The excessive or inappropriate use of artificial light, termed "light pollution," now blocks the Milky Way galaxy in the night sky for nearly 80 percent of Americans (Billings, 2016). Light pollution is a side effect of industrialization and development, and includes glare, skyglow (brightening of the night sky over inhabited areas), light trespass (light falling in unintended areas), and clutter (excessive grouping of light sources) (http://darksky.org/light-pollution/). The components of light pollution are generated by both the interior and exterior lights of any kind of human development, including residential structures, transportation thoroughfares, energy generating facilities, and commercial areas. While there is light pollution from all developed areas in Nevada, most famously Las Vegas, the state retains some of the darkest night skies left in the nation (Pesek, 2012). Federal land management agencies promote the retention of natural night skies though participation in the "Dark Skies Initiative." The National Park Service "Natural Sounds and Night Skies" Division deals specifically with the preservation of natural darkness, and the BLM has specific guidance related to the mitigation of light pollution, such the BLM "Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands."

Satellite imagery provides extensive temporal geospatial information on the prevalence of light pollution. One imagery product compiled and released by NOAA (Center, 2013) uses the visible/near-infrared and thermal infrared bands from the Defense Meteorological Satellite Program to depict the average annual radiance from lights from cities, towns, and other sites with persistent lighting (Doll, 2008), including gas flares, and is shown in Figure E-1. Features such as the town of Beatty, Creech AFB, various landing strips at NTTR, and the High Desert Prison are clearly collocated with higher persistent lighting values. These features also contribute to skyglow, which is modeled by the Light Pollution Science and Technology Institute in their "The New World Atlas of Artificial Night Sky Brightness" (Falchi, 2016). Derived from the Visible/Infrared Imager/Radiometer Suite onboard the Suomi National Polar-orbiting Partnership satellite, skyglow over the project area is shown in Figure E-1.



Ratio to natural brightness	Artificial brightness (µcd/m²)	Approximate total brightness (mcd/m²)	Color	
<0.01	<1.74	<0.176	Black	
0.01–0.02	1.74–3.48	0.176–0.177	Dark gray	
>0.02–0.04	>3.48–6.96	>0.177–0.181	Gray	
>0.04–0.08	>6.96–13.9	>0.181–0.188	Dark blue	
>0.08–0.16	>13.9–27.8	>0.188–0.202	Blue	
>0.16–0.32	>27.8–55.7	>0.202–0.230	Light blue	
>0.32–0.64	>55.7–111	>0.230–0.285	Dark green	
>0.64–1.28	>111–223	>0.285–0.397	Green	
>1.28–2.56	>223–445	>0.397–0.619	Yellow	
>2.56–5.12	>445–890	>0.619–1.065	Orange	
>5.12–10.2	>890–1780	1.07–1.96	Red	
>10.2–20.5	>1780–3560	>1.96–3.74	Magenta	
>20.5–41	>3560–7130	>3.74–7.30	Pink	
>41	>7130	>7.30	White	

Figure E-1. Artificial Night Sky Brightness

E.2 REFERENCES

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APPENDIX F

WILDERNESS AND WILDERNESS STUDY AREAS

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F.1 DESCRIPTIONS OF CURRENT WILDERNESS AREAS AND WILDERNESS STUDY AREAS

This section provides additional information on the Wilderness Areas and Wilderness Study Areas that occur within or in close proximity to the NTTR airspace boundaries. Total acreage for each Wilderness Area and Wilderness Study Area is provided in each table along with the agency responsible for its management.

F.1.1 Wilderness Study Areas

Table F-1 and Table F-2 list all designated Wilderness Areas in the Study Area. Agencies responsible for managing these areas are required to develop and implement Wilderness Management Plans. The tables list the associated Wilderness Management Plan for each Wilderness Area.

Table F-1. Wilderness Areas Located Within NTTR Airspace Boundaries

Name	Acres	Management Agency	Wilderness Management Plan
Worthington Mountain	30,664	BLM Ely Field Office	Weepah Spring Wilderness and Worthington Mountains Wilderness – Wilderness Management Plan[1]
Weepah Spring	51,480		
Big Rocks	12,997	BLM Ely Field Office	Big Rocks Wilderness, Mount Irish Wilderness, and South Pahroc Range Wilderness – Wilderness Management Plan[2]
Mount Irish	28,334		
South Pahroc Range	25,800		
Delamar Mountains	111,328	BLM Ely Field Office	Delamar Mountains Wilderness, Meadow Valley Range Wilderness, and Mormon Mountain Wilderness – Wilderness Management Plan[3]
Meadow Valley Range	123,488		
Mormon Mountains	157,938		
Arrow Canyon	27,530	BLM Las Vegas Field Office	Arrow Canyon Wilderness – Wilderness Management Plan[4]
Clover Mountains	85,748	BLM Ely Field Office	Clover Mountains Wilderness and Tunnel Spring Wilderness – Wilderness Management Plan[5]
Tunnel Spring	5,371		
Cougar Canyon	10,409	BLM St. George Field Office	Wilderness Management Plans not available
Slaughter Creek	3,901	BLM St. George Field Office	
Doc's Pass	17,294	BLM St. George Field Office	

[1] (Bureau of Land Management, 2011); [2] (Bureau of Land Management, 2007); [3] (Bureau of Land Management, 2009); [4] (Bureau of Land Management, 2013a); [5] (Bureau of Land Management, 2010)

Table F-2. Wilderness Areas Located in Proximity to the NTTR Airspace Boundaries

Name	Management Agency	Acres	Wilderness Management Plan
Parsnip Peak	BLM Ely Field Office	43,693	Fortification Range Wilderness, Parsnip Peak Wilderness, and White Rock Range Wilderness – Wilderness Management Plan[1]
White Rock Range		24,413	
Red Mountain	BLM St. George Field Office	20,490	Wilderness Management Plan not available
Beaver Dam Mountain	BLM Arizona Strip Field Office	15,000	Wilderness Management Plan – Paiute and Beaver Dam Mountains[2]
	BLM Kanab Field Office	3,667	
Lime Canyon	BLM Las Vegas Field Office	23,233	Jumbo Springs Wilderness and Lime Canyon Wilderness – Wilderness Management Plan[3]
Muddy Mountains	BLM Las Vegas Field Office	44,498	Muddy Mountains Wilderness – Wilderness Management Plan[4]
	NPS Lake Mead National Recreation Area	3,521	
La Madre Mountain	BLM Las Vegas Field Office	27,879	La Madre Mountain Wilderness and Rainbow Mountain Wilderness – Wilderness Management Plan[5]
	USFS Intermountain Region Humboldt-Toiyabe National Forest	18,714	
	NPS Lake Mead National Recreation Area	26,250	

[1] (Bureau of Land Management, 2008); [2] (Bureau of Land Management, 1990); [3] (Bureau of Land Management, 2013b); [4] (Bureau of Land Management and National Park Service, 2007); [5] (Bureau of Land Management and U.S. Forest Service, 2013)

F.1.2 Aircraft Operations above Wilderness Areas

Wilderness Management Plans for Weepah Spring, Worthington Mountains, Delamar Mountains, Meadow Valley Range, Mormon Mountain and Arrow Canyon recognize that solitude may be impacted by military aircraft operations in the airspace above the Wilderness Area and emergency military operations (Bureau of Land Management, 2011; Bureau of Land Management, 2009; Bureau of Land Management, 2013a). In addition, the Wilderness Management Plan for Clover Mountains and Tunnel Spring reported that aircraft noise and sonic booms from military operations can be heard from within the wilderness (Bureau of Land Management, 2010) and aircraft flyovers from Nellis Air Force Base, Creech Air Force Base, and NTTR are considered to occur frequently over the Arrow Canyon Wilderness Area (Bureau of Land Management, 2013a). However, BLM determined that outstanding opportunities for solitude would be largely unaffected and opportunities for primitive and unconfined recreation would remain outstanding throughout wilderness.

Some Wilderness Management Plans for Wilderness Areas outside the NTTR airspace boundaries discuss military operations in general, stating military training exercises would not occur within the Wilderness Areas. Military operations are categorized as emergency and non-emergency incidents with guidelines on how both of those

scenarios would be managed within the Wilderness Areas. However, no impacts to solitude from overflights were identified for any of these areas.

F.1.3 Wilderness Study Areas

Wilderness Study Areas and associated acreage were obtained directly from the BLM website. This information is summarized in Table F-3 and Table F-4.

Table F-3. Wilderness Study Areas[1] Located Within NTTR Airspace Boundaries

Name	Management Agency	Total Acres	Acres Recommended for Wilderness	Acres Not Recommended for Wilderness
South Reveille[2]	BLM Battle Mountain Field Office	106,200	33,000	73,200
Kawich[3]	BLM Battle Mountain Field Office	54,320	0	54,320
Palisade Mesa[4]	BLM Battle Mountain Field Office	99,550	66,110	33,440
The Wall[5]	BLM Battle Mountain Field Office	38,000	30,320	7,680

[1] (Bureau of Land Management, 2016a); [2] (Bureau of Land Management, 2016b); [3] (Bureau of Land Management, 2016c); [4] (Bureau of Land Management, 2016d); [5] (Bureau of Land Management, 2016e)

Table F-4. Wilderness Study Areas[1] Located in Proximity to the NTTR Airspace Boundaries

Name	Management Agency	Total Acres	Acres Recommended for Wilderness	Acres Not Recommended for Wilderness
Riordan's Well[1]	BLM Ely Field Office	57,002	Not available	Not available
Rawhide Mountain[2]	BLM Battle Mountain Field Office	64,360	0	64,360
Grapevine Mountains[3]	BLM Battle Mountain Field Office	66,800	23,150	43,650
Mount Stirling[4]	BLM Las Vegas Field Office	9,650	50,682	19,050
Resting Springs[5]	BLM Las Vegas Field Office	3,850	0	3,850

[1] (Bureau of Land Management, 2016a); [2] (Bureau of Land Management, 2016f); [3] (Bureau of Land Management, 2016g); [4] (Bureau of Land Management, 2016h); [5] (Bureau of Land Management, 2016i)

F.1.4 Wilderness Study Areas Removed from Consideration

As discussed in Section 3.5.1.3 of the LEIS, eight WSAs are no longer being considered for wilderness and were released for uses other than wilderness. In addition, Congress released portions of some WSAs for uses other than wilderness, while designating the remaining areas as Wilderness. It is assumed that reasons for removing these areas for wilderness consideration were based on BLM's recommendations in the Nevada BLM Statewide Wilderness Report (Bureau of Land Management, 1991). Each of those areas are listed below along with a summary of the justification for recommending the areas for non-wilderness.

Evergreen ABC – 2,694 acres recommended for non-wilderness (Public Law [P.L.] 108-424 – Lincoln County Conservation, Recreation, and Development Act of 2004):

- Small size (less than 5,000 acres)

- Conflicts with potential utility developments
- Lacks outstanding opportunities for solitude
- No interesting destinations and focal points of interest for primitive recreation
- Limited opportunities for horseback riding, hiking and nature study
- Resource value for potential development of utilities outweighs the area's limited wilderness values

Fish & Wildlife No. 1, 2, and 3 – 50,334 acres recommended for non-wilderness (P.L. 108-424 – Lincoln County Conservation, Recreation, and Development Act of 2004):

- Conflicts with other potential resource uses and manageability concerns
- Wilderness values not considered high enough quality in comparison to other WSA's in the Las Vegas area
- Naturalness impacted by several signs of man
    - Vehicle trails from off-road travel
    - Nevada DOT materials pit right-of-way located in northern area
    - Topography consists of an open bajada that allows ready accessibility to vehicles
- Solitude opportunities similar to those afforded by thousands of other acres in Clark County
    - Lacks intrinsic values unique to the area
    - Minimal topographic screening
    - Close proximity to and influence of outside sights and sounds associated with utility corridors, abandoned sand and gravel operations, and Highway 93
- Even without wilderness designation, the quality and level of values found in the WSAs are not expected to significantly change

Garrett Buttes – 11,835 acres recommended for non-wilderness (P.L. 107-282 – Clark County Conservation of Public Land and Natural Resources Act of 2002):

- Wilderness values not considered to be of a quality to merit inclusion in the NWPS
- Several site-specific signs of man, primarily rangeland improvements and wildlife developments which impacts naturalness
- Solitude opportunities in this WSA are similar to those afforded by thousands of acres of land adjacent to the WSA.
- Does not offer outstanding opportunities for primitive and unconfined recreation

Nellis ABC – 5,718 acres recommended for non-wilderness (P.L. 107-282 – Clark County Conservation of Public Land and Natural Resources Act of 2002):

- Lack of wilderness values
- Small size limits opportunities for solitude
- Lack of topographic screening
- Outstanding opportunities for primitive types of recreation are unavailable as interesting destinations and focal points of interest are absent from the WSA
- Conflicts with utility and rail line developments

Pine Creek – 2,357 acres recommended for non-wilderness (P.L. 107-282 – Clark County Conservation of Public Land and Natural Resources Act of 2002):

- Majority of Pine Creek WSA was recommended for wilderness and included in the La Madre Mountains Wilderness Area designation
- Smaller area not recommended as wilderness due to ongoing and projected off-road vehicle use in the area

Quail Springs – 12,145 acres recommended for non-wilderness (P.L. 107-282 – Clark County Conservation of Public Land and Natural Resources Act of 2002):

- Wilderness values are not considered to be of a quality to merit the area's inclusion in the NWPS
- Solitude opportunities are limited to a small area and are similar to other lands adjacent to this WSA
- Conflicts with utility and rail line development activities
- Does not offer outstanding opportunities for primitive and unconfined recreation

Portions of Arrow Canyon (P.L. 107-282 – Clark County Conservation of Public Land and Natural Resources Act of 2002):

- Wilderness values not considered to be of quality and continuity to merit inclusion in the NWPS
- Naturalness impacted by gradual incursion of human activity around the perimeter
- Short, narrow canyons and ridges, along with high recreation uses provide only limited solitude opportunities

Portions of Muddy Mountains (P.L. 107-282 – Clark County Conservation of Public Land and Natural Resources Act of 2002):

- Management difficulties associated with mineral development along the southwest boundary and accessibility to off-road vehicles
- Potential influence of external mining activities may decrease quality of wilderness experience

- Increased interest in development of silica and gypsum resources

Portions of McCullough Mountains (P.L. 107-282 – Clark County Conservation of Public Land and Natural Resources Act of 2002):

- Wilderness values not considered to be of high enough quality in comparison to similar WSAs in the area
- Several signs of man evident throughout the area, primarily vehicle trails from off-road vehicles
- No significant wildlife species, habitats, or scientific and educational values that would benefit from wilderness designation
- Potential for future development and expansion of sand and gravel operations and mining claims
- Lack of topographic features that would support solitude

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APPENDIX G

SOCIOECONOMICS

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G.1 ANALYSIS METHODOLOGY

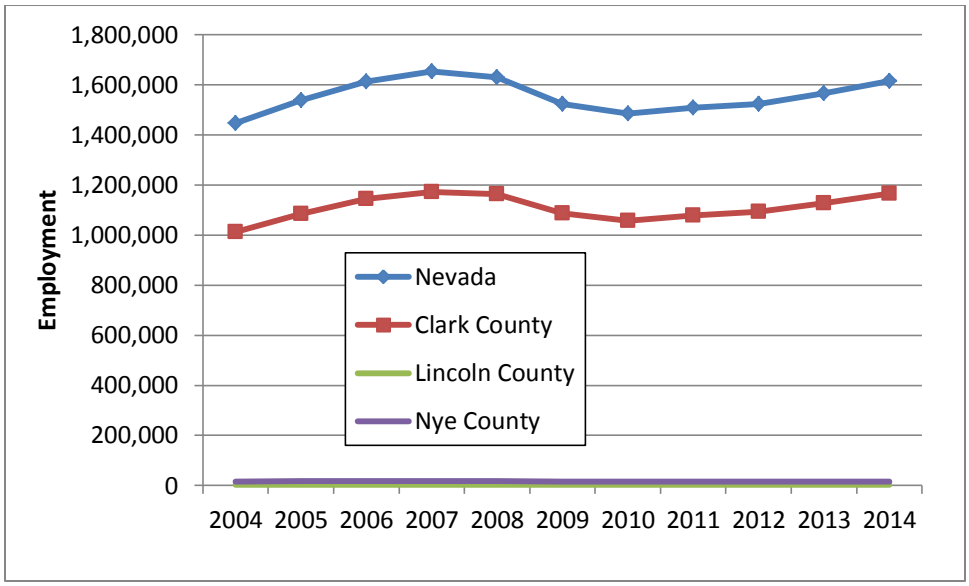
The primary goal of the Economic Impact Assessment (EIA) is to place an economic value on the Proposed Action. A commonly-used technique for conducting EIA is through the application of input-output (I-O) models. I-O models track the flow of income through the economy to measure the impacts on different industries. The I-O model estimates the change in expenditures and in employment that result from a proposed change in economic activity (such as not extending the NTTR land withdrawal) and then applies the changes in employment and expenditures to estimate total changes for each industry.

The Nellis AFB EIA model takes into effect that purchases from one industry may result in that industry purchasing services, parts, or other inputs from a different industry. In estimating these ripple effects from the change in NTTR activities on the region, the I-O models incorporate multipliers that reflect the total economic impact changes resulting from the change in the direct purchases and expenditures from the changes in activities at NTTR. The multipliers used in the EIA model determine the amount that each industrial category spends within each industrial category. This relationship between all industries is referred to as an I-O table, which can then be applied to estimate the impacts on other industries when expenditures have changed within the regional economy.

The three types of economic impacts from changes in the utilization of the NTTR can be summarized as:

- **Direct Impacts**. The economic changes in the impacted industry, i.e., the employment, income (payroll) paid and economic output related to the changes in the use of the NTTR and proposed expansion areas.
- **Indirect Impacts**. The changes in the local business sector as a result of the changes in demand from the directly affected industry. In this case, indirect impacts relate to the employment, income, and economic output related to the purchases of goods and services by the activities related to the NTTR and adjacent lands.
- **Induced Impacts**. Changes in employment, income, and economic output related to the changes in spending of the incomes earned through the direct and indirect expenditures.

The EIA for Nellis AFB, Creech AFB, and the NTTR estimates the total impact from its current operations by establishing a baseline that represents the proposed Status Quo alternative (Alternative 1). Using the Status Quo as the baseline allows a comparison of the impact from the changes in economic activity that would potentially result from the proposed action alternatives and the No Action Alternative.



(Note: Nye County and Lincoln County are nearly identical.)

Figure G-1. Total Employment in Nevada, Clark County, Lincoln County and Nye County, 2004–2014

Source: (U.S. Bureau of Economic Analysis, 2016)

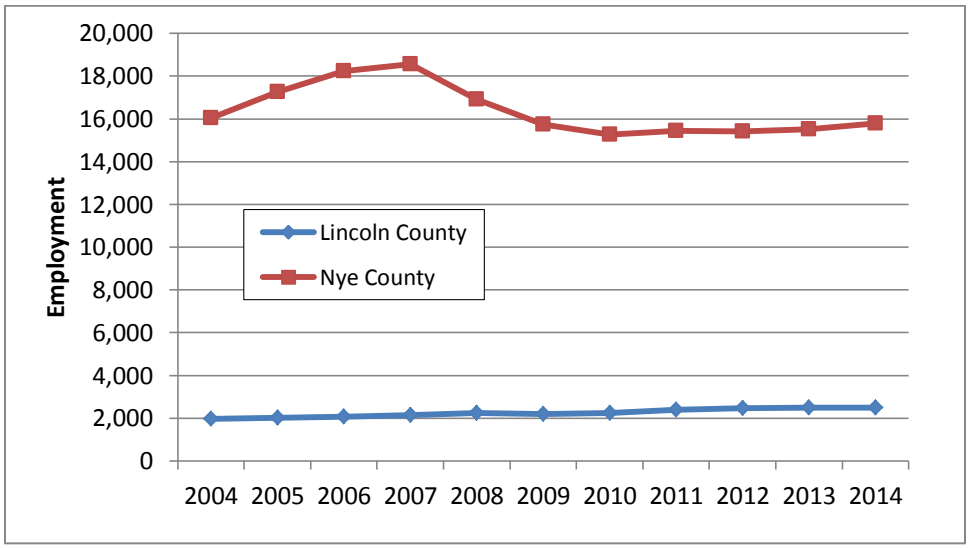


Figure G-2. Total Employment in Lincoln County and Nye County, 2004–2014

Source: (U.S. Bureau of Economic Analysis, 2016)

Table G-1. Employment by Sector in Nevada, Clark County, Lincoln County, and Nye County, 2014

Employment	Nevada		Clark County		Lincoln County		Nye County	
	Employed	% of Total	Employed	% of Total	Employed	% of Total	Employed	% of Total
Total Jobs	**1,614,814**	**100**	**1,166,051**	**100**	**2,494**	**100**	**15,784**	**100**
Farm	5,759	0.36	464	0.04	257	10.30	211	1.34
Nonfarm	1,609,055	99.64	1,165,587	99.96	2,237	89.70	15,573	98.66
Private	1,440,875	89.23	1,054,355	90.42	1,613	64.68	13,701	86.80
Forestry, fishing, and related activities	1,696	0.11	356	0.03	(D)	NA	94	0.60
Mining, oil and gas extraction	20,924	1.30	3,000	0.26	181	7.26	1,244	7.88
Utilities	4,108	0.25	2,670	0.23	(D)	NA	140	0.89
Construction	79,815	4.94	56,088	4.81	(D)	NA	723	4.58
Manufacturing	47,057	2.91	24,280	2.08	(D)	NA	232	1.47
Wholesale trade	39,006	2.42	25,581	2.19	(D)	NA	124	0.79
Retail trade	168,282	10.42	122,746	10.53	238	9.54	1,831	11.60
Transportation and warehousing	62,696	3.88	42,455	3.64	53	2.13	232	1.47
Information	19,387	1.20	14,936	1.28	(D)	NA	137	0.87
Finance and insurance	87,375	5.41	64,422	5.52	146	5.85	464	2.94
Real estate and rental and leasing	101,906	6.31	75,792	6.50	80	3.21	1,018	6.45
Professional, scientific, and technical services	86,901	5.38	61,142	5.24	278	11.15	1,643	10.41
Management of companies and enterprises	24,574	1.52	19,199	1.65	(D)	NA	167	1.06
Administrative and support and waste management and remediation services	111,203	6.89	85,084	7.30	(D)	NA	1,043	6.61
Educational services	15,371	0.95	10,775	0.92	(D)	NA	237	1.50
Health care and social assistance	122,764	7.60	87,008	7.46	(D)	NA	1,032	6.54
Arts, entertainment, and recreation	51,636	3.20	36,930	3.17	(D)	NA	676	4.28
Accommodation and food services	316,355	19.59	265,510	22.77	(D)	NA	1,602	10.15
Other services (except public administration)	79,819	4.94	56,381	4.84	(D)	NA	1,062	6.73

Table G-1. Employment by Sector in Nevada, Clark County, Lincoln County, and Nye County, 2014

Employment	Nevada		Clark County		Lincoln County		Nye County	
	Employed	% of Total	Employed	% of Total	Employed	% of Total	Employed	% of Total
Government	168,180	10.41	111,232	9.54	624	25.02	1,872	11.86
Federal, civilian	18,121	1.12	12,366	1.06	40	1.60	118	0.75
Military	18,550	1.15	15,709	1.35	14	0.56	121	0.77
State and local	131,509	8.14	83,157	7.13	570	22.85	1,633	10.35
State government	35,165	2.18	16,838	1.44	140	5.61	166	1.05
Local government	96,344	5.97	66,319	5.69	430	17.24	1,467	9.29

(D) - Not shown to avoid disclosure of confidential information. Totals include estimates for this item. NA - Data not available
Source: (U.S. Bureau of Economic Analysis, 2016)

Table G-2. Farm Statistics, State of Nevada and Affected Counties, 2012

Category	State of Nevada	Clark County	Lincoln County	Nye County
Total farms	**4,137**	**252**	**185**	**198**
Land in farms (acres)	5,913,761	15,620	(D)	65,116
Average farm size (acres)	1,429	62	(D)	329
Total cropland (acres)	756,852	4,426	22,380	26,354
Harvested cropland (acres)	582,494	2,690	20,299	15,329
Irrigated land (acres)	687,790	3,714	22,007	20,017
Market Value of Agricultural Products Sold:				
Total sales (thousands)	764,144	6,825	23,215	70,495
Average per farm ($)	184,710	27,083	125,486	356,035
Estimated market value of land and buildings:				
Average per farm ($)	1,324,673	347,791	1,074,735	703,429
Average per acre ($)	927	5,611	2,906	2,139
Estimated market value of all machinery and equipment ($ thousands)	556,947	16,714	26,876	25,189

(D) - Not shown to avoid disclosure of confidential information. Totals include estimates for this item.
Source: (U.S. Department of Agriculture, 2014)

Table G-3. Recreational Use of BLM-Administered Public Lands, U.S. Total, 2014

Activities	Visitor Days (Thousands)	Percent of Total
Land-Based Activities		
Camping and Picnicking	24,364	38.9
Non-Motorized Travel	6,987	11.2
Off-Highway Travel	6,566	10.5
Hunting	5,845	9.3
Specialized Sports, Events, and Activities	3,880	6.2
Viewing Public Land Resources	3,845	6.1
Driving for Pleasure	2,600	4.2
Interpretation and Education	1,618	2.6

Table G-3. Recreational Use of BLM-Administered Public Lands, U.S. Total, 2014

Activities	Visitor Days (Thousands)	Percent of Total
Water-Based Activities		
Boating/Row/Float/Paddle	2,605	4.2
Fishing	2,135	3.4
Boating/Motorized	1,134	1.8
Swimming and Other Water Activities	546	0.9
Snow and Ice-Based Activities		
Other Winter Activities	289	0.5
Snowmobile and Motorized Travel	235	0.4
Total	**62,649**	**100.0**

Source: (ECONorthwest, 2016)

Table G-4. Land Ownership Clark County, Lincoln County, Nye County, and Nevada 2012

Ownership	Clark County	Lincoln County	Nye County	County Total	Nevada
Bureau of Indian Affairs	80,687	0	10,152	90,839	1,005,024
Bureau of Land Management	2,658,717	5,579,994	6,551,860	14,790,571	47,302,951
Bureau of Reclamation	43,229	0	0	43,229	468,634
County	20,302	0	0	20,302	20,302
Department of Defense	391,410	778,915	1,844,321	3,014,646	3,370,301
Department of Energy	4,313	0	874,563	878,876	878,876
Fish and Wildlife Service	280,052	29,349	1,961,652	2,271,053	5,756,228
Forest Service	515,375	270,917	30,730	817,022	1,512,542
National Park Service	568,515	0	106,674	675,189	755,836
Nevada State	46,029	0	9,548	55,577	106,716
Regional Park	0	0	0	0	16,773
Private	533,633	142,952	250,696	927,281	9,214,549
Total	**5,142,262**	**6,802,127**	**11,640,196**	**23,584,585**	**70,408,733**

Source: (Bureau of Land Management, 2012)

Table G-5. Population in the ROI

Location	2000	2010	2015	Annual Growth Rate (2000-2015)
Clark County	1,375,765	1,951,269	2,114,801	2.9%
Lincoln County	4,165	5,345	5,036	1.3%
Nye County	32,485	43,946	47,319	2.5%
TOTAL ROI	1,412,415	2,000,560	2,162,314	2.9%
State of Nevada	1,998,257	2,700,551	2,891,845	2.5%

Source(s): USCB 2000; 2016
ROI = Region of Influence

Table G-6. Housing in the ROI

Location	Total Housing Units	Occupied Housing Units	Vacant Housing Units
Clark County	851,131	715,415	135,716
Lincoln County	2,790	1,916	874
Nye County	22,051	17,803	4,248
TOTAL ROI	875,972	735,134	140,838
State of Nevada	1,185,232	1,005,958	179,274

Source(s): USCB 2014b
ROI = Region of Influence

Table G-7. Public School District Information for the ROI, 2015-2016

District	Total Schools in District	Total Enrollment (# of Students)	Student-Teacher Ratio (All Schools)
Clark County School District	357	319,712	22:1
Lincoln County School District	9	1,006	15:1
Nye County School District	22	5,071	22:1

Source: NV DOE 2016a; 2016b

Table G-8. Law Enforcement in the ROI, 2008

Location	Total Agencies	Total Personnel		Total Sworn Officers	
	#	#	Per 100,000 Residents	#	Per 100,000 Residents
State and Local Law Enforcement Agencies and Full-Time Employees					
Nevada	76	10,097	386	6,643	254
United States	17,985	1,133,915	373	765,246	251
Local Police Departments and Full-Time Employees					
Nevada	38	6,885	263	4,497	172
United States	12,501	593,013	195	431063	151
Sheriffs' Offices and Full-Time Employees					
Nevada	16	1,594	61	1,061	41
United States	3,063	353,461	116	182,979	60

Source: BJS 2008

Table G-9. Fire Protection in the ROI

Location	Fire Stations	Support Staff	FTE Firefighters	Volunteers
Clark County	42	39	667	180
Lincoln County	5	6	1	74
Nye County	12	11	61	71
Total ROI	59	56	729	325

Sources: Clark County Government, 2013; Fire Department.Net 2016

Table G-10. Payments in Lieu of Taxes to Clark, Lincoln, and Nye Counties, 2016

County	Federal Acres	Unit Population	2016 Payment to County*	Payment Methodology
Clark County	4,820,547	50,000	$ 3,369,095*	Population Limited Formula A
Lincoln County	6,411,587	5,000	$ 874,508*	Population Limited Formula B
Nye County	8,548,257	42,000	$ 3,108,497*	Formula B

*Payments were prorated to reflect appropriated funding for the year.
Source: (U.S. Department of Interior, 2016)

Table G-11. Nellis AFB, Creech AFB, and NTTR Total Economic Impact (Baseline), Fiscal Year 2015

Economic Activity	Economic Baseline for this EIA
Annual Payroll	$1,134,733,812
Retirees Payroll	$735,384,000
Annual Expenditures	$3,436,073,129
Annual Value of Jobs Created	242,654,680
Total	$5,548,845,621

Source: (Nellis AFB, 2015)

Table G-12. Annual Indirect/Induced Jobs and Pay, Fiscal Year 2015

Branch of Service	Number of Base Jobs in 2015	Indirect/Induced Jobs Created	New Job Pay (in Millions)
Active Duty Military	9,103	3,732	$156.6
Reserve/Air National Guard	620	99	$4.1
Appropriated Fund Civilians	1,005	553	$23.2
Other Civilians	2,543	1,399	$58.7
Total	13,271	5,783	$242.6

Source: (Nellis AFB, 2015)

Table G-13. Land Affected Acreage* by County from Alternatives 3A, 3B, and 3C

Alternative	Clark	Lincoln	Nye	Total
3A	-	-	17,9960	17,960
3B	46,740	-	9,780	57,000
3C	72,649	154,378	-	227,027
Total	119,389	154,378	27,740	301,507

* Approximate acres
Source: (U.S. Air Force, 2016a)

Table G-14. Reduction in Economic Impact from Not Extending the NTTR Land Withdrawal, based on Fiscal Year 2015

Source of Impact	Economic Impact
Annual Payroll	$138,760,363
Retirees Payroll*	$0
Annual Expenditures	$340,374,931
Annual Value of Jobs Created	$21,693,320
Total	$500,828,614

*Retirees are assumed not to be impacted by not extending the NTTR land withdrawal.

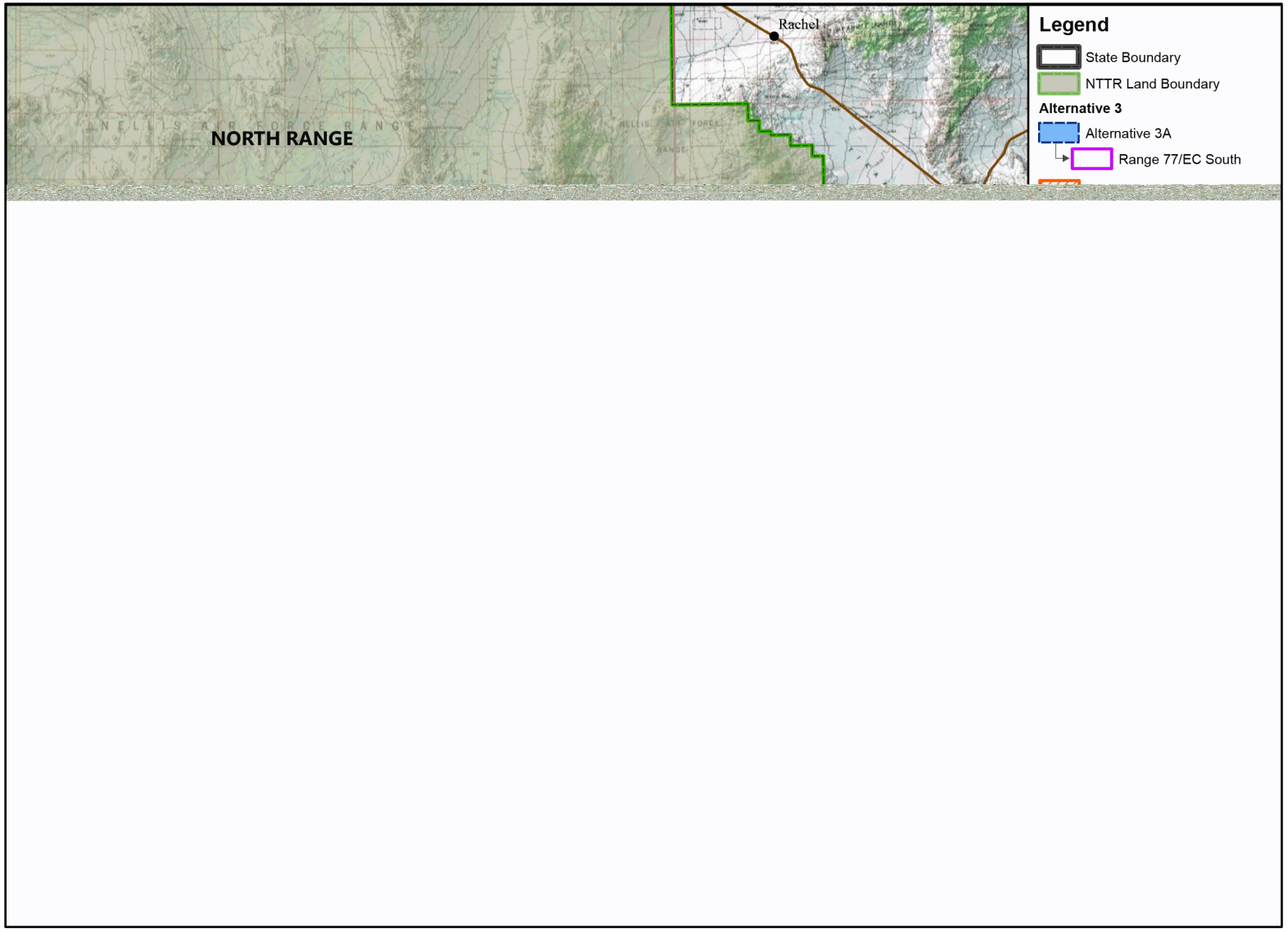


Figure G-3. Land Affected by Alternatives 3A, 3A-1, 3B and 3C
Source: (U.S. Air Force, 2016a)

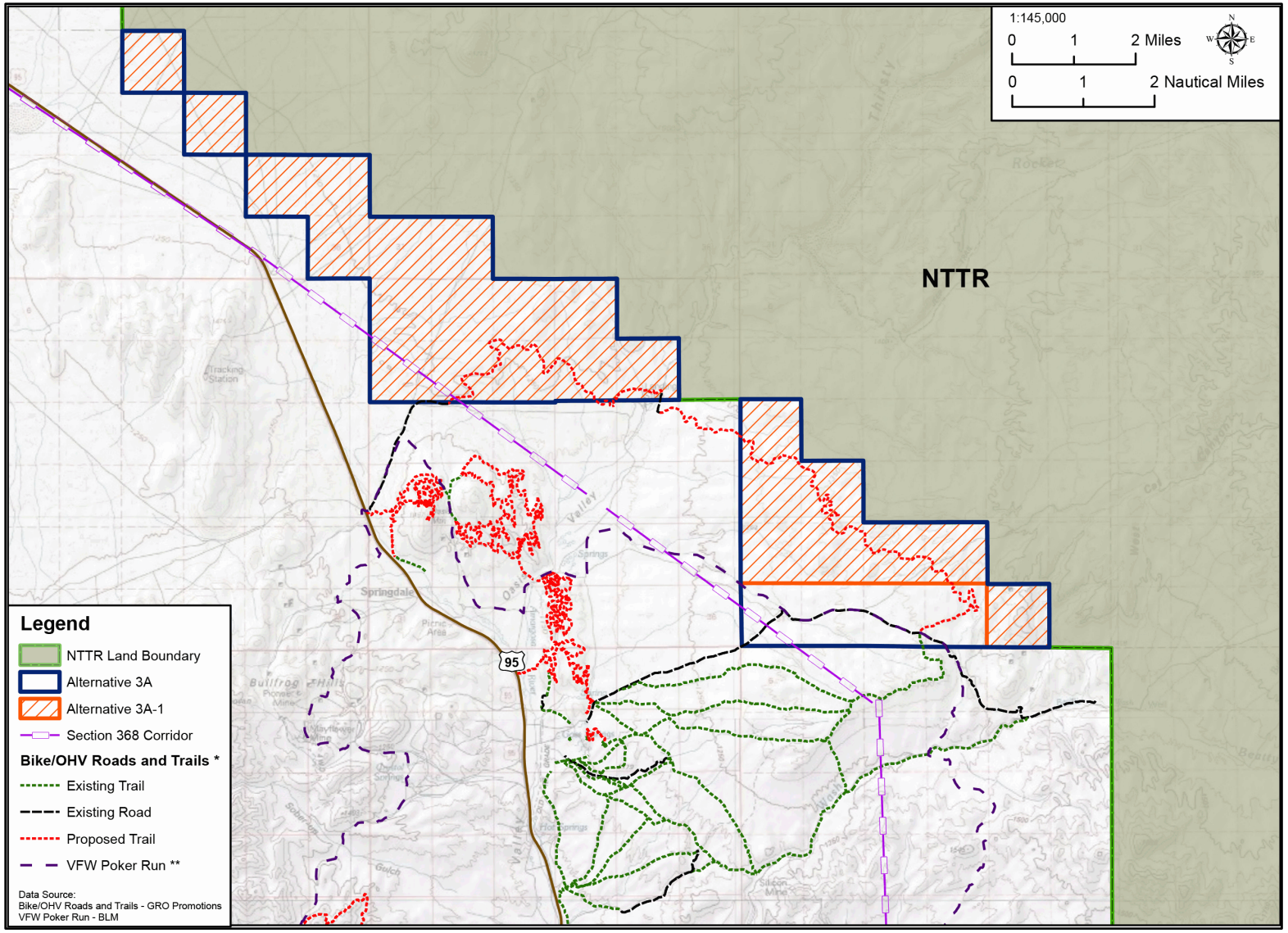


Figure G-4. Land Impacts on Bike Trails from Alternative 3A

Source: (Leidos, Inc., 2017)

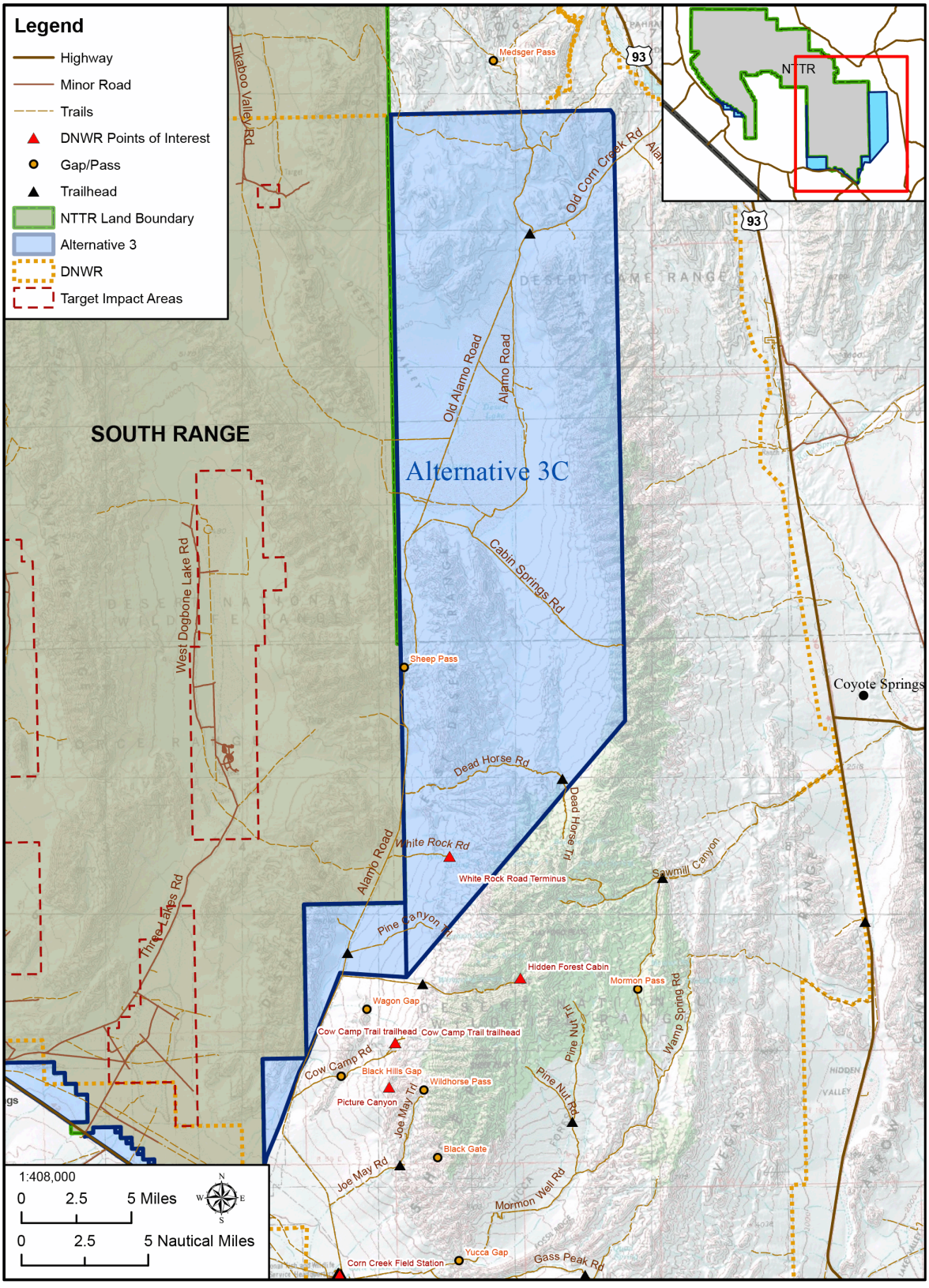


Figure G-5. Land Impacts on Hiking Trails from Alternative 3C
Source: (Leidos, Inc., 2017)

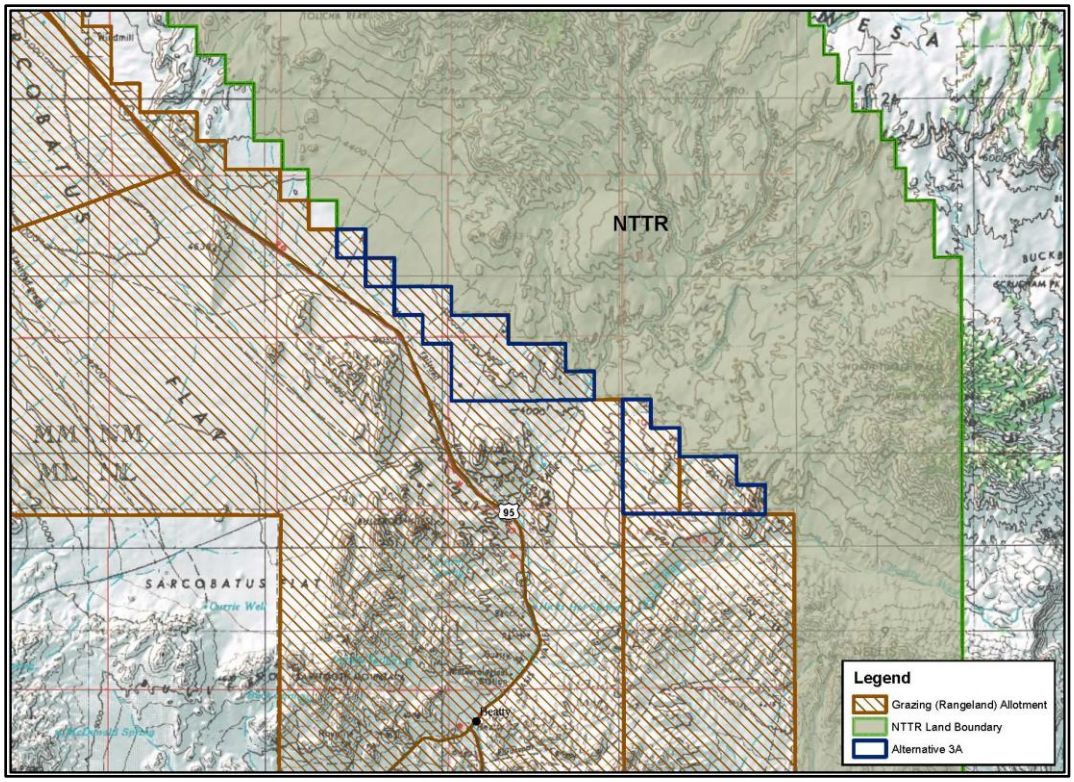


Figure G-6. Rangeland Allotments Impacted by Alternative 3A
Source: (Leidos, Inc., 2017)

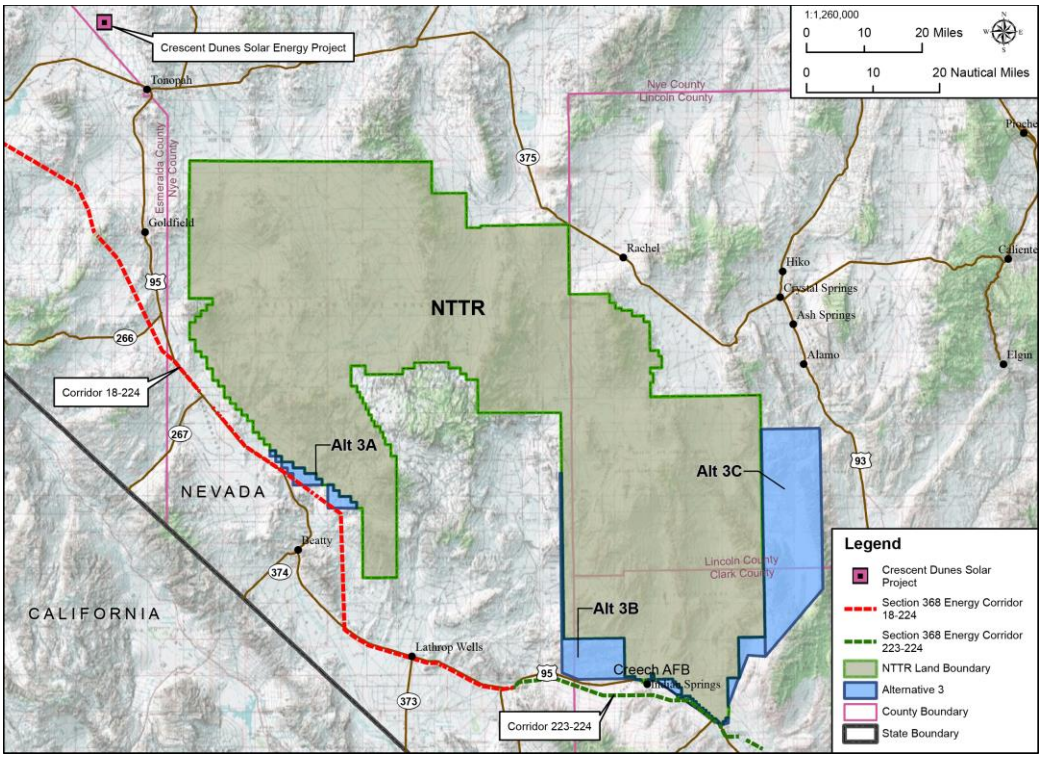


Figure G-7. Section 368 Energy Corridor 18-224

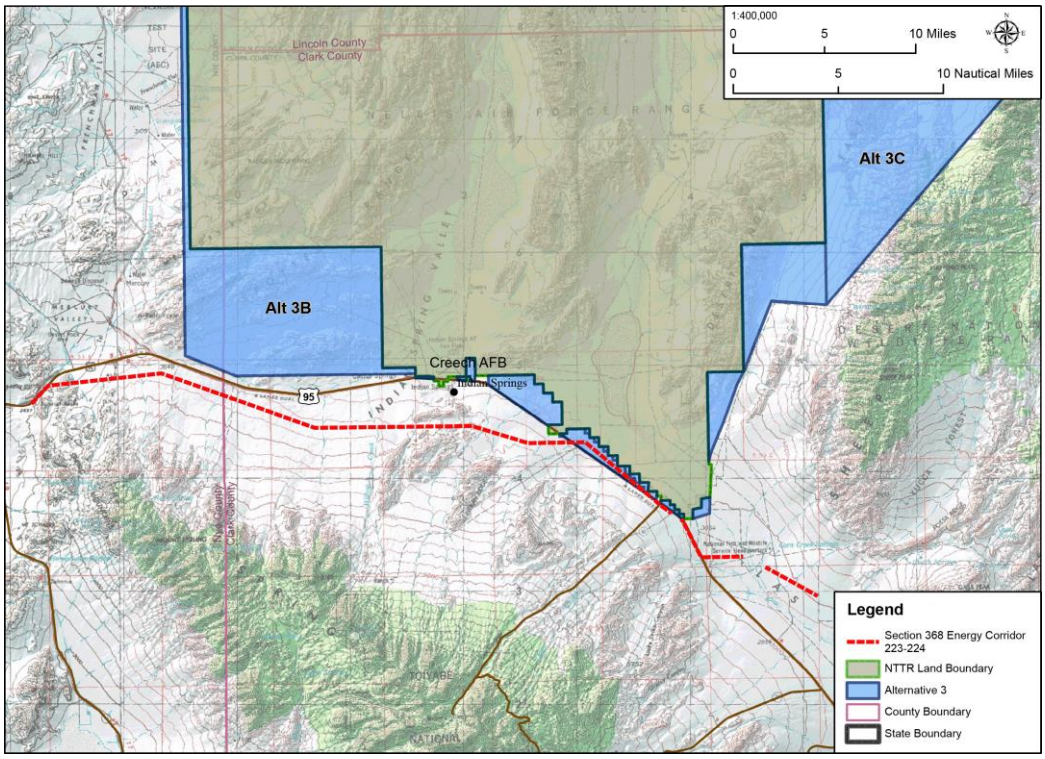


Figure G-8. Section 368 Energy Corridor 223-224

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APPENDIX H

BIOLOGICAL RESOURCES

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H.1 RARE PLANT SPECIES

Rare plant species that are federally listed, state listed or protected, or of special interest to cooperating agencies are listed in Table H-1. (Species in **bold-type** have been observed in or near the Study Areas.)

Table H-1. Federally Listed State Listed or Protected, or of Special Interest to Cooperating Agencies

Scientific Name Common Name	Status* USWFS/Nevada/ Other Heritage Rank	Description/Habitat	Occurrence in the Study Area
Arctomecon californica Las Vegas Bearpoppy	--/CE/BLM-S G3/S3	Cespitose perennial forb; blooms mostly from March to May. It grows in gypsum-rich, hummocked soils with well-developed soil crust open soil surfaces with sparse populations of competing plants; 1,060 to 3,642 feet.	This species occurs on NAFB, 33 miles south of the NTTR. No populations have been found within the study areas as of 2016.
Astragalus geyeri var. *triquetrus* Threecorner Milkvetch	--/CE/BLM-S G4T2T3/S2S3	Annual forb. Prefers open, deep sandy soil or dunes, generally stabilized by vegetation and/or a gravel veneer; 1,100 to 2,400 feet.	To date, no observations of this species have been made within the study area.
Astragalus gillmanii **Gilman's Milkvetch**	--/--/BLM-S G2/S1	Annual forb. Has been found in gravelly areas in Pinyon-Juniper Woodland and light-colored volcanic slopes that are composed of tuff; 5,300 to 6,200 feet.	This species has been observed in the study area north of the Timber Mountains between Thirsty Canyon and Parachute Canyon, Cedar Pass in the Kawich Mountain Range, and multiple locations in the Groom Mountain Range.
Astragalus inyoensis **Inyo Milkvetch**	--/--/-- S1	Mat-forming perennial herb. Grows on sandy and gravelly clay soils, mostly derived from carbonate parent rock, in open Pinyon-Juniper woodland, often associated with sagebrush; 4,900 to 7,500 feet.	This plant was located within the study area on the western slope of the Groom Mountain Range near Cattle Springs around 6,400 feet elevation.

Table H-1. Federally Listed State Listed or Protected, or of Special Interest to Cooperating Agencies

Scientific Name Common Name	Status* USWFS/Nevada/ Other Heritage Rank	Description/Habitat	Occurrence in the Study Area
Chrysothamnus eremobious Remote (or Pintwater) Rabbitbrush	--/--/-- G1/S1	Low-growing perennial bush blooms August to September. Often found within crevices or rubble of north-facing carbonate cliffs; 4,850 to 6,400 feet.	Previously noted on the South Range Study Area in Pintwater Mountain Range and near Sand Spring. No recent observations in the study areas as of 2016.
Cryptantha insolita Las Vegas Catseye	--/CE/-- GHQ/SH	Perennial herb endemic to Nevada; blooms April to June. Occurs on light-colored, alkaline clay flats and low hills in creosote bush; 1,000 to 2,000 feet	To date, no observations of this species have been made within the study area.
Echinocereus englemanii* var. *armatus **Armored Hedgehog Cactus**	--/CY/-- G5/T2S1	Perennial cactus. Found on gravel, sand, and rocky hills in creosote bush scrub, pinyon juniper woodland, and Joshua Tree woodlands; elevation 3,000 to 4,000 feet.	This variety was recorded 1976 on the western portion of the study area along the Pahute Mesa near Black Mountain.
Eriogonum corymbosum var. *nilesii* Las Vegas Buckwheat	FC/--/BLM-S G5T2/S1S2	Woody perennial shrub; flowers late September to early October. Occurs in soils with high gypsum content, clay beds, and high boron shale, usually in sparsely vegetated areas with cryptogrammic crust.	This species occurs on NAFB, 33 miles south of the NTTR. No populations have been found within the study areas as of 2016.
Eriogonum mensicola Pinyon Mesa Buckwheat	--/--/-- G2G3/S1	Perennial herb. Found on rocky to gravelly flats and slopes within sagebrush, mountain mahogany, pinyon-juniper, and montane coniferous woodlands; 6,000 to 9,000 feet.	To date, no observations of this species have been made within the study area. There are records of the species southeast of the study area boundary line in the Sheep Mountain Range near Bootleg, Yellowjacket, and Basin Springs.
Escobaria vivipara* var. *rosacea **Clokey Pincushion**	--/CY/-- G5T3/S3	Small perennial cactus; blooms May to June. Occurs in dry valleys, plains, foothills and on open, gentle to steep rocky	Present in the Study area, including historic observations in the Groom Mountain Range and around

Table H-1. Federally Listed State Listed or Protected, or of Special Interest to Cooperating Agencies

Scientific Name Common Name	Status* USWFS/Nevada/ Other Heritage Rank	Description/Habitat	Occurrence in the Study Area
		slopes and flats, with sagebrush or conifer species and grasslands; 5,000 to 9,000 feet.	Yucca Flat, Pahute Mesa, and Timber Mountain, and recent observations (between 2008 to 2016) in the Spotted Range, Desert Range, Sheep Range, and southern end of the Kawich Range.
Galium hilendiae* spp. *kingstonense **Kingston Mountains Bedstraw**	--/--/-- G4T2/S1	Matted perennial herb. Prefers dry, rocky to gravelly soils derived from rhyolitic tuff on steep northeast to south aspects, mostly under trees and shrubs in the pinyon-juniper-Gambel oak plant community; 5,200 to 5,640 feet.	This species has been observed in the South Range Study Area and along the study area border, including near Oak Spring Butte.
Grindelia fraxinopratensis Ash Meadows Gumplant	FT/CE/BLM-S G2/S1	Perennial herb, blooms July to October. Endemic to Ash Meadows, although it has been observed elsewhere. It is a wetland endemic species, occurring in alkaline clay soils in meadows along stream channels, shallow pools, and in drainages near seeps and springs.	To date, no observations of this species have been made within the study area.
Ivesia arizonica var. *saxosa* Rock Purpusia	--/--/BLM-S S1	Perennial herb endemic to Nevada; blooms May to August. Grows in crevices of cliffs and boulders on volcanic carbonate rocks in the upper mixed-shrub, sagebrush, and pinyon-juniper communities and also on bare rock, talus, and scree in conifer woodlands and chaparral shrublands; 4,900 to 6,890 feet.	To date, no observations of this species have been made within the study area, although it occurs in the vicinity.
Mentzelia leucophylla Ash Meadows	FT/CE/BLM-S G1Q/S1	Biennial herb, endemic to Ash Meadows. It occurs in sandy to gravelly alkali soils in drainages and low bluffs	To date, no observations of this species have been made within the study

Table H-1. Federally Listed State Listed or Protected, or of Special Interest to Cooperating Agencies

Scientific Name Common Name	Status* USWFS/Nevada/ Other Heritage Rank	Description/Habitat	Occurrence in the Study Area
Blazingstar		and swales, 2,200 to 2,350 feet.	area.
Penstemon albomarginatus White Margined Beardtongue	--/CE?/BLM-S G2/S1	Low-growing perennial herb, blooms March to May. Requires deep stand and is found on stabilized sand dunes and Mojave Desert scrub with alluvial sandy soils.	To date, no observations of this species have been made within the study area.
Penstemon pudicus Bashful beardtoungue	--/--/BLM-S/USFWS-S G1/S1	Perennial herb, blooms June and July. Known to occur only in the north Kawich Range in Nye County, in crevices, soil pockets, and coarse rocky soils of felsic volcanic outcrops, boulder piles, steep protected slopes, and drainage bottoms, mostly on north and east aspects, in subalpine sagebrush, mountain mahogany, and upper pinyon-juniper plant zones; 7,500 to 9,000 feet.	To date, no observations of this species have been made within the study area.
Piptatherum shoshoneanum **Cliff Needlegrass**	--/--/-- G2G3/S1	Perennial bunchgrass. Occurs in moist cracks and crevices of intrusive or extrusive igneous, metamorphic, or west facing sedimentary cliffs and rock walls in the montane conifer and pinyon-juniper vegetation communities.	Reported near Cliff Spring on the western slopes of the Belted Range and on the southeast side of the Kawich range northeast of Trailer Pass in the North Range Study Area.
Polyctenium williamsiae Williams Combleaf	--/CE/ BLM-S/USFS-S G2Q/S2	Perennial herb; flowers May and June. Occurs in barren, sandy to sandy-clay or mud margins and bottoms of non-alkaline seasonal lakes and playas perched over siliceous volcanic bedrock in silver sagebrush, mountain big sagebrush and juniper woodlands; 4,200 to 9,000 feet.	To date, no observations of this species have been made within the study area.

Table H-1. Federally Listed State Listed or Protected, or of Special Interest to Cooperating Agencies

Scientific Name Common Name	Status* USWFS/Nevada/ Other Heritage Rank	Description/Habitat	Occurrence in the Study Area
Sclerocactus polyancistrus **Hermit Cactus**	--/CY/-- G4/S2S3	Perennial cactus. Grows in rocky, alluvial, often alkaline soils, within the Mojave Desert scrub community; 1,640 to 8,200 feet.	Hermit cactus is widely distributed across the North Range Study Area as well as a few locations in the central and southern portions of the study area.
Entosthodon planoconvexus Planoconvex cordmoss	--/-- G1/S1	Ephemeral moss (bryophyte) known from 3 locations world-wide, occurs above 3,970 feet MSL.	The only report of this species is outside the study area in Mercury Valley/Rock Valley in the north-facing foothills of the Specter Mountains. No observations of this species have been made within the study area.

Sources: U.S. Air Force, 2016. Rare Plants of the Nevada Test and Training Range and Proposed Expansion Areas Report. Prepared by Adams Ecology for the U.S. Air Force, through the U.S. Army Corps of Engineers, Contract No. W9126G-14-0014, Delivery Order No. DS01, Leidos Subcontract No. P010176987. December.

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*Status:

USFWS = Species listed by the USFWS under the Endangered Species Act

- FE – Federally Listed Endangered – in danger of extinction in all or a significant portion of its range.
- FT – Federally Listed Threatened – likely to be classified as Endangered in the foreseeable future if threats continue.
- FC – Federal Candidate for listing as Threatened or Endangered

State = Species listed by the State of Nevada

- CE – Critically Endangered Plant
- CY – Protected as a cactus, yucca, or Christmas tree

BLM-S = Sensitive, which include USFWS species and those protected by Nevada state law on BLM managed lands

USFS-S = Sensitive Species

Heritage Rank: G = Global rank indicator, based on worldwide distribution at the species level; T = Global trinomial rank indicator based on worldwide distribution at the infraspecific level; S = State rank indicator, based on distribution within Nevada at the lowest taxonomic level.

1 – Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, threats, or other factors

2 – Imperiled due to rarity or other demonstrable factors

3 – Vulnerable to decline because rare and local throughout range, or with very restricted range

4 – Long term concern, though now apparently secure; usually rare in parts of its range, especially at its periphery

H – Possibly Extinct, known from only historical occurrences but still some hope of rediscovery

Other rare plant species of special interest to cooperating agencies and may be found within the Study Areas are listed in Table H-2. (Species in **bold-type** have been observed in the Study Areas)

Table H-2. Other Rare Plant Species of Special Interest to Cooperating Agencies

Scientific Name Common Name	Heritage Rank BLM/USFS
Abronia nana* ssp. *covillei **Coville Abronia**	G4T3/S1? --/R4S
Agave utahensis* var. *eborispina **Ivory-spined Agave**	G4T3Q/S3 --/--
Anulocaulis leiosolenus var. *leiosolenus* Ringstem	G4T3/S2 S/--
Arctomecon merriamii **White Bearpoppy**	G3/S3 S/--
Asclepias eastwoodiana **Eastwood Milkweed**	G2Q/S2S3 S/R4S
Astragalus ackermanii **Sheep Range Milkvetch**	--/-- G2/S2
Astragalus amphioxys* var. *musimonum **Sheep Range Milkvetch**	G5T2/S2 --/--
Astragalus beatleyae **Beatley Milkvetch**	G2/S2 --/--
Astragalus calycosus var. *monophyllidius* One-leaflet Torrey Milkvetch	G5T2Q/S2 S/--
Astragalus funereus **Black Woollypod**	G2/S2 S/--
Astragalus mohavensis* var. *hemigyrus **Halfring Milkvetch**	G3G4T2T3/S2S3 S/--
Astragalus mohavensis var. *mohavensis* Mojave Milkvetch	G3G4T3T4/S2S3 --/--
Astragalus nyensis **Nye Milkvetch**	G3/S3 --/--
Astragalus oophorus* var. *clokeyanus **Clokey Eggvetch**	G4T2/S2 --/R4S
Astragalus pseudiodanthus **Tonopah Milkvetch**	G2Q/S2 S/--
Boechera dispar **Pinyon Rockcress**	G3/S1S2 --/--
Boechera shockleyi **Shockley Rockcress**	G3/S3 --/R5S
Camissonia megalantha **Cane Spring Suncup**	G3Q/S3 --/--
Castilleja martinii* var. *clokeyi **Clokey Paintbrush**	G5T3Q/S3 --/--
Cirsium arizonicum var. *tenuisectum* Keystone Canyon Thistle	G5G2/S1S2 --/--
Cryptantha tumulosa **New York Mountains Catseye**	G4?/S2 --/--
Cymopterus ripleyi* var. *ripleyi **Ripley Biscuitroot**	G3G4T2?Q/S2? --/--
Cymopterus ripleyi* var. *saniculoides **Sanicle Biscuitroot**	G3G4T3Q/S3 --/--

Table H-2. Other Rare Plant Species of Special Interest to Cooperating Agencies

Scientific Name Common Name	Heritage Rank BLM/USFS
Dudleya pulverulenta ssp. *arizonica* Chalk Liveforever	G4G5T4T5/S3 --/--
Ephedra funerea **Death Valley Mormon Tea**	G2/S2 --/--
Ericameria cervina **Antelope Canyon Goldenbush**	G3?/S1 S/--
Ericameria compacta **Charleston Goldenbush**	G2?/S2? --/R4S
Ericameria watsonii **Watson Goldenbush**	G3G4/S3 --/--
Erigeron ovinus **Sheep Fleabane**	G2/S2 S/--
Eriogonum concinnum **Darin Buckwheat**	G2/S2 S/--
Eriogonum darrovii **Darrow Buckwheat**	G2/S2 --/--
Eriogonum heermannii* var. *clokeyi **Clokey Buckwheat**	G5T2/S2 S/R4S
Eremogone congesta var. *charlestonensis* Mount Charleston Sandwort	G5T2?/S2? --/--
Eremogone stenomeres Meadow Valley Sandwort	G2/S2 --/--
Frasera pahutensis Pahute Green Gentian	G3Q/S3 --/--
Gilia heterostyla **Cochrane Gilia**	G3G4/S3S4 --/--
Gilia nyensis **Nye Gilia**	G3/S3 --/--
Gilia ripleyi **Ripley Gilia**	G3/S3 --/--
Glossopetalon pungens var. *glabrum* Smooth Dwarf Greasebush	G2G3T1Q/S1 S/S
Glossopetalon pungens* var. *pungens **Rough Dwarf Greasebush**	G2G3T2Q/S2 S/--
Hulsea vestita* ssp. *inyoensis **Inyo Hulsea**	G5T2T3/S2 --/--
Lathyrus hitchcockianus **Bullfrog Hills Sweetpea**	G2/S2 S/--S
Machaeranthera grindelioides* var. *depressa **Rayless Tansy Aster**	G5T3T4/S3 --/--
Mirabilis pudica **Bashful Four-o'clock**	G3/S3 --/--
Pedicularis semibarbata* var. *charlestonensis **Charleston Pinewood Lousewort**	G4T3Q/S3 --/--
Pediomelum castoreum Beaver Dam Breadroot	G3/S3 S/--
Penstemon arenarius **Nevada Dune Beardtongue**	G2G3/S2 S/R4S
Penstemon bicolor ssp. *bicolor* Yellow Twotone Beardtongue	G3T2Q/S2 S/--

Table H-2. Other Rare Plant Species of Special Interest to Cooperating Agencies

Scientific Name Common Name	Heritage Rank BLM/USFS
Penstemon bicolor ssp. roseus Rosy Twotone Beardtongue	G3T3Q/S3 S/--
Penstemon fruticiformis ssp. *amargosae* Death Valley Beardtongue	G4T3/S2 S/--
Penstemon pahutensis **Pahute Mesa Beardtongue**	G3/S3 S/--
Penstemon thompsoniae* ssp. *jaegeri **Jaeger Beardtongue**	G4T2/S2 S/R4S
Perityle intricata **Desert Rockdaisy**	G3/S3 --/--
Phacelia beatleyae **Beatley Scorpionflower**	G3/S3 S/--
Phacelia filiae **Clarke Phacelia**	G2/S2 S/--
Phacelia geraniifolia **Jaeger Phacelia**	G2Q/S2 --/--
Phacelia mustelina **Weasel Phacelia**	G2/S2 C/--
Phacelia parishii **Parish Phacelia**	G2G3/S2S3 S/--
Phacelia petrosa Rock Phacelia	G3G4/S2 --/--
Physaria hitchcockii* var. *hitchcockii **Hitchcock Bladderpod**	G3T2/S2 --/R4S
Polygala heterorhyncha **Notch-beak Milkwort**	G3/S3 --/--
Porophyllum pygmaeum **Pygmy Poreleaf**	G2/S2 --/--
Salvia dorrii* var. *clokeyi **Clokey Mountain Sage**	G5T3/S3 --/--
Townsendia jonesii* var. *tumulosa **Charleston Grounddaisy**	G4T3/S3 --/R4S
Xanthisma grindelioides var. *depressum* Rayless Tansy Aster	G5T3T4/S3 --/--

Source: (U.S. Air Force, 2016a)
Heritage Rank:
G = Global rank indicator, based on worldwide distribution at the species level
T = Global trinomial rank indicator based on worldwide distribution at the infraspecific level
S = State rank indicator, based on distribution within Nevada at the lowest taxonomic level
1 – Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, threats, or other factors
2 – Imperiled due to rarity or other demonstrable factors
3 – Vulnerable to decline because rare and local throughout range, or with very restricted range
4 – Long term concern, though now apparently secure; usually rare in parts of its range, especially at its periphery
H – Possibly Extinct, known from only historical occurrences but still some hope of rediscovery
S – Secure, at very low or no risk of extirpation in the jurisdiction due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats
Q – Taxonomic status uncertain
? – Unranked (rank not yet assessed)
BLM-S = Species identified as Sensitive by the BLM, which include Nevada Special Status Species, USFWS listed, proposed, candidate species or otherwise protected by Nevada state law on BLM managed lands
USFS: S = Sensitive Species, W = Watch List, R4S = Region 4 (Humboldt-Toiyabe National Forest) Sensitive

H.2 SPECIAL STATUS WILDLIFE SPECIES

Special status wildlife species that are of special interest to cooperating agencies and ranked by the State of Nevada as imperiled or vulnerable to decline are listed in Table H-3.

Table H-3. Special Status Wildlife Species of Special Interest to Cooperating Agencies

Scientific Name	Common Name	Status[1] BLM/USFS/ NDOW Wildlife Action Plan	Heritage Rank[2] State/Global
AMPHIBIANS			
Anaxyrus cognatus	Great Plains toad	--/--/SOCP	S2/G5
REPTILES			
Arizona elegans	Glossy snake	S/--/--	S4/G5
Chionactis occipitalis	Western shovelnose snake	S/--/SOCP	S4/G5
Coleonyx variegatus	Western banded gecko	--/--/SOCP	S4/G5
Crotalus cerastes	Sidewinder	S/--SOCP	S4/G5
Crotaphytus bicinctores	Great Basin collared lizard	--/--/SOCP	S4/G5
Diadophis punctatus	Ring-necked snake	--/--/SOCP	S3/G5
Dipsosaurus dorsalis	Desert iguana	--/--/SOCP	S3/G5
Gambelia wislizenii	Longnose leopard lizard	--/--/SOCP	S4/G5
Phrynosoma platyrhinos	Desert horned lizard	--/--/SOCP	S4/G5
Phyllorhynchus decurtatus	Spotted leafnose	--/--/SOCP	S4/G5
Rena humilis	Western blind snake	--/--/SOCP	S4/G5
Plestiodon gilberti rubricaudatus	Western red-tailed skink	--/-- /SOCP	S2S3/G5T4Q
Sauromalus ater	Chuckwalla	S/-- /SOCP	S3/G5
Tantilla hobartsmithi	Smith's black-headed snake	--/--/SOCP	--
Xantusia vigilis	Desert night lizard	--/-- /SOCP	S4/G5
BIRDS			
Amphispiza belli	Sage sparrow	--/--/SOCP	S4B, S4N/G5
Athene cunicularia hypugea	Western burrowing owl	S/--/SOCP	S3B/G4T4
Buteo regalis	Ferruginous Hawk	S/--/SOCP	S2/G4
Charadrius nivosus nivosus	Western snowy plover	S/--/SOCP	S3B/G3T3
Chordeiles minor	Common nighthawk	--/--/SOCP	S5B/G5
Falco mexicanus	Prairie falcon	S/--/SOCP	S4/G5
Falco peregrinus	Peregrine falcon	S/S/SOCP	S2/G4
Gymnorhinus cyanocephalus	Pinyon jay	S/-/SOCP	S3S4/G5
Icterus parisorum	Scott's oriole	--/--/SOCP	S4B
Lanius ludovicianus	Loggerhead shrike	S/--/SOCP	S4SB/G4
Numenius americanus	Long-billed curlew	--/--/SOCP	S2S3B/G5
Oreoscoptes montanus	Sage thrasher	--/--/SOCP	G5/S5B
Otus flammeolus	Flammulated owl	--/S/SOCP	G4/S4B
Phainopepla nitens	Phainopepla	--/--/--	G5/S2B
Sorex tenellus	Inyo shrew	--/--/SOCP	S2/G4
Spizella atrogularis	Black-chinned sparrow	--/--/SOCP	S3B/G5
Toxostoma bendirei	Bendire's thrasher	S/--/SOCP	S1/G4
Toxostoma crissale	Crissal thrasher	--/--/SOCP	S3/G5
Toxostoma lecontei	Le Conte's thrasher	S/--/SOCP	S2/G4

Table H-3. Special Status Wildlife Species of Special Interest to Cooperating Agencies

Scientific Name	Common Name	Status[1] BLM/USFS/ NDOW Wildlife Action Plan	Heritage Rank[2] State/Global
Vireo vicinior	Gray vireo	--/--/--	G4/S3B
MAMMALS			
Dipodomys deserti	Desert kangaroo rat	--/--/SOCP	S2S3/G5
Eptesicus fuscus	Big brown bat	S/--/--	S4/G5
Euderma maculatum	Spotted bat	--/--/--	S2/G4
Lasiurus cinereus	Hoary bat	S/--/SOCP	S3N/G5
Lasionycteris noctivagans	Silver-haired bat	S/--/SOCP	S3B/G5
Lemmiscus curtatus	Sagebrush vole	--/--/SOCP	S3
Myotis californicus	California myotis	S/--/--	S4/G5
Myotis ciliolabrum	Western small-footed myotis	S/--/SOCP	S3/G5
Myotis evotis	Long-eared myotis	S/--/SOCP	S4/G5
Myotis volans	Long-legged myotis	S/--/--	S4/G5
Myotis yumanensis	Yuma myotis	S/--/--	S3S4/G5
Notiosorex crawfordi	Crawford's desert shrew	--/--/--	S3/G5
Parastrellus hesperus	Western pipistrelle	S/--/--	S4/G5
Sorex merriami	Merriam's shrew	--/--/SOCP	S3/G5
Thomomys bottae	Botta's pocket gopher	S/--/SOCP	SNR/G5
GASTROPODS			
Pyrgulopsis micrococcus	Oasis Valley pyrg	S/--/SOCP	S2/G3
Pyrgulopsis turbatrix	Southeast Nevada pyrg	S/--/SOCP	S2/G2
INSECTS			
Perdita cephalotes	Big-headed perdita	--/--/--	SNR/G1G3
Euphilotes bernardino inyomontana	Bret's blue (Spring Mtns phenotype)	--/--/--	S2/G3G4T3T4
Andrena balsamorhizae	Mojave gypsum bee	S/--/--	S2/G2
Limenitis weidemeyerii nevadae	Nevada admiral	--/--/--	S2S3/G5T2T3
Megandrena mentzeliae	Red-tailed blazing star bee	--/--/--	S2/G2
Perdita meconis	Mojave poppy bee	S/--/--	S2/G2

Sources: (Nevada Natural Heritage Program, 2017; Kleiber, 2017; U.S. Air Force, 2016b; U.S. Forest Service, 2016)
BLM = Bureau of Land Management; NDOW = Nevada Department of Wildlife; USFS = U.S. Forest Service
Notes:
[1] Status (-- = No status):
BLM = S – Sensitive, which include U.S. Fish and Wildlife Service (USFWS) species, and those protected by Nevada state law on BLM managed lands
USFS = S – Sensitive Species
NDOW Wildlife Action Plan - SOCP = Species of Conservation Priority
[2] Heritage Rank: S = State rank indicator, based on distribution within Nevada at the lowest taxonomic level; G = Global rank indicator, based on worldwide distribution at the species level; T = Global trinomial rank indicator based on worldwide distribution at the infraspecific level; B = Breeding – Conservation status refers to the breeding population of the element in the nation or state/province
1 – Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, threats, or other factors
2 – Imperiled due to rarity or other demonstrable factors
3 – Vulnerable to decline because rare and local throughout range, or with very restricted range
4 – Long term concern, though now apparently secure; usually rare in parts of its range, especially at its periphery
5 – Secure, at very low or no risk of extirpation in the jurisdiction due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats

H.3 MITIGATION MEASURES FOR DESERT TORTOISE

Mitigation measures for desert tortoise are presented in this section and are subject to revision upon coordination with the U.S. Fish and Wildlife Service (USFWS) during development of a Biological Assessment pursuant to Section 7 of the Endangered Species Act.

These mitigation measures for Desert Tortoise are derived from the Desert Tortoise Management Plan:

1. An Official Representative and Authorized Biologist shall be assigned responsible for implementation and oversight of compliance with recommendations, mitigation measures, reasonable and prudent requirements associated with the USFWS Biological Opinions (BOs), review and reporting requirements, and any re-initiation requirements of regulatory procedures or documents. The Authorized Biologist will be responsible for interagency cooperation among (but not limited to) private contractors, the USFWS, base personnel, and the U.S. Air Force.

2. A form for all desert tortoise that are handled (live and dead) shall be developed and the qualified representative shall be responsible for the handling, storage, and updating of completed forms. Data sheets for handling desert tortoise as well as measurement and observation forms have been previously developed and can be referenced in Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council, 1999).

3. Desert tortoise–proof fencing should be erected (or remain in place where already erected) in areas known or suspected to support populations of desert tortoise and monitored on a quarterly basis to ensure that fences remain in good condition. Fencing should be repaired promptly to ensure zero ground clearance at all times.

4. Following the installation of new fencing on project areas (i.e., around vehicle demolition areas, explosives demolition ranges, or other facilities or areas requiring fencing), enclosures shall be searched for presence of desert tortoise or their sign using 100 percent coverage techniques. Any identified desert tortoise burrow will be examined (i.e., with fiber optic scopes) to determine occupancy. Surveys will be conducted for enclosed areas unless a prohibitive risk to surveyors from explosive ordnance or demolitions activities impedes surveying activities. Enclosed areas will be surveyed a total of three times unless the results of the second survey determine conclusively that desert tortoise are not present within enclosures.

At some of the targets located in the South Range, there is excessive damage and difficulty in maintaining fences around live munitions targets. Desert tortoise should be removed from harm's way following standard

procedures. With respect to boundary fencing, direct removal of vegetation and ground disturbance should be minimized. Bulldozer clearing or other major soil disturbing methods should be avoided. In areas with heavy vegetation, irregularly shaped fence line clearings should be used rather than fence lines with uniform clearing widths. Mechanical clearing can be used if accompanied by actions that minimize soil loss and allow restoration of native vegetation.

Periodic monitoring of the fence and maintaining the fence in a usable condition, consistent with the original as-built standards, could be conducted. In addition, the fence line and access roads should be monitored for invasive plant species and appropriate invasive plant control measures should be implemented when required. Measures to decrease use of fences for perching of predators should be implemented where required.

5. Operators and facility personnel should check under their vehicles prior to moving if the vehicle has been parked for more than a few minutes in desert tortoise habitat. Additionally, signs in parking areas of projects or facilities located within desert tortoise habitat should be posted to remind personnel to check under their vehicles prior to moving them. Also, hang tags (i.e., from rearview mirrors), windshield decals or other signage should be used to remind personnel to check for desert tortoise beneath vehicles. Relocation of live desert tortoise will be conducted according to the recommendations found in Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council, 1999).

6. If desert tortoise or their sign are observed within the boundaries of NTTR, facility personnel or operations contractors should immediately call the 99 CES/CEIEA Natural Resources Manager to request a biologist for further evaluation.

7. Any desert tortoise found during clearance surveys (i.e., for construction projects) may be relocated up to 1,000 feet from the area of impact. Relocation of live desert tortoise will be conducted according to the recommendations found in Guidelines for Handling Desert Tortoise during Construction Projects . Following inspection of burrows for desert tortoise, all burrows must be collapsed to prevent future use.

8. In areas where potential impacts are likely to persist over a long period of time, the project site should be cleared of desert tortoise prior to construction. Preconstruction desert tortoise clearance surveys should be conducted no more than 48 hours prior to earth-moving or vegetation-disturbing activities, unless the impacted area is secured in a way that prevents desert tortoise entry. Clearance surveys should be coordinated with the 99 CES/CEIEA Natural Resources Manager well in advance of any project. In addition, a perimeter around project areas should be cleared, as determined by the NTTR Natural Resources Manager and the

USFWS. The determination to conduct perimeter clearance and the width of the perimeter will be made by the 99 CES/CEIEA Natural Resources Manager and will be based on the quality of desert tortoise habitat in the project area and/or the likelihood of desert tortoise appearing on a project site. A desert tortoise monitor will be present on the project sites during all project construction/earth-moving activities until the project is completed. Any desert tortoise or eggs found within the project area will be removed by a qualified desert tortoise biologist in accordance with the guidance document, Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council, 1999).

9. Desert tortoise that are moved offsite and released into undisturbed habitat must be placed in the shade of a shrub, in a natural unoccupied burrow similar to the hibernaculum in which it was found, or in an artificially constructed burrow (as constructed under the guidelines provided in Guidelines for Handling Desert Tortoise during Construction Projects), depending upon the time of year and ambient temperatures (Desert Tortoise Council, 1999).

10. Desert tortoise moved in the winter (November 1 through March 1) or those in hibernation regardless of date must be placed into an adequate burrow. If one is not available, one will be constructed utilizing the protocol for burrow construction in section B.5.f. of the USFWS-approved guidelines. During mild temperature periods in the spring and fall, desert tortoise removed will not necessarily be placed in a burrow.

11. Desert tortoise encountered experiencing heat stress will be placed in a tub, by an authorized desert tortoise biologist, with 1 inch of water in an environment with a temperature between 76 degrees Fahrenheit (°F) and 95°F for several hours, until heat stress symptoms are no longer evident.

12. The Air Force will implement best management practices during construction, such as erosion and sediment control, minimizing soil compaction, and crushing of vegetation to reduce impacts from construction activities.

13. Construction of roads, blading of existing roads, or other surface disturbance associated activities will be confined to the locations authorized by the 99 CES/CEIEA Natural Resources Manager and will not exceed the minimum size required for safe usage.

14. Air Force activities that may endanger a desert tortoise will cease if a desert tortoise is found in harm's way as a result of the activity. Project activities will resume after the 99 CES/CEIEA Natural Resources Manager has been contacted and evaluated. If needed, an authorized biologist will remove the desert tortoise from danger or to a safe area. Relocation of live desert tortoise will be conducted according to the recommendations

found in Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council, 1999).

15. Disturbance of desert tortoise burrows will be avoided from May 15 to September 30 to prevent impacts to buried egg clutches and emerging hatchlings. If this is not possible, active burrows impacted by the action must be carefully excavated or inspected with a fiber optic scope to determine if eggs are present. Eggs found in burrows must be removed and placed in a new burrow in suitable habitat according to the recommendations found in Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council, 1999). Following the inspection of burrows for desert tortoise, all burrows must be collapsed to prevent future use.

16. Speed limit of 35 miles per hour (mph) will be maintained on paved roads in DT Habitat. Speed limits of 25 mph will be maintained for all regular vehicle travel on gravel roads in desert tortoise habitat. Speed limit of 15 mph will be maintained on two-track roads and trails. Air Force personnel, contractors, and other personnel should check under their vehicles prior to moving, if the vehicle has been parked for more than a few minutes in desert tortoise habitat.

17. Signage should be posted to clearly delineate areas within potential or known desert tortoise habitat where off-road vehicle use is prohibited. Signs in parking areas of projects or facilities located within desert tortoise habitat should be posted to remind personnel to check under their vehicles. Signage will be posted to clearly delineate areas within potential or known desert tortoise habitat where off-road vehicle use is prohibited. These areas should also be incorporated into maps of the NTTR. If necessary, fences with appropriate signage should be implemented in problem areas. Signs should be posted no further than 300 feet apart and facing outward from restricted areas.

18. Employees on site will be provided with desert tortoise awareness training to recognize desert tortoise and desert tortoise sign. The program will be presented by an authorized desert tortoise biologist for projects causing the greatest potential for destruction of desert tortoise habitat. A video or fact sheet, as approved by the USFWS, may be presented or provided in lieu of a presentation for projects with low impact potential as determined by the Natural Resources Manager. Contact information for the Natural Resources Manager and Authorized Biologist shall be included on any fact sheets or handout materials. This contact information should include, at a minimum, phone numbers for the Natural Resources Manager and the Authorized Biologist.

19. The training program will include:

- General provisions of the Endangered Species Act
- Necessity for adhering to the provisions of the Act
- Potential for civil and criminal penalties associated with violating the provisions of the Act.
- Terms and conditions of the USFWS BO that are applicable to the activity
- The definition of “take”
- The exact boundaries of the site within which the project activities may be accomplished
- General behavior and ecology of the desert tortoise and its sensitivity to human activities
- Measures to protect desert tortoise
- Proper disposal of food and trash to avoid attracting predators of desert tortoise
- Personal measures employees can take to promote the conservation of desert tortoise
- Specific and detailed instructions will be provided on the proper techniques (preferably by a qualified biologist, if practicable) to capture and move a desert tortoise that may be in imminent danger (on a heavily traveled road, on an active project site, or under a vehicle) in accordance with the USFWS-approved protocol.
- Instructions for personnel to inspect beneath their vehicles while in desert tortoise habitat prior to moving the vehicle. If a desert tortoise is found beneath the vehicle, it will be moved by environmental staff or by project personnel in accordance with guidelines provided to them during the awareness briefings.
- Reporting requirements when desert tortoise are observed, moved, injured, or killed

20. Upon locating dead, injured, or sick desert tortoise, proper notification shall be filed with the USFWS Las Vegas office. Only qualified biologists should handle live, sick, or injured desert tortoise, and dead desert tortoise should be handled with care so that they are in good condition for subsequent analyses of cause of death. Sick or injured desert tortoise will be delivered to any qualified veterinarians for treatment or disposal.

21. All trash and debris will be regularly collected and contained to minimize attracting potential predators of the desert tortoise (i.e., ravens). This program will include the use of covered, predator-proof trash receptacles and proper disposal of trash in a designated solid waste

disposal facility. Vehicles hauling trash to the landfill and leaving the landfill must be secured to prevent litter from blowing out along the road. Signage, fencing, power poles, and antennas will only be installed where required to minimize elevated perches for predators.

22. Any areas temporarily impacted by excavation and other activities will be returned to original contours and planted in native vegetation to allow for recovery to the natural state. Native plants may be seeded for germination following the first storm event after project completion. Initial irrigation may be used to stimulate germination of seedling plants but should not to be continued to prevent adaptation of the plants to an artificially wet environment with shallow surface moisture. If nursery stock is used for replanting, all plants should be native and endemic to the specific area. Natural recovery of areas is preferred to seeding and planting. Remuneration fees or habitat restoration will only be required for new areas of soil disturbance. If logistics do not allow this, the Air Force will pay the remuneration fee for destruction of habitat based on the current rates determined by the Clark County desert tortoise Habitat Conservation Fund.

23. The Air Force will minimize and avoid excessive noise and vibration associated with various construction and military operations where possible.

24. The Air Force will comply with all regulations required for construction and military activities to minimize production of dust and other particulates into the air. The use of water to decrease dust production can inadvertently attract desert tortoise to roads and construction sites. However, current particulate pollution standards require that dust be contained on construction sites and along roads. Therefore, the Air Force will minimize use of water where practicable. When water is used for dust control, it will be used sparingly to avoid puddling and accumulation of water in a manner that attracts desert tortoise. Alternatives for dust control will also be explored and include implementation of dust abatement measures using a soil stabilizer (e.g., application of dust palliatives [e.g., polymer emulsion or synthetic fluid]) to reduce impacts from dust.

25. The Air Force will comply with all state and federal regulations to accommodate or remove hazardous materials and depleted uranium from target sites, construction sites, etc.

26. The Air Force will incorporate all desert tortoise population surveys and habitat information into the Natural Resources Geographic Information System database to facilitate planning and cooperative regional desert tortoise management initiatives.

27. Measures shall be taken to minimize destruction of desert tortoise habitat, such as soil compaction, erosion, or crushed vegetation, due to weapons testing and training activities.

28. The Air Force will provide the USFWS an annual report documenting any actions taken in compliance with the conservation measures and terms and conditions included in the final BO for this action. Any actions resulting in "take" of desert tortoise will be reported to the USFWS within 24 hours. If a dead, injured, or diseased desert tortoise is found, the Las Vegas Office of the USFWS Ecological Services should be notified as soon as possible.

29. Measures shall be taken to ensure compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and re-initiation requirements contained in the issued USFWS BOs.

H.3.1 Desert Tortoise Suitable Habitat

No formal desert tortoise surveys have been conducted on the proposed expansion areas. A desert tortoise habitat range model for all expansion alternatives based on vegetation, soils, and other factors has been developed and further details can be found in the *Desert Tortoise Habitat Model Report* (U.S. Air Force, 2017). Figure H-1 and Figure H-2 depict potentially suitable habitat as presented in that report.

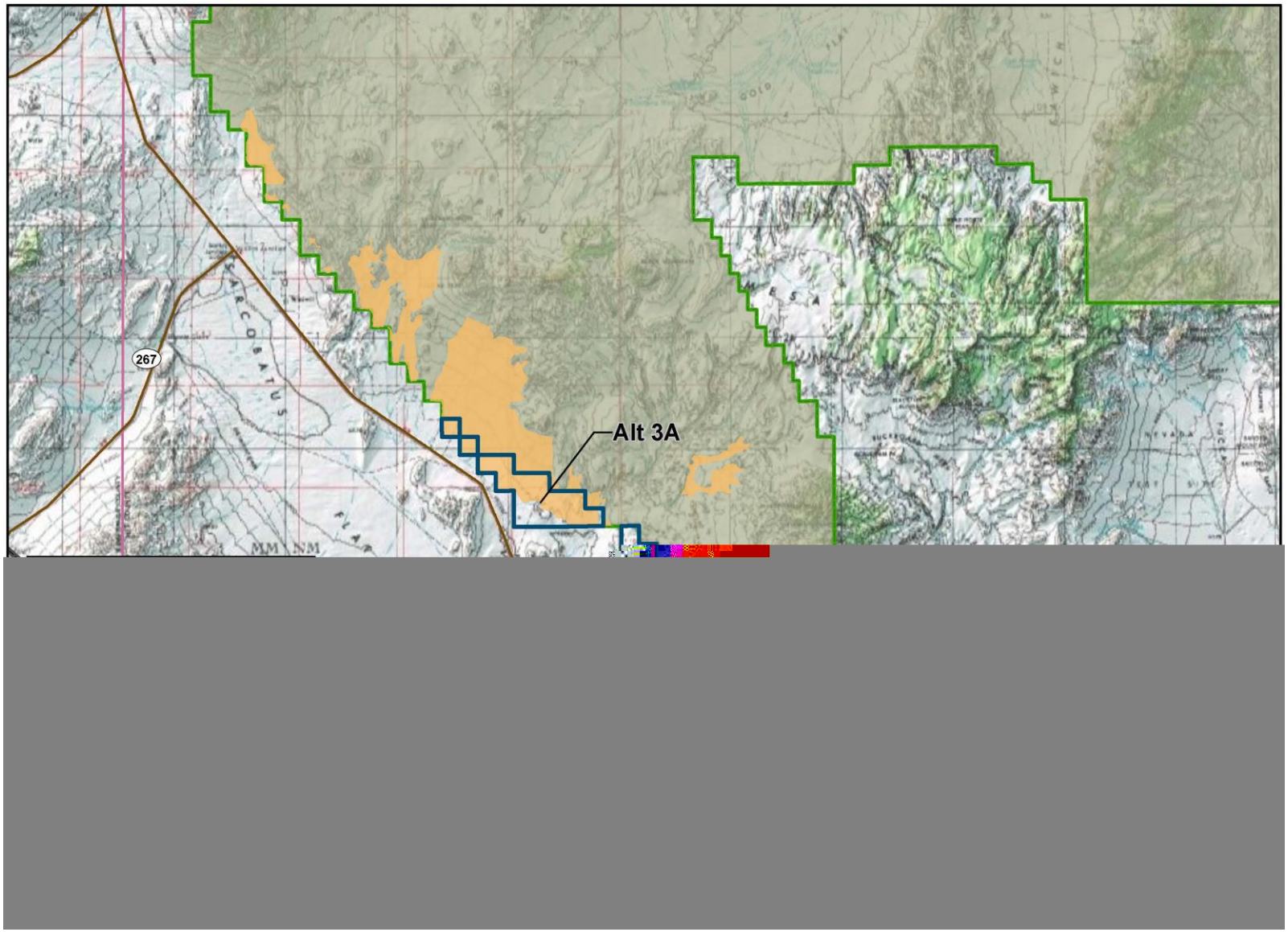

Figure H-1. Suitable Habitat for Desert Tortoise in Vicinity of Alternative 3A Proposed Expansion Areas

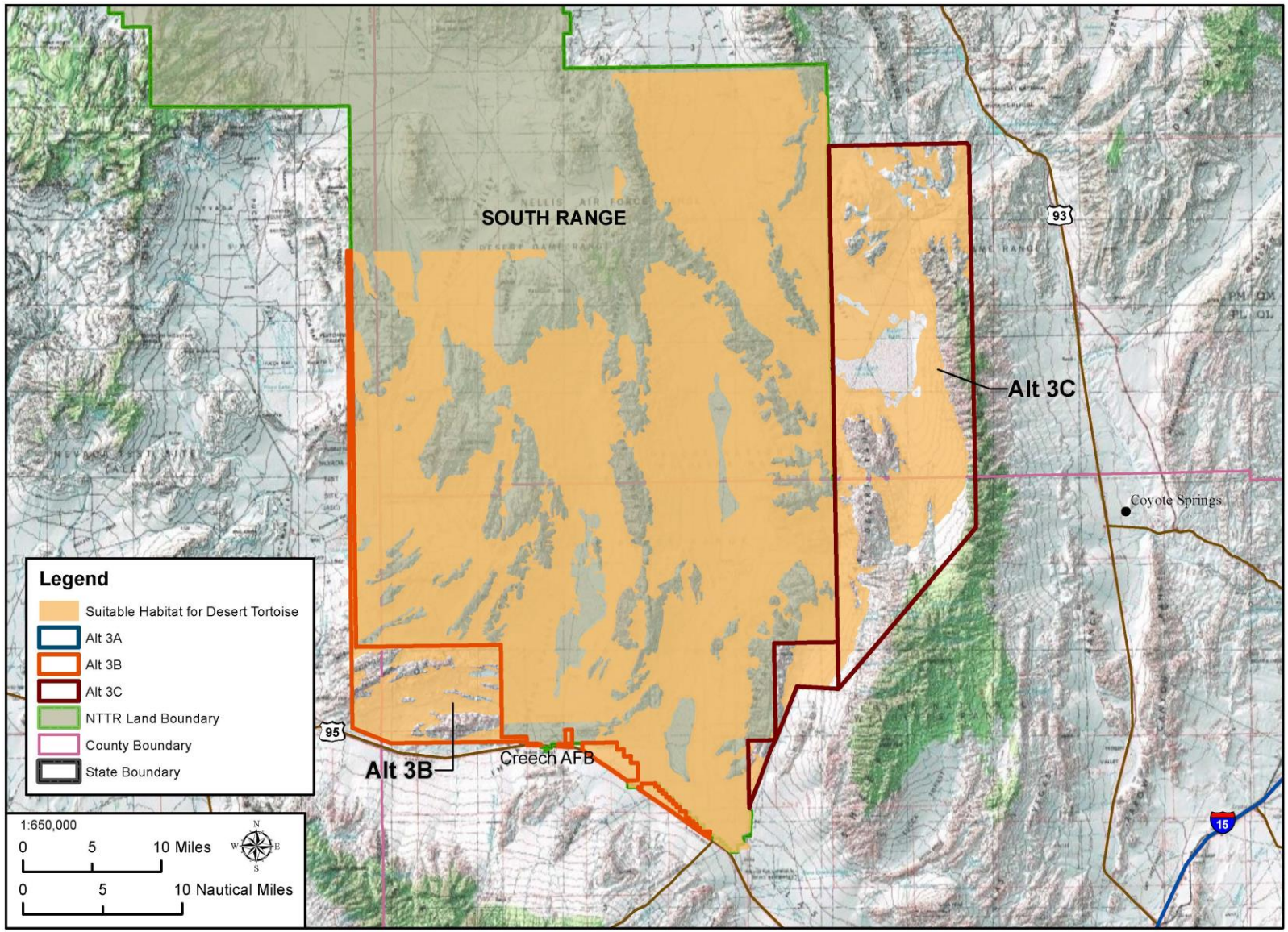

Figure H-2. Suitable Habitat for Desert Tortoise in Vicinity of Alternatives 3B and 3C Proposed Expansion Areas

H.4 SUPPORTING INFORMATION

H.4.1 Gila Monster

The Nevada Department of Wildlife (NDOW) protocol for protection of the banded Gila monster is derived from the Gila Monster Status, Identification and Reporting Protocol for Observations, dated September 7, 2012:

Gila Monster Status

- Per Nevada Administrative Code 503.080, the Gila monster (*Heloderma suspectum*) is classified as a Protected reptile.
- Per Nevada Administrative Codes 503.090, and 503.093, no person shall capture, kill, or possess any part thereof of Protected wildlife without the prior written permission by the NDOW.
- Per Nevada Revised Statute (NRS) 503.597, written consent and approval by NDOW is needed to handle protected wildlife.

This species is rarely observed relative to other species which is the primary reason for its Protected classification by the State of Nevada. The U.S. Department of the Interior's Bureau of Land Management has recognized this lizard as a sensitive species since 1978. Most recently, the Gila monster was designated as an *Evaluation* species under Clark County's Multiple Species Habitat Conservation Plan (MSHCP). The evaluation designation was warranted because inadequate information exists to determine if mitigation facilitated by the MSHCP would demonstrably cover conservation actions necessary to insure the species' persistence without protective intervention as provided under the federal Endangered Species Act.

The banded Gila monster (*H.s. cinctum*) is the subspecies that occurs in Clark, Lincoln, and Nye Counties of Nevada. Found mainly below 5,000 feet elevation, its geographic range approximates that of the desert tortoise (*Gopherus agasizii*) and is coincident to the Colorado River drainage. Gila monster habitat requirements center on desert wash, spring and riparian habitats that inter-digitate primarily with complex rocky landscapes of upland desert scrub.

They will use and are occasionally encountered out in gentler terrain of alluvial fans (bajadas). Hence, Gila monster habitat bridges and overlaps that of both the desert tortoise and chuckwalla (*Sauromalus ater*). Gila monsters are secretive and difficult to locate, spending more than 95 percent of their lives underground.

The Gila monster is the only venomous lizard endemic to the United States. Its behavioral disposition is somewhat docile and avoids

confrontation. But it will readily defend itself if threatened. Most bites are considered consequential to harassment or careless handling. These lizards are not dangerous unless molested or handled and should not be killed.

Scant information exists on detailed distribution and relative abundance in Nevada. The NDOW has ongoing management investigations addressing the Gila monster's status and distribution, hence additional distribution, habitat, and biological information is of utmost interest. In assistance to gathering additional information about Gila monsters in Nevada, NDOW will be notified whenever a Gila monster is encountered or observed, and under what circumstances (see Reporting Protocol below).

Identification

The Gila monster is recognizable by its striking black and orange-pink coloration and bumpy, or beaded, skin. In keeping with its namesake, the banded Gila monster retains a black chain-link, banded appearance into adulthood. Other lizard species are often mistaken for the Gila monster. Of these, the non-venomous western banded gecko (*Coleonyx variegatus*) and non-venomous chuckwalla are most frequently confused with the Gila monster. All three species share the same habitats.

The western banded gecko is often mistakenly identified as a baby or juvenile Gila monster. Western banded geckos do have a finely granular skin and pattern that can be suggestive of the Gila monster to the untrained eye. However, western banded gecko heads are somewhat pointed at the snout and the relatively large eyes have vertical pupils. Snouts of Gila monsters are bluntly rounded and the smallish eyes have round pupils.

Newly hatched Gila monsters are about 5 to 6 inches long with a vivid orange and black, banded pattern. Adult western banded geckos are cream to yellow and brown in pattern and do not exceed 5 inches.

Both juvenile and adult chuckwallas are commonly confused with the Gila monster. Juvenile chuckwallas have an orange and black, banded tail. Although banding of the tail fades as chuckwallas mature, their large adult size (up to 17 inches) rivals that of the Gila monster. Adult chuckwallas have a body shape somewhat suggestive of the Gila monster, but they lack the coarsely beaded skin and black and orange body pattern of the Gila monster.

Reporting Protocol for Gila Monster Observations

Field workers and personnel in southern Nevada should at least know how to: (1) identify Gila monsters and be able to distinguish it from other lizards such as chuckwallas and western banded geckos (see Identification section above); (2) report any observations of Gila monsters to the NDOW; (3) be alerted to the consequences of a Gila monster bite resulting from carelessness or unnecessary harassment; and (4) be aware of protective measures provided under state law.

1) Live Gila monsters found in harm's way on the construction site will be captured and then detained in a cool, shaded environment (85°F or below) by the project biologist or equivalent personnel until a NDOW biologist can arrive for documentation, marking and obtaining biological measurements and samples prior to releasing. Despite that a Gila monster is venomous and can deliver a serious bite, its relatively slow gate allows for it to be easily coaxed or lifted into an open bucket or box carefully using a long handled instrument such as a shovel or snake hook (*Note: it is not the intent of NDOW to request unreasonable action to facilitate captures; additional coordination with NDOW will clarify logistical points*). A clean 5-gallon plastic bucket with a secure, vented lid; an 18-by-18-by-4-inch plastic sweater box with a secure, vented lid; or, a tape-sealed cardboard box of similar dimension may be used for safe containment. Additionally, written information identifying the mapped capture location, Global Positioning System (GPS) coordinates in Universal Transverse Mercator (UTM) using the North American Datum (NAD) 83 zone 11. Date, time, and circumstances (e.g., biological survey or construction) and habitat description (vegetation, slope, aspect, substrate) will also be provided to NDOW.

2) Injuries to Gila monsters may occur during excavation, blasting, road grading, or other construction activities. In the event a Gila monster is injured, it should be transferred to a veterinarian proficient in reptile medicine for evaluation of appropriate treatment. Rehabilitation or euthanasia expenses will not be covered by NDOW. However, NDOW will be immediately notified of any injury to a Gila monster and which veterinarian is providing care for the animal. If an animal is killed or found dead, the carcass will be immediately frozen and transferred to NDOW with a complete written description of the discovery and circumstances, date, time, habitat, and mapped location (GPS coordinates in UTM using NAD 83 Z 11).

3) Should NDOW's assistance be delayed, biological or equivalent acting personnel on site should detain the Gila monster out of harm's way until NDOW personnel can respond. The Gila monster should be detained until NDOW biologists have responded. Should NDOW not be immediately available to respond for photo-documentation, a digital (5 mega-pixel or

higher) or 35-millimeter camera will be used to take good quality images of the Gila monster *in situ* at the location of live encounter or dead salvage. The pictures will be provided to NDOW at the address above or the email address below along with specific location information including GPS coordinates in UTM using NAD 83 Z 11, date, time and habitat description. Pictures will show the following information: (1) Encounter location (landscape with Gila monster in clear view); (2) a clear overhead shot of the entire body with a ruler next to it for scale (Gila monster should fill camera's field of view and be in sharp focus); (3) a clear, overhead close-up of the head (head should fill camera's field of view and be in sharp focus).

H.5 REFERENCES

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APPENDIX I

CULTURAL RESOURCES

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I.1 CULTURAL RESOURCES

I.1.1 Cultural Resource Surveys

In addition to previously identified resources, an archeological survey and ethnographic field study for the Alternative 3A/3A-1 and 3B areas was conducted in the summer of 2017 to further characterize the archeological and ethnographic record and identify resources (Roberson, Duke, & Rice, 2018; Stoffle, et al., 2018). The ethnographic study included areas associated with Alternative 3C as well. The purpose and the results of the studies are discussed in the main body of the LEIS.

As a cooperating agency, for the purposes of complying with NHPA Section 106, 36 CFR 800.4, the USFWS did not issue an ARPA permit and expressed that the existing archaeological record was sufficient to characterize the potential archaeological historic properties within the APE for Alternative 3C and, therefore, no archaeological surveys were conducted for the Alternative 3C area. However, the USFWS and tribes recommended the Air Force pursue ethnographic studies to obtain additional information to characterize the area. The Nevada SHPO was consulted and agreed with the approach. Ethnographic studies were conducted within the Alternative 3C area and, should the Alternative 3C be implemented, future archaeological studies may be required.

I.1.2 Cultural Resources Regulations

Attention to cultural resources is necessary for the Air Force to comply with a host of federal laws and regulations, and Executive Orders (EOs), including:

- The NHPA of 1966, as amended. Under NHPA (Public Law 89-665; 54 United States Code [USC] 300101 et seq.), the Air Force is required to consider the effects of its undertakings on historic properties listed or eligible for listing on the NRHP and to consult with interested parties regarding potential impacts. The regulatory NHPA Section 106 compliance process consists of four primary stages. These include initiation of the Section 106 process (36 CFR 800.3); identification of historic properties (36 CFR 800.4), which includes a reasonable and good faith effort to identify historic properties potentially affected by a proposed action; assessment of adverse effects (36 CFR 800.5), which determines whether the action would affect historic properties and if effects to those properties might be adverse; and resolution of adverse effects (36 CFR 800.6) between affected and consulting parties such as the State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation, Indian tribes, and interested individuals. Additional stipulations are provided for in the NHPA should efforts fail to resolve adverse effects during this process (36 CFR 800.7).
- The Department of Defense's (DoD's) Native American and Alaska Native Policy, 20 October 1998. DoD frames this policy in terms that emphasize the

responsibility of DoD personnel to consult with tribal governments on a government to government basis very early in the decision-making process. This policy memorandum requires an effort to increase understanding between tribes and DoD personnel and to assess tribal positions on issues with the potential to significantly affect protected tribal resources, tribal rights, and Native American lands (1998). Also applicable is DoD Instruction (DODI) 4710.02, DoD Interactions with Federally Recognized Tribes, September 14, 2006. This DODI strengthens and elaborates on the 1998 policy. Air Force Instruction (AFI) 90-2002, Air Force Interactions with Federally Recognized Tribes, implements DODI 4710.02. It directs Air Force installations to build relationships and conduct consultation with federally recognized Native American/Alaska Native tribes, bands, nations, pueblos, or communities as required by federal laws and regulations,

- The Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001 et seq., as amended). This law addresses the protection of Native American burial sites and regulates the removal and study of human remains, funerary objects, sacred objects, and items of cultural patrimony on federal and tribal lands or by institutions receiving federal funding.
- DODI 4715.03, Environmental Conservation Program, DoD Instruction 4715.16, Cultural Resources Management, and AFI 32-7065, Cultural Resources Management, outline and specify procedures for Air Force cultural resource management programs.

Other federal laws and regulations governing cultural resources include:

- Antiquities Act of 1906
- Historic Sites Act of 1935
- Archaeological and Historic Preservation Act of 1974
- Archaeological Resources Protection Act of 1979
- American Indian Religious Freedom Act of 1978
- 36 CFR 79, Curation of Federally Owned and Administered Archaeological Collections
- 43 CFR 7, Protection of Archaeological Resources
- 36 CFR 60, National Register of Historic Places
- 36 CFR 63, Determinations of Eligibility for Inclusion in the National Register

Cultural resource-related EOs that may govern the Proposed Actions include:

- EO 11593, Protection and Enhancement of the Cultural Environment
- EO 13007, Indian Sacred Sites
- EO 13175, Consultation and Coordination with Indian Tribal Governments
- EO 13287, Preserve America

I.1.3 Cultural Resource Studies and Sites

The following tables show cultural resource studies and sites identified within the NTTR Land Withdrawal expansion areas.

Table I-1. Previous Studies Conducted Within the Alternative 3A and 3A-1 – Range 77 – EC South Withdrawal Area

Year	Author	Document Title
2016	Edwards, Susan R., and Jeffrey R. Wedding	A Class III Cultural Resource Inventory of Temporary Work Space and a New Communications Shelter at the Tolicha Peak Access Gate on the Nevada Test and Training Range (NTTR) in Nye County, Nevada
2011	Baker, Jeffrey l., and Annette J. Thompson	A Class III Cultural Resources Survey of Valley Electric Distribution Lines from Beatty to Tolicha Peak, Nye County, Nevada
2009	Stadler, Scott	Weather Station Near Beatty, Nye County, Nevada
1998	Blair, Linda M.	A Cultural Resource Investigation for Great Basin Water Company, Clark County, Nevada
1997	Holz, Barbara	A Class III Cultural Resources Reconnaissance of the Proposed Underground Test Area ER-EC-5 Pad, Borrow Pit and Access Road on the Nellis Air Force Range EC South and Lands Administered by the Bureau of Land Management, Nye County, Nevada
1992	Buck, Paul E.	A Class III Cultural Resources Reconnaissance of Four Proposed USGS Seismic Stations on BLM Tonopah Resource Area Lands, Nye County, Nevada
1991	Buck, Paul E., Hal Rager, Diane Winslow, and Scott Ferguson	A Class III Cultural Resources Reconnaissance of 11 Proposed USGS Seismic Stations in Southern Nevada, in Support of the Yucca Mountain Site Characterization Activities
1990	Blair, Linda M.	A Cultural Resource Investigation of a Proposed Oil Well Location for Myjo Oil Corporation in Nye County, Nevada
1987	Waski, Margaret, and Diane Ross	USAF Road Right-of-Way to Tolicha Peak
1984	Burke, Tom	West Transvaal Well (N6-4-4796)
-	-	Unknown; per BLM, USFWS, and Nellis AFB

Table I-2. Identified Archeological Sites Within the Alternative 3A and 3A-1 Range 77 – EC South Withdrawal Area

State No.	Age	Site Description	NRHP Eligibility
26NY10971	Historic	Historic mine shaft, prospect pits, and associated ca. 1900-1945 debris	Not eligible

Table I-3. Previous Studies Conducted Within the Alternative 3B Range 64C/D and 65D and Administrative Incorporation Withdrawal Area

Year	Author	Document Title	Associated Expansion Lands
2013	Riddle, Jennifer E.	A Class III Cultural Resource Investigation of Material Pit NY 07-04 and the NDOT Right-of-Way on US-95 from Milepost NY 8.14 to Milepost CL 120.44 in Nye and Clark Counties, Nevada	Alt 3B
2010	Eskenazi, Suzanne, and Christopher Harper	Archaeological Survey for the Proposed Mercury to Indian Springs Fiber Optic Line, Clark and Nye Counties, Nevada	Alt 3B
2010	Myhrer, Keith	Silver Flag Alpha Training Range Survey Nellis Air Force Base, Nevada: Including Research for the Las Vegas and Tonopah Railroad	Alt 3B
2009	Leavitt, Robert M., and Jeffrey L. Baker	A Class III Cultural Resource Inventory of Proposed Sewage Disposal Pond and Associated Facilities on Clark County Water Reclamation District Property and Public Rights of Way Indian Springs	Alt 3B
2007	Myhrer, Keith	An Inventory of 111 Acres for a Bypass Road and Staging Area at Creech Air Force Base, Clark County, Nevada	Alt 3B
2007	Lennon, Thomas J.	A Class III Cultural Resource Inventory of Approximately 40.3 Miles for the Stirling Mountain Substation to Northwest Substation 230kV Transmission Line Project in Nye and Clark Counties, Nevada	Alt 3B
2007	Leavitt, Robert M.	A Cultural Resources Survey of A 240 Acre Parcel in Las Vegas Valley	Alt 3B
2001	Duke, Curt	(Unknown)	Alt 3B
1996	Spaulding, W. G.	Indian Springs Air Force Auxiliary Field Survey	Alt 3B
1996	Desert Research Institute	Indian Springs to Cedar Pass Fiber Optic Line	Alt 3B
1991	Bergin, Kathleen Ann	A Cultural Resource Inventory of the Indian Springs Landfill Expansion Project Area, Indian Springs Air Force Auxiliary Field, Clark County, Nevada	Alt 3B
1991	Sheets, Robert S.	Indian Springs Fiber Optic Project	Alt 3B
1989	Stornetta, Susan	Nevada Bell Fiber Optic Cable Burial Route	Alt 3B
1988	Leavitt, R., K. Knight, and T. H. Turner	Cultural Resource Report NDOT-CL030-87R	Alt 3B
1988	Dojaquez, Katherine Cheryl, and Ronald L. Reno	A Class III Cultural Resources Reconnaissance of Radiological Monitoring Stations For the Yucca Mountain Project, Clark and Nye Counties, Nevada	Alt 3B
1987	Leavitt, Robert M.	NDOT Reconnaissance Inventory of US 95 Right-of-Way	Alt 3B

Table I-3. Previous Studies Conducted Within the Alternative 3B Range 64C/D and 65D and Administrative Incorporation Withdrawal Area

Year	Author	Document Title	Associated Expansion Lands
1987	Myhrer, Keith, Tom Cook, and Dennis Samuelson	Material Pits Near Indian Springs	Alt 3B
1984	Knight, Kenneth C.	Improvement and Maintenance on US 95, W.O. 20726	Alt 3B
1984	Knight, Kenneth C., and Robert M. Leavitt	Improvements on US 95, W.O. 20726	Alt 3B
1981	Crownover, Christopher Scott	An Archaeological Survey of Targets and Support Facilities of the Nellis Air Force Bombing and Gunnery Ranges in Nye, Lincoln, and Clark Counties, Nevada	Alt 3B
1979	Myhrer, Keith	Final Report on the 1978 Archaeological Investigations of the Nellis AFB Bombing and Gunnery Ranges	Alt 3B
1978	Rolf, Stanton	Proposed Indian Springs Prison Facility	Alt 3B
1988	Rolf, Stanton	Construction of Proposed Metal Stake and Barbed Wire Western Boundary Fence for USFWS	Alt 3B & Alt 3C

Table I-4. Identified NRHP Eligible Archeological Sites Within the Alternative 3B Range 64C/D and 65D and Administrative Incorporation Withdrawal Area

State No.	Age	Site Description	NRHP Eligibility
26CK1649	Historic	Las Vegas and Tonopah Railroad grade ca. 1906-1919	Eligible
26CK3906	Prehistoric and Historic	Flaked and ground stone scatter and small scatter of historic domestic debris	Eligible
26CK4700	Prehistoric	Hearth feature and associated flaked stone	Unevaluated
26CK5267	Prehistoric	Lithic scatter	Undetermined
26CK5268	Prehistoric	Flaked and ground stone scatter	Undetermined

Table I-5. Previous Studies Conducted Within the Alternative 3C – Alamo Withdrawal Area

Year	Author	Document Title
2016	Lodge, Spencer	Fire on the Mountain: Roasting Pits in the Sheep Range on Desert National Wildlife Refuge
2015	Hall, Jeremy, Spencer Lodge, April VanWyke, Mary Parrish, Heidi Roberts	Remote Sensing and Evaluation of Agave Roasting Pits in the Northern Portion of the Sheep Mountain Range National Register Archaeological District, Lincoln County, Nevada

Table I-5. Previous Studies Conducted Within the Alternative 3C – Alamo Withdrawal Area

Year	Author	Document Title
2012	Harper, Christopher	Recordation and Evaluation of 20 Archaeological Sites Within the Desert National Wildlife Refuge Complex, Clark County, Nevada
2008	Sprowl, Kathleen	National Cooperative Soil Survey Southern Nevada Desert NWR
2007	Wriston, Teresa	Desert Dry Lake Archaeological and Geomorphological Survey, North of Las Vegas, Nevada
1995	Martin, William W., and Craig S. Smith	A Class III Cultural Inventory of Five Proposed Sites Associated with Nellis Air Combat Training System, Nellis Air Force Base, Nye, and Clark Counties, Nevada
1991	Botkin, Steve	A Cultural Resources Inventory of Thirteen Proposed Water Monitoring Wells on the Desert National Wildlife Refuge, Lincoln County and Clark County, Nevada
1989	Hindrickx, Louis, and Kevin Rafferty	A Cultural Resource Investigation of a Fence Line and Water Containment Facility in the Pahranagat National Wildlife Refuge, Pahranagat Valley, Lincoln County, Nevada
1988	Rafferty, Kevin	A Cultural Resources Inventory of Three Drill Well Areas in the Desert Lake Playa Area, Lincoln County, Nevada
1988	Rolf, Stanton	USFWS Refuge Boundary Fence 3.9 Miles Western Boundary Extension
1987	Rafferty, Kevin	A Cultural Resource Inventory of Two Well Drill Areas on the Desert National Wildlife Range, Clark County, Nevada
1986	Rolf, Stanton	USFWS Refuge Boundary Fence
1983	Holmer, Richard N.	Prehistoric and Historic Settlement in the Southeastern Great Basin: the MX Secondary Impact Survey
1988	Rolf, Stanton	Construction of Proposed Metal Stake and Barbed Wire Western Boundary Fence for USFWS

Table I-6. Identified Eligible Archeological Sites within the Alternative 3C – Alamo Withdrawal Area

State No.	Age	Site Description	NRHP Eligibility
26CK4411	Prehistoric	White Rock Canyon Petroglyphs: three petroglyph panels on three boulders, two of which exhibit grinding surfaces and one CCS flake.	Eligible
26CK7159	Prehistoric	White Rock Canyon Agave Roasting Pits Site: three agave roasting pits and two flakes.	Eligible
26CK7160	Prehistoric and historic	White Rock Canyon Cabin and Roasting Pits: Prehistoric component of the site consists of roasting pit features and	Eligible

Table I-6. Identified Eligible Archeological Sites within the Alternative 3C – Alamo Withdrawal Area

State No.	Age	Site Description	NRHP Eligibility
		associated lithic scatter; The historic component consists of a cabin, associated debris, and mining features.	
26LN2224	Prehistoric	Lithic scatter.	Eligible
26LN2225	Prehistoric	Flaked and ground stone scatter.	Eligible
26LN2227	Prehistoric	Lithic scatter.	Eligible
26LN2228	Prehistoric	Flaked and ground stone scatter.	Eligible
26LN2230	Prehistoric	Three hearth features and associated flaked stone scatter.	Eligible
26LN2231	Prehistoric	Four hearth features and associated ground and flaked stone.	Eligible
26LN2232	Prehistoric	Hearth feature and associated ground and flaked stone.	Eligible
26LN2234	Prehistoric	Lithic scatter.	Eligible
26LN2235	Prehistoric	Lithic scatter.	Eligible
26LN2254	Prehistoric and historic	Prehistoric component includes ground and flaked stone artifacts and hearth features; historic component includes ranching-related and well maintenance debris dating ca. 1880-1950.	Eligible
26LN2257	Prehistoric	Lithic scatter.	Eligible
26LN2258	Prehistoric	Flaked stone, possible incised stone, ground stone, and fire-affected rock scatter.	Eligible
26LN2263	Prehistoric	Flaked and ground stone scatter.	Eligible
26LN3484	Prehistoric	Unnamed rockshelter at the base of the East Desert Range with a midden apron and associated flaked and ground stone artifacts.	Eligible
26LN4051	Prehistoric	Quartzite and CCS cobble quarry.	Eligible
26LN4680	Prehistoric	Lithic scatter.	Unevaluated
26LN4681	Prehistoric	Lithic scatter.	Unevaluated
26LN4682	Prehistoric	Lithic scatter.	Unevaluated
26LN4683	Prehistoric	Lithic scatter.	Unevaluated
26LN4684	Prehistoric	Flaked and ground stone scatter.	Unevaluated
26LN4685	Prehistoric	Flaked and ground stone scatter.	Unevaluated
26LN4686	Prehistoric	Flaked and ground stone scatter and two rock cairn features.	Unevaluated
26LN4687	Prehistoric	Lithic scatter.	Unevaluated
26LN4689	Prehistoric	Petroglyphs and associated flaked stone scatter.	Unevaluated
26LN4690	Prehistoric	Three rockshelters and associated lithic scatter.	Unevaluated
26LN4691	Prehistoric	Rockshelter with midden deposits and associated lithic scatter.	Unevaluated
26LN4692	Prehistoric	Lithic scatter.	Unevaluated
26LN4970	Prehistoric	Hearth features (associated radiocarbon dates), flaked stone, ground stone, ceramics (brownware and grayware), and	Eligible

Table I-6. Identified Eligible Archeological Sites within the Alternative 3C – Alamo Withdrawal Area

State No.	Age	Site Description	NRHP Eligibility
		fire-affected rock scatter.	
26LN4975	Historic	Pond, tanks, corrals, and associated ca. 1940s-era debris.	Unevaluated
26LN7085	Prehistoric	Roasting pit.	Unevaluated
26LN7086	Prehistoric	Roasting pit.	Unevaluated
26LN7087	Prehistoric	Roasting pit.	Unevaluated
26LN7088	Prehistoric	Roasting pits (two).	Unevaluated
26LN7089	Prehistoric	Roasting pit and artifacts.	Unevaluated
26LN7090	Prehistoric	Roasting pit.	Eligible
26LN7091	Prehistoric	Roasting pit.	Unevaluated
26LN7092	Prehistoric	Roasting pit.	Unevaluated
26LN7093	Prehistoric	Roasting pit.	Unevaluated
26LN7094	Prehistoric	Roasting pits (two).	Unevaluated
26LN7095	Prehistoric	Roasting pit.	Unevaluated
26LN7096	Prehistoric	Roasting pit, rockshelter, and artifacts.	Eligible
26LN7097	Prehistoric	Roasting pits (four) and artifacts.	Unevaluated
26LN7098	Prehistoric	Roasting pit.	Unevaluated
26LN7099	Prehistoric	Roasting pit and FAR concentration.	Eligible
26LN7100	Prehistoric	Roasting pits (three), rockshelter, and diagnostic artifacts.	Eligible
26LN7101	Prehistoric	Roasting pit.	Unevaluated
26LN7102	Prehistoric	Roasting pits (two).	Unevaluated
26LN7103	Prehistoric	Roasting pit.	Unevaluated
26LN7104	Prehistoric	Roasting pit.	Unevaluated
26LN7105	Prehistoric	Roasting pit and artifacts.	Unevaluated
26LN7106	Prehistoric	Roasting pits (two) and artifacts.	Unevaluated
26LN7107	Prehistoric	Roasting pit.	Unevaluated
26LN7108	Prehistoric	FAR concentration.	Eligible
26LN7109	Prehistoric	FAR concentration.	Eligible
26LN7110	Prehistoric	Roasting pits (three), flaked and ground stone, brownware pottery.	Unevaluated
26LN7111	Prehistoric	Roasting pit, flaked stone, and brownware pottery.	Unevaluated
26LN7112	Prehistoric	Roasting pit.	Unevaluated
26LN7113	Prehistoric	Roasting pit and flaked stone.	Unevaluated
26LN7114	Prehistoric	Roasting pit and flaked stone.	Unevaluated
26LN7115	Prehistoric	Roasting pits (four).	Unevaluated
26LN7116	Prehistoric	Roasting pit.	Unevaluated
26LN7117	Prehistoric	Roasting pit.	Unevaluated
26LN7118	Prehistoric	Roasting pit.	Unevaluated
26LN7119	Prehistoric	Roasting pit.	Unevaluated
26LN7120	Prehistoric	Roasting pit.	Unevaluated
26LN7121	Prehistoric	Roasting pit.	Unevaluated
26LN7122	Prehistoric	Roasting pit.	Unevaluated
26LN7123	Prehistoric	Roasting pit.	Unevaluated
26LN7124	Prehistoric	Roasting pit.	Unevaluated
26LN7125	Prehistoric	FAR concentration, flaked stone, and brownware pottery.	Unevaluated

Table I-6. Identified Eligible Archeological Sites within the Alternative 3C – Alamo Withdrawal Area

State No.	Age	Site Description	NRHP Eligibility
26LN7126	Prehistoric	Roasting pit, flaked stone.	Unevaluated
26LN7127	Prehistoric	Roasting pit, flaked stone w/Elko point, and brownware and grayware pottery.	Unevaluated
26LN7140	Prehistoric	Roasting pits (two), flaked stone.	Unevaluated
26LN7141	Prehistoric	Roasting pit.	Unevaluated
26LN7142	Prehistoric	Roasting pits (two).	Unevaluated
26LN7149	Prehistoric	Roasting pit, brownware pottery.	Unevaluated
26LN7155	Prehistoric	Roasting pit, flaked stone.	Unevaluated
26LN7156	Prehistoric	Roasting pit.	Unevaluated
26CK10385	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10386	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10387	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10388	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10389	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10390	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10391	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10392	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10393	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10394	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10395	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10396	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10398	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10400	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10401	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10402	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10407	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10408	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10415	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10416	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District

Table I-6. Identified Eligible Archeological Sites within the Alternative 3C – Alamo Withdrawal Area

State No.	Age	Site Description	NRHP Eligibility
26CK10434	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26CK10435	Prehistoric	Roasting Pit	Unevaluated, Contr. to National Register District
26LN5969	Prehistoric	Complex multicomponent site with petroglyphs, flaked stone, milling features, stone tools, ceramics, a historic-era corral, fence line, and debris scatter.	Unevaluated

A recent study of roasting pits on the Sheep Range was conducted by Lodge (2016). Google Earth imagery of the Sheep Range was examined for evidence of roasting pit features and subsequently ground truthed. This research effort resulted in the location of 193 roasting pits that were then subsequently field documented. The study noted an additional 39 potential roasting pits during imagery analysis; however, these features were not subject to evaluation due to time constraints. Diagnostic artifacts from these features indicate that roasting pits were used from the Terminal Archaic through the Post-Puebloan periods.

Sites discussed within this study that have been assigned a site number by the Nevada SHPO are presented in Table I-6 above. A full listing of all roasting pits with their field designation can be found in Lodge (2016).

I.1.4 References

Lodge, S. N. (2016). *Fire on the Mountain: Roasting Pits in the Sheep Range on Desert National Wildlife Refuge.* Texas State University Masters of Arts Thesis. May.

Roberson, J., Duke, D., & Rice, S. (2018, January). Cultural Resources Inventory of 1,730 Acres in the Proposed Alt 3A and Alt 3B Expansion Areas, Nevada Test and Training Range Land Withdrawal. Davis, California, United States of America.

Stoffle, R., Arnold, R. A., Churchill, M. D., Escobar, R., Gutierrez, D., Otero, L., et al. (2018, March). Nevada Test and Training Range, Nellis Air Force Base Legislative Environmental Impact Statement Native American Ethnographic Studies Study Area for Alternative 3C. Tucson, Arizona, United States of America.

APPENDIX J

WATER RESOURCES

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J.1 NEVADA ADMINISTRATIVE CODE 445A

Water Resources

Appendix #

Nevada Administrative Code, Chapter 445A

Water Controls

[NAC-445A Revised Date: 6-16]

CHAPTER 445A - WATER CONTROLS

PERMITS TO CONSTRUCT PIERS, BREAKWATERS OR MOORING BUOYS

445A.044 State Land Registrar to issue permits and take certain actions.

CERTIFICATION OF LABORATORIES TO ANALYZE SUBSTANCES IN WATER

General Provisions

445A.0552 Definitions.
445A.0554 "Accuracy" defined.
445A.0556 "Analyst" defined.
445A.0558 "Analyte" defined.
445A.0562 "Approved method of testing" defined.
445A.0564 "Certified laboratory" defined.
445A.0566 "Commission" defined.
445A.0568 "Director" defined.
445A.0572 "Division" defined.
445A.0574 "Environmental sample" defined.
445A.0576 "Federal Act" defined.
445A.0578 "National Environmental Laboratory Accreditation Conference" defined.
445A.0582 "National Environmental Laboratory Accreditation Program" defined.
445A.0584 "Performance-based measurement system" defined.
445A.0588 "Precision" defined.
445A.0592 "Proficiency test sample" defined.
445A.0594 "Proficiency testing program" defined.
445A.0596 "Quality control sample" defined.
445A.0598 "Quality manual" defined.
445A.0602 "Sensitivity" defined.
445A.0604 "Spike" defined.
445A.0606 "Standards" defined.

Guidelines and Procedures

445A.0608 Adoption by reference of *National Environmental Laboratory Accreditation Conference-Constitution, Bylaws and Standards*.

445A.0612	Adoption by reference of certain publications related to sample collection procedures, analytical methodologies and requirements for certification.
445A.0614	Adoption by reference of *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846.*
445A.0615	Adoption by reference of *Method 1600: Membrane Filter Test Method for Enterococci in Water.*
445A.0616	Adoption of certain ASTM standards and other publications related to calibration and testing laboratories, and examination of water and wastewater.
445A.0618	Interpretation of provisions; resolution of conflicting requirements.
445A.0622	Scope of certification.
445A.0624	Categories of analytes for which laboratory may be certified.
445A.0626	Requirements for certification.
445A.0628	Certification by Division or pursuant to National Environmental Laboratory Accreditation Program.
445A.0632	Application for certification.
445A.0634	Participation in proficiency testing program.
445A.0636	Adoption of quality manual by laboratory; contents.
445A.0638	Inspection of laboratory by Division.
445A.0642	Grounds for denial of application for certification, or revocation, suspension or limitation of certification.
445A.0644	Reapplication after denial of application or revocation of certification.
445A.0646	Renewal of certification.
445A.0648	Display of certificate; conditions for surrender of certificate; issuance of document.
445A.0652	Notification of Division of certain changes concerning certified laboratory.
445A.0654	Contractual agreements, records and reports.

Miscellaneous Provisions

445A.066	Fees for certification.
445A.0665	Acceptance of analyses conducted by laboratory located outside State.
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WATER POLLUTION CONTROL

General Provisions

445A.070	Definitions.
445A.071	"A.G.M." defined.
445A.072	"Act" defined.

445A.073	“Acute toxicity value” defined.
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445A.078	“Complete treatment” defined.
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445A.080	“Department” defined.
445A.081	“Director” defined.
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445A.083	“Disinfection” defined.
445A.084	“Division” defined.
445A.0845	“E. coli” defined.
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445A.086	“Filtration” defined.
445A.0865	“Flow weighted annual average concentration” defined.
445A.087	“Individual sewage disposal system” defined.
445A.088	“Industrial user” defined.
445A.089	“Industrial wastes” defined.
445A.090	“Interstate agency” defined.
445A.091	“Law” defined.
445A.092	“Minor discharge” defined.
445A.093	“Municipality” defined.
445A.094	“NPDES” defined.
445A.095	“Natural waters” defined.
445A.096	“New source” defined.
445A.097	“Origin” defined.
445A.098	“Permit” defined.
445A.099	“Person” defined.
445A.100	“Point source” defined.
445A.101	“Pollutant” defined.
445A.102	“Pollution” defined.
445A.103	“Pretreatment program” defined.
445A.104	“Pretreatment standards” defined.
445A.106	“Regional Administrator” defined.
445A.107	“Sewage” defined.
445A.108	“Source” defined.
445A.109	“Standard of performance” defined.
445A.110	“Toxic material” defined.
445A.111	“Treatment or waste treatment” defined.
445A.112	“Treatment works” defined.
445A.113	“Water quality standards or limitations” defined.
445A.114	“Waters of the State” defined.
445A.115	“Zone of mixing” defined.
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Standards for Water Quality

445A.11704	Definitions.
445A.11708	"A-Avg." or "A.A." defined.
445A.11712	"Δ" defined.
445A.11716	"Δ pH" defined.
445A.1172	"Δ T" defined.
445A.11724	"Geometric mean" defined.
445A.11736	"M.D.B. & M." defined.
445A.1174	"mg/l" defined.
445A.11744	"No./100ml" defined.
445A.11748	"NTU" defined.
445A.11752	"PCU" defined.
445A.1176	"SAR" defined.
445A.11764	"SU" defined.
445A.11768	"S.V." defined.
445A.11772	"Trout water" defined.
445A.11776	"≥" defined.
445A.1178	"≤" defined.
445A.118	Water quality criteria for total ammonia.
445A.120	Applicability.
445A.121	Standards applicable to all surface waters.
445A.122	Standards applicable to beneficial uses.
445A.123	Classification and reclassification of waters.
445A.1233	Cooperation regarding Colorado River; salinity standards.
445A.1236	Standards for toxic materials applicable to designated waters.
445A.1239	Control points: Prescription and applicability of numerical standards for water quality; designation of beneficial uses.
445A.1242	Hydrographic regions.

Standards for Water Quality

NAC 445A.11704 Definitions. (NRS 445A.425, 445A.520) As used in NAC 445A.11704 to 445A.2234, inclusive, unless the context otherwise requires, the terms and symbols defined in NAC 445A.11708 to 445A.1178, inclusive, have the meanings ascribed to them in those sections.

(Added to NAC by Environmental Comm'n, eff. 6-29-84; A 11-9-95; R226-03, 4-23-2004; R160-06 & R083-08, 8-26-2008) — (Substituted in revision for NAC 445A.128)

NAC 445A.11708 "A-Avg." or "A.A." defined. (NRS 445A.425, 445A.520) "A-Avg." or "A.A." means annual average.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.129)

NAC 445A.11712 "Δ" defined. (NRS 445A.425, 445A.520) "Δ" means the difference between two points.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.130)

NAC 445A.11716 "Δ pH" defined. (NRS 445A.425, 445A.520) "Δ pH" means the change in pH.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.131)

NAC 445A.1172 "Δ T" defined. (NRS 445A.425, 445A.520) "Δ T" means the change in temperature.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.132)

NAC 445A.11724 "Geometric mean" defined. (NRS 445A.425, 445A.520) "Geometric mean" means the mean of n positive numbers obtained by taking the nth root of the product of the numbers.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.133)

NAC 445A.11736 "M.D.B. & M." defined. (NRS 445A.425, 445A.520) "M.D.B. & M." means Mount Diablo Base and Meridian.

(Added to NAC by Environmental Comm'n by R226-03, eff. 4-23-2004)

NAC 445A.1174 "mg/l" defined. (NRS 445A.425, 445A.520) "mg/l" means the concentration of a substance, in milligrams, present in one liter of the water.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.134)

NAC 445A.11744 "No./100ml" defined. (NRS 445A.425, 445A.520) "No./100ml" means the number of organisms present in 100 milliliters of the water.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.135)

NAC 445A.11748 "NTU" defined. (NRS 445A.425, 445A.520) "NTU" means nephelometric turbidity units, a measure of turbidity.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.136)

NAC 445A.11752 "PCU" defined. (NRS 445A.425, 445A.520) "PCU" means platinum cobalt unit, a measure of color.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.137)

NAC 445A.1176 "SAR" defined. (NRS 445A.425, 445A.520) "SAR" means sodium adsorption ratio.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.139)

NAC 445A.11764 "SU" defined. (NRS 445A.425, 445A.520) "SU" means standard pH units.

(Added to NAC by Environmental Comm'n by R226-03, eff. 4-23-2004)

NAC 445A.11768 "S.V." defined. (NRS 445A.425, 445A.520) "S.V." means single value.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.140)

NAC 445A.11772 "Trout water" defined. (NRS 445A.425, 445A.520) "Trout water" means a reach of water that the Commission determines is suitable as a habitat for trout.

(Added to NAC by Environmental Comm'n by R226-03, eff. 4-23-2004)

NAC 445A.11776 "≥" defined. (NRS 445A.425, 445A.520) "≥" means greater than or equal to.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.141)

NAC 445A.1178 "≤" defined. (NRS 445A.425, 445A.520) "≤" means less than or equal to.

(Added to NAC by Environmental Comm'n, eff. 6-29-84) — (Substituted in revision for NAC 445A.142)

NAC 445A.118 Water quality criteria for total ammonia. (NRS 445A.425, 445A.520)

1. The acute criteria of water quality with regard to the concentration of total ammonia are subject to the following:

(a) The 1-hour average concentration of total ammonia, in milligrams of nitrogen per liter, for the protection of freshwater aquatic life is shown in Table 1.

(b) For cold-water fisheries, the concentration of total ammonia, in milligrams of nitrogen per liter, must not exceed the applicable acute criterion listed under "Cold-Water Fisheries" set forth in Table 1, more than once every 3 years on average.

(c) For warm-water fisheries, the concentration of total ammonia, in milligrams of nitrogen per liter, must not exceed the applicable acute criterion listed under "Warm-Water Fisheries" set forth in Table 1, more than once every 3 years on average.

2. The chronic criteria of water quality with regard to the concentration of total ammonia are subject to the following:

(a) The 30-day average concentration of total ammonia, in milligrams of nitrogen per liter, for the protection of freshwater aquatic life is shown in Tables 2 and 3.

(b) The concentration of total ammonia, in milligrams of nitrogen per liter, expressed as a 30-day average must not exceed the applicable chronic criterion listed in Tables 2 and 3 more than once every 3 years on average, and the highest 4-day average within the 30-day period must not exceed 2.5 times the applicable chronic criterion.

(c) Table 3 must not be used unless the Division receives acceptable documentation of the absence of freshwater fish in early life stages.

TABLE 1: ACUTE WATER QUALITY CRITERIA FOR TOTAL AMMONIA FOR FRESHWATER AQUATIC LIFE (mg nitrogen/l)		
pH	Cold-Water Fisheries[1]	Warm-Water Fisheries[2]
6.5	32.6	48.8
6.6	31.3	46.8
6.7	29.8	44.6
6.8	28.1	42.0
6.9	26.2	39.1
7.0	24.1	36.1
7.1	22.0	32.8
7.2	19.7	29.5
7.3	17.5	26.2
7.4	15.4	23.0
7.5	13.3	19.9
7.6	11.4	17.0
7.7	9.65	14.4
7.8	8.11	12.1
7.9	6.77	10.1
8.0	5.62	8.40
8.1	4.64	6.95
8.2	3.83	5.72
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0	0.885	1.32

[1] The acute water quality criteria for total ammonia for cold-water fisheries were calculated using the following equation, which may also be used to calculate unlisted values:

Acute water quality criteria for ammonia (cold-water fisheries) =

$$\left[\frac{0.275}{1+10^{7.204-pH}}\right]+\left[\frac{39.0}{1+10^{pH-7.204}}\right]$$

[2] The acute water quality criteria for total ammonia for warm-water fisheries were calculated using the following equation, which may also be used to calculate unlisted values:

Acute water quality criteria for ammonia (warm-water fisheries) =

$$\left[\frac{0.411}{1+10^{7.204-pH}}\right]+\left[\frac{58.4}{1+10^{pH-7.204}}\right]$$

TABLE 2: CHRONIC WATER QUALITY CRITERIA FOR TOTAL AMMONIA FOR WATERS WHERE FRESHWATER FISH IN EARLY LIFE STAGES MAY BE PRESENT (mg nitrogen/l)[1]

pH	Temperature (°C)									
	0	14	16	18	20	22	24	26	28	30
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

[1] The chronic water quality criteria for total ammonia for waters where freshwater fish in early life stages may be present were calculated using the following equation, which may also be used to calculate unlisted values:

Chronic water quality criteria for ammonia (fish in early life stages present) = where:

$$\left[\frac{0.0577}{1+10^{7.688-pH}}+\frac{2.487}{1+10^{pH-7.688}}\right] \times MIN\left[2.85, 1.45 \times 10^{0.028\times(25-T)}\right]$$

T=°C
x means multiplication
MIN means the lesser of the two values separated by the comma

TABLE 3: CHRONIC WATER QUALITY CRITERIA FOR TOTAL AMMONIA FOR WATERS WHERE FRESHWATER FISH IN EARLY LIFE STAGES ARE ABSENT (mg nitrogen/l)[1]										
pH	Temperature (°C)									
	0-7	8	9	10	11	12	13	14	15[2]	16[2]

TABLE 3: CHRONIC WATER QUALITY CRITERIA FOR TOTAL AMMONIA FOR WATERS WHERE FRESHWATER FISH IN EARLY LIFE STAGES ARE ABSENT (mg nitrogen/l)[1]

pH	Temperature (°C)									
	0-7	8	9	10	11	12	13	14	15[2]	16[2]
6.5	10.8	10.1	9.51	8.92	8.36	7.84	7.35	6.89	6.46	6.06
6.6	10.7	9.99	9.37	8.79	8.24	7.72	7.24	6.79	6.36	5.97
6.7	10.5	9.81	9.20	8.62	8.08	7.58	7.11	6.66	6.25	5.86
6.8	10.2	9.58	8.98	8.42	7.90	7.40	6.94	6.51	6.10	5.72
6.9	9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33	5.93	5.56
7.0	9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11	5.73	5.37
7.1	9.20	8.63	8.09	7.58	7.11	6.67	6.25	5.86	5.49	5.15
7.2	8.75	8.20	7.69	7.21	6.76	6.34	5.94	5.57	5.22	4.90
7.3	8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25	4.92	4.61
7.4	7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89	4.59	4.30
7.5	7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51	4.23	3.97
7.6	6.46	6.05	5.67	5.32	4.99	4.68	4.38	4.11	3.85	3.61
7.7	5.81	5.45	5.11	4.79	4.49	4.21	3.95	3.70	3.47	3.25
7.8	5.17	4.84	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89
7.9	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	2.71	2.54
8.0	3.95	3.70	3.47	3.26	3.05	2.86	2.68	2.52	2.36	2.21
8.1	3.41	3.19	2.99	2.81	2.63	2.47	2.31	2.17	2.03	1.91
8.2	2.91	2.73	2.56	2.40	2.25	2.11	1.98	1.85	1.74	1.63
8.3	2.47	2.32	2.18	2.04	1.91	1.79	1.68	1.58	1.48	1.39
8.4	2.09	1.96	1.84	1.73	1.62	1.52	1.42	1.33	1.25	1.17
8.5	1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13	1.06	0.990
8.6	1.49	1.40	1.31	1.23	1.15	1.08	1.01	0.951	0.892	0.836
8.7	1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.805	0.754	0.707
8.8	1.07	1.01	0.944	0.885	0.829	0.778	0.729	0.684	0.641	0.601
8.9	0.917	0.860	0.806	0.756	0.709	0.664	0.623	0.584	0.548	0.513
9.0	0.790	0.740	0.694	0.651	0.610	0.572	0.536	0.503	0.471	0.442

[1] The chronic water quality criteria for total ammonia for waters where freshwater fish in early life stages are absent were calculated using the following equation, which may also be used to calculate unlisted values:

Chronic water quality criteria for ammonia (fish in early life stages absent) =

$$\left[\frac{0.0577}{1+10^{7.688-pH}}+\frac{2.487}{1+10^{pH-7.688}}\right] x\,1.45\,x\left[10^{0.028(25-MAX(T,7))}\right]$$ where:

T=°C

x means multiplication

MAX means the greater of the two values separated by the comma

[2] At 15°C and above, the criteria for waters where freshwater fish in early life stages are absent is the same as the criteria for waters where freshwater fish in early life stages may be present.

NOTES FOR TABLES 1, 2 AND 3:

- pH and temperature are field measurements that must be taken at the same time and location as the water sample destined for the laboratory analysis of ammonia.
- If the field-measured pH or the temperature values, or both, fall between the tabular values set forth in this section, the field-measured values or temperature values, as appropriate, must be rounded according to standard rounding procedures to the nearest tabular value to determine the applicable ammonia standard, or the equations provided in this section may be used to calculate unlisted values.

(Added to NAC by Environmental Comm'n by R099-02, eff. 12-17-2002)

NAC 445A.120 Applicability. (NRS 445A.425, 445A.520)

1. NAC 445A.070 to 445A.2234, inclusive, apply to all natural streams and lakes, reservoirs or impoundments on natural streams and other specified waterways, unless excepted on the basis of existing irreparable conditions which preclude such use. Man-made waterways, unless otherwise specified, must be protected for public health and the use for which the waterways were developed.
2. The quality of any waters receiving waste discharges must be such that no impairment of the beneficial usage of water occurs as the result of the discharge. Natural water conditions may, on occasion, be outside the limits established by standards. The standards adopted in NAC 445A.070 to 445A.2234, inclusive, relate to the condition of waters as affected by discharges relating to human activities.
3. NAC 445A.11704 to 445A.2234, inclusive, do not apply to waters within the exterior borders of an Indian reservation.

[Environmental Comm'n, Water Pollution Control Reg. § 4.1, eff. 5-2-78] — (NAC A 12-3-84; R017-99, 9-27-99; R160-06 & R083-08, 8-26-2008; R093-13, 12-23-2013)

NAC 445A.121 Standards applicable to all surface waters. (NRS 445A.425, 445A.520) The following standards are applicable to all surface waters of the State:

1. Waters must be free from substances attributable to domestic or industrial waste or other controllable sources that will settle to form sludge or bottom deposits in amounts sufficient to be unsightly, putrescent or odorous or in amounts sufficient to interfere with any beneficial use of the water.
2. Waters must be free from floating debris, oil, grease, scum and other floating materials attributable to domestic or industrial waste or other controllable sources in amounts sufficient to be unsightly or in amounts sufficient to interfere with any beneficial use of the water.
3. Waters must be free from materials attributable to domestic or industrial waste or other controllable sources in amounts sufficient to produce taste or odor in the water or detectable off-flavor in the flesh of fish or in amounts sufficient to change the existing color, turbidity or other conditions in the receiving stream to such a degree as to create a public nuisance or in amounts sufficient to interfere with any beneficial use of the water.
4. Waters must be free from high temperature, biocides, organisms pathogenic to human beings, toxic, corrosive or other deleterious substances attributable to domestic or industrial waste or other controllable sources at levels or combinations sufficient to be toxic to human, animal, plant or aquatic life or in amounts sufficient to interfere with any beneficial use of the water. Compliance with the provisions of this subsection may be determined in accordance with methods of testing prescribed by the Department. If used as an indicator, survival of test organisms must not be significantly less in test water than in control water.

5. If toxic materials are known or suspected by the Department to be present in a water, testing for toxicity may be required to determine compliance with the provisions of this section and effluent limitations. The Department may specify the method of testing to be used. The failure to determine the presence of toxic materials by testing does not preclude a determination by the Department, on the basis of other criteria or methods, that excessive levels of toxic materials are present.

6. Radioactive materials attributable to municipal, industrial or other controllable sources must be the minimum concentrations that are physically and economically feasible to achieve. In no case must materials exceed the limits established in the 1962 Public Health Service Drinking Water Standards (or later amendments) or 1/30th of the MPC values given for continuous occupational exposure in the "National Bureau of Standards Handbook No. 69." The concentrations in water must not result in accumulation of radioactivity in plants or animals that result in a hazard to humans or harm to aquatic life.

7. Wastes from municipal, industrial or other controllable sources containing arsenic, barium, boron, cadmium, chromium, cyanide, fluoride, lead, selenium, silver, copper and zinc that are reasonably amenable to treatment or control must not be discharged untreated or uncontrolled into the waters of Nevada. In addition, the limits for concentrations of the chemical constituents must provide water quality consistent with the mandatory requirements of the 1962 Public Health Service Drinking Water Standards.

8. The specified standards are not considered violated when the natural conditions of the receiving water are outside the established limits, including periods of extreme high or low flow. Where effluents are discharged to such waters, the discharges are not considered a contributor to substandard conditions provided maximum treatment in compliance with permit requirements is maintained.

[Environmental Comm'n, Water Pollution Control Reg. § 4.1.2 subsecs. a-g, eff. 5-2-78] — (NAC A 9-26-90; R017-99, 9-27-99)

NAC 445A.122 Standards applicable to beneficial uses. (NRS 445A.425, 445A.520)

1. The following standards are intended to protect both existing and designated beneficial uses and must not be used to prohibit the use of the water as authorized under title 48 of NRS:

(a) Watering of livestock. The water must be suitable for the watering of livestock without treatment.

(b) Irrigation. The water must be suitable for irrigation without treatment.

(c) Aquatic life. The water must be suitable as a habitat for fish and other aquatic life existing in a body of water. This does not preclude the reestablishment of other fish or aquatic life.

(d) Recreation involving contact with the water. There must be no evidence of man-made pollution, floating debris, sludge accumulation or similar pollutants.

(e) Recreation not involving contact with the water. The water must be free from:

(1) Visible floating, suspended or settled solids arising from human activities;

(2) Sludge banks;

(3) Slime infestation;

(4) Heavy growth of attached plants, blooms or high concentrations of plankton, discoloration or excessive acidity or alkalinity that leads to corrosion of boats and docks;

(5) Surfactants that foam when the water is agitated or aerated; and

(6) Excessive water temperatures.

(f) Municipal or domestic supply. The water must be capable of being treated by conventional methods of water treatment in order to comply with Nevada's drinking water standards.

(g) Industrial supply. The water must be treatable to provide a quality of water which is suitable for the intended use.

(h) Propagation of wildlife. The water must be suitable for the propagation of wildlife and waterfowl without treatment.

(i) Waters of extraordinary ecological or aesthetic value. The unique ecological or aesthetic value of the water must be maintained.

(j) Enhancement of water quality. The water must support natural enhancement or improvement of water quality in any water which is downstream.

2. This section does not entitle an appropriator to require that the source meet his or her particular requirements for water quality.

[Environmental Comm'n, Water Pollution Control Reg. § 4.1.1, eff. 5-2-78] — (NAC A 11-22-82; 12-3-84; 11-9-95)

NAC 445A.123 Classification and reclassification of waters. (NRS 445A.425, 445A.520)

1. Stream standards and classifications in NAC 445A.123 to 445A.2234, inclusive, do not preclude the Commission from establishing standards and classifications for additional public waters nor reclassifying the waters covered by those sections.

2. The Commission will consider classification of a body of public water not contained in NAC 445A.123 to 445A.2234, inclusive, upon a request for a permit to discharge into that body of water.

[Environmental Comm'n, Water Pollution Control Reg. § 4.2, eff. 5-2-78] — (NAC A 12-3-84; R160-06, 8-26-2008) — (Substituted in revision for NAC 445.121)

NAC 445A.1233 Cooperation regarding Colorado River; salinity standards. (NRS 445A.425, 445A.520)

1. The State of Nevada will cooperate with the other Colorado River Basin states and the Federal Government to support and carry out the conclusions and recommendations adopted April 27, 1972, by the Reconvened 7th Session of the Conference in the Matter of Pollution of the Interstate Waters of the Colorado River and its Tributaries.

2. Pursuant to the "2011 Review - Water Quality Standards for Salinity, Colorado River System," as adopted by the Colorado River Basin Salinity Control Forum, the flow weighted annual average concentrations for the calendar year for total dissolved solids in mg/l at the three lower main stem stations of the Colorado River are as follows:

Station	Salinity in mg/l
Below Hoover Dam	723
Below Parker Dam	747
At Imperial Dam	879

[Environmental Comm'n, Water Pollution Control Reg. Appendix B, eff. 5-2-78] — (NAC A 12-3-84; R017-99, 9-27-99; R159-06, 9-18-2006; R130-10, 12-16-2010; R132-12, 12-20-2012) — (Substituted in revision for NAC 445A.143)

NAC 445A.1236 Standards for toxic materials applicable to designated waters. (NRS 445A.425, 445A.520)

1. Except for waters which have site-specific standards for toxic materials or as otherwise provided in this section, the standards for toxic materials prescribed in subsection 2 are applicable to the waters specified in NAC 445A.123 to 445A.2234, inclusive. The following criteria apply to this section:

(a) If the standards are exceeded at a site and are not economically controllable, the Commission will review and may adjust the standards for the site.

(b) If a standard does not exist for each designated beneficial use, a person who plans to discharge waste must demonstrate that no adverse effect will occur to a designated beneficial use. If the discharge of a substance will lower the quality of the water, a person who plans to discharge waste must meet the requirements of NRS 445A.565.

(c) If a criterion is less than the detection limit of a method that is acceptable to the Division, laboratory results which show that the substance was not detected shall be deemed to show compliance with the standard unless other information indicates that the substance may be present.

2. The standards for toxic materials are:

Chemical	Municipal or Domestic Supply (µg/l)	Aquatic Life[1,2] (µg/l)	Irrigation (µg/l)	Watering of Livestock (µg/l)
INORGANIC CHEMICALS[3]				
Antimony	146[a]	-	-	-
Arsenic	50[b]	-	100[c]	200[d]
1-hour average	-	340[e,(4)]	-	-
96-hour average	-	150[e,(4)]	-	-
Barium	2,000[b]	-	-	-
Beryllium	0[a]	-	100[c]	-
Boron	-	-	750[a]	5,000[d]
Cadmium	5[b]	-	10[d]	50[d]
1-hour average	-	$(1.136672-\{\ln(\text{hardness})(0.041838)\})*e^{(1.0166\{\ln(\text{hardness})\}-3.924)}$ e,(4)	-	-
96-hour average	-	$(1.101672-\{\ln(\text{hardness})(0.041838)\})*e^{(0.7409\{\ln(\text{hardness})\}-4.719)}$ e,(4)	-	-
Chromium (total)	100[b]	-	100[d]	1,000[d]
Chromium (VI)	-	-	-	-
1-hour average	-	16[e,(4)]	-	-
96-hour average	-	11[e,(4)]	-	-
Chromium (III)	-	-	-	-
1-hour average	-	$(0.316) * e^{(0.8190\{\ln(\text{hardness})\}+3.7256)}$ e,(4)	-	-
96-hour average	-	$(0.860) * e^{(0.8190\{\ln(\text{hardness})\}+0.6848)}$ e,(4)	-	-
Copper	-	-	200[d]	500[d]
1-hour average	-	$(0.960) * e^{(0.9422\{\ln(\text{hardness})\}-1.700)}$ e,(4)	-	-
96-hour average	-	$(0.960) * e^{(0.8545\{\ln(\text{hardness})\}-1.702)}$ e,(4)	-	-
Cyanide	200[a]	-	-	-
1-hour average	-	22[e,(5)]	-	-
96-hour average	-	5.2[e,(5)]	-	-
Fluoride	-	-	1,000[d]	2,000[d]
Iron	-	-	5,000[d]	-
96-hour average	-	1,000[e]	-	-

Chemical	Municipal or Domestic Supply (µg/l)	Aquatic Life[1,2] (µg/l)	Irrigation (µg/l)	Watering of Livestock (µg/l)
Lead	50[a,b]	-	5,000[d]	100[d]
1-hour average	-	$(1.46203-\{\ln(\text{hardness})(0.145712)\})*e^{(1.273\{\ln(\text{hardness})\}-1.460)}$ e,(4)	-	-
96-hour average	-	$(1.46203-\{\ln(\text{hardness})(0.145712)\})*e^{(1.273\{\ln(\text{hardness})\}-4.705)}$ e,(4)	-	-
Manganese	-	-	200[d]	-
Mercury	2[b]	-	-	10[d]
1-hour average	-	1.4[e,(4)]	-	-
96-hour average	-	0.77[e,(4)]	-	-
Molybdenum	-	-	-	-
1-hour average	-	6,160[f]	-	-
96-hour average	-	1,650[f]	-	-
Nickel	13.4[a]	-	200[d]	-
1-hour average	-	$(0.998) * e^{(0.8460\{\ln(\text{hardness})\}+2.255)}$ e,(4)	-	-
96-hour average	-	$(0.997) * e^{(0.8460\{\ln(\text{hardness})\}+0.0584)}$ e,(4)	-	-
Selenium	50[b]	-	20[d]	50[d]
1-hour average	-	20[a]	-	-
96-hour average	-	5.0[e]	-	-
Silver	-	-	-	-
1-hour average	-	$(0.85) * e^{(1.72\{\ln(\text{hardness})\}-6.59)}$ e,(4)	-	-
Sulfide (undissociated hydrogen sulfide)	-	-	-	-
96-hour average	-	2.0[e]	-	-
Thallium	13[a]	-	-	-
Zinc	-	-	2,000[d]	25,000[d]
1-hour average	-	$(0.978) * e^{(0.8473\{\ln(\text{hardness})\}+0.884)}$ e,(4)	-	-
96-hour average	-	$(0.986) * e^{(0.8473\{\ln(\text{hardness})\}+0.884)}$ e,(4)	-	-
ORGANIC CHEMICALS				
Acrolein	320[a]	-	-	-
1-hour average	-	3[e]	-	-
96-hour average	-	3[e]	-	-
Aldrin	0[a]	-	-	-
1-hour average	-	3.0[e]	-	-
alpha-Endosulfan	-	-	-	-
1-hour average	-	0.22[e]	-	-
96-hour average	-	0.056[e]	-	-
beta-Endosulfan	-	-	-	-
1-hour average	-	0.22[e]	-	-
96-hour average	-	0.056[e]	-	-
Benzene	5[b]	-	-	-
Bis (2-chloroisopropyl) ether	34.7[a]	-	-	-
Chlordane	0[a]	-	-	-
1-hour average	-	2.4[e]	-	-
96-hour average	-	0.0043[e]	-	-
Chloroethylene (vinyl chloride)	2[b]	-	-	-
Chlorpyrifos	-	-	-	-
1-hour average	-	0.083[e]	-	-
96-hour average	-	0.041[e]	-	-
2,4-D	100[a,b]	-	-	-
DDT & metabolites	0[a]	-	-	-
4,4'-DDT	-	-	-	-
1-hour av[illegible]		1.1[e,(6)]		

Chemical	Municipal or Domestic Supply (µg/l)	Aquatic Life[1,2] (µg/l)	Irrigation (µg/l)	Watering of Livestock (µg/l)
Diazinon	-	-	-	-
1-hour average	-	0.17[e]	-	-
96-hour average	-	0.17[e]	-	-
Dibutyl phthalate	34,000[a]	-	-	-
m-dichlorobenzene	400[a]	-	-	-
o-dichlorobenzene	400[a]	-	-	-
p-dichlorobenzene	75[b]	-	-	-
1,2-dichloroethane	5[b]	-	-	-
1,1-dichloroethylene	7[b]	-	-	-
2,4-dichlorophenol	3,090[a]	-	-	-
Dichloropropenes	87[a]	-	-	-
Dieldrin	0[a]	-	-	-
1-hour average	-	0.24[e]	-	-
96-hour average	-	0.056[e]	-	-
Di-2-ethylhexyl phthalate	15,000[a]	-	-	-
Diethyl phthalate	350,000[a]	-	-	-
Dimethyl phthalate	313,000[a]	-	-	-
4,6-dinitro-2-methylphenol	13.4[a]	-	-	-
Dinitrophenols	70[a]	-	-	-
Endosulfan	75[a]	-	-	-
Endrin	0.2[b]	-	-	-
1-hour average	-	0.086[e]	-	-
96-hour average	-	0.036[e]	-	-
Ethylbenzene	1,400[a]	-	-	-
Fluoranthene (polynuclear aromatic hydrocarbon)	42[a]	-	-	-
Guthion	-	-	-	-
96-hour average	-	0.01[e]	-	-
Heptachlor	-	-	-	-
1-hour average	-	0.52[e]	-	-
96-hour average	-	0.0038[e]	-	-
Heptachlor Epoxide	-	-	-	-
1-hour average	-	0.52[e]	-	-
96-hour average	-	0.0038[e]	-	-
Hexachlorocyclopentadiene	206[a]	-	-	-
Isophorone	5,200[a]	-	-	-
Lindane	4[b]	-	-	-
1-hour average	-	0.95[e]	-	-
Malathion	-	-	-	-
96-hour average	-	0.1[e]	-	-
Methoxychlor	100[a,b]	-	-	-
96-hour average	-	0.03[e]	-	-
Mirex	0[a]	-	-	-
96-hour average	-	0.001[e]	-	-
Monochlorobenzene	488[a]	-	-	-
Nitrobenzene	19,800[a]	-	-	-
Nonylphenol	-	-	-	-
1-hour average	-	28[e]	-	-
96-hour average	-	6.6[e]	-	-
Parathion	-	-	-	-
1-hour average	-	0.065[a]	-	-
96-hour average	-	0.013[a]	-	-
Pentachlorophenol	1,010[a]	-	-	-
1-hour average	-	$e^{1.005(pH)-4.869e}$	-	-
96-hour average	-	$e^{1.005(pH)-5.134e}$	-	-
Phenol	3,500[a]	-	-	-
Polychlorinated biphenyls (PCBs)	0[a]	-	-	-

Chemical	Municipal or Domestic Supply (µg/l)	Aquatic Life[1,2] (µg/l)	Irrigation (µg/l)	Watering of Livestock (µg/l)
96-hour average	-	0.014[e]	-	-
Silvex (2,4,5-TP)	10[a,b]	-	-	-
Tetrachloromethane (carbon tetrachloride)	5[b]	-	-	-
Toluene	14,300[a]	-	-	-
Toxaphene	5[b]	-	-	-
1-hour average	-	0.73[a]	-	-
96-hour average	-	0.0002[a]	-	-
Tributyltin (TBT)	-	-	-	-
1-hour average	-	0.46[e]	-	-
96-hour average	-	0.072[e]	-	-
1,1,1-trichloroethane (TCA)	200[b]	-	-	-
Trichloroethylene (TCE)	5[b]	-	-	-
Trihalomethanes (total)[7]	100[b]	-	-	-

Footnotes:

(1) One-hour average and 96-hour average concentration limits may be exceeded only once every 3 years. See reference a.

(2) Aquatic life standards apply to surface waters only; "hardness" is expressed as mg/L $CaCO_3$; and "e" refers to the base of the natural logarithm whose value is 2.718.

(3) The standards for metals are expressed as total recoverable, unless otherwise noted.

J.2 SUMMARY OF PREVIOUS SURFACE WATER INVESTIGATIONS ON THE NEVADA TEST AND TRAINING RANGE

Table J-1. Summary of Previous Surface Water Investigations on the Nevada Test and Training Range

Report	Methodology Used	Results
Nellis Air Force Base (AFB), 99 CES/CEIEA. 2013. Seeps, Springs, and Wildlife Water Developments of the South Range of the Nevada Test and Training Range. June 2013.	Helicopter transects were flown across most of the NTTR South Range to confirm the location of previously reported springs (based on information collected between 1996 and 2009), identify previously unidentified seeps and springs, and identify any other surface water features. The distance between transects varied by vegetation and terrain type. Any differences in the current location of water features versus the location noted in historic information was documented.	The field investigation resulted in documentation of: 14 surface water-fed wildlife water developments 2 spring-fed wildlife water developments 1 perennial spring 2 historical springs (1 unconfirmed by the Nellis Natural Resources Program)
Nellis Air Force Base (AFB), 99 CES/CEIEA. 2014a. Seeps and Springs of the Northwest North Range of the Nevada Test and Training Range. Federal Contract No. W9128F-09-D-0036 DO #0002, Project No. 8068-002-04-01, Work Authorization 007, Document No. 79. October 2014.	Helicopter transects were flown across most of the NTTR North Range to confirm the location of previously reported springs (based on information collected between 1996 and 2009), identify previously unidentified seeps and springs, and identify any other surface water features. The distance between transects varied by vegetation and terrain type. This report presents the results for the northwest quadrant. Any differences in the current location of water features versus the location noted in historic information was documented.	The field investigation resulted in documentation of: 12 perennial springs 4 intermittent springs 4 perennial seeps 8 intermittent seeps 3 construction ponds 2 wells 3 historical seeps and springs
Nellis Air Force Base (AFB), 99 CES/CEIEA. 2014b. Seeps and Springs of the Northeast North Range of the Nevada Test and Training Range. Federal Contract No. W912PP-10-D-0021 DO #0008, Project No. 8098-008-01-01, Work Authorization 014, Document No. 79. March 2014.	Helicopter transects were flown across most of the NTTR North Range to confirm the location of previously reported springs (based on information collected between 1996 and 2009), identify previously unidentified seeps and springs, and identify any other surface water features. The distance between transects varied by vegetation and terrain type. This report presents the results for the northeast quadrant. Any differences in the current location of water features versus the location noted in historic information was documented.	The field investigation resulted in documentation of: 13 perennial springs 7 intermittent springs 3 perennial seeps 16 intermittent seeps
Nellis Air Force Base (AFB),	Helicopter transects were flown	The field investigation resulted in

Table J-1. Summary of Previous Surface Water Investigations on the Nevada Test and Training Range

Report	Methodology Used	Results
99 CES/CEIEA. 2014c. Seeps and Springs of the Southwest North Range of the Nevada Test and Training Range. Federal Contract No. W9128F-09-D-0036 DO #0002, Project No. 8068-002-04-01, Work Authorization 007, Document No. 79. September 2014.	across most of the NTTR North Range to confirm the location of previously reported springs (based on information collected between 1996 and 2009), identify previously unidentified seeps and springs, and identify any other surface water features. The distance between transects varied by vegetation and terrain type. This report presents the results for the southwest quadrant. Any differences in the current location of water features versus the location noted in historic information was documented.	documentation of: 4 perennial springs 2 intermittent springs 7 intermittent seeps 1 surface water accumulation 1 historical spring
Nellis Air Force Base (AFB), 99 CES/CEIEA. 2014d. Seeps and Springs of the Southeast North Range of the Nevada Test and Training Range. Federal Contract No. W9128F-09-D-0036 DO #0002, Project No. 8068-002-04-01, Work Authorization 007, Document No. 79. October 2014.	Helicopter transects were flown across most of the NTTR North Range to confirm the location of previously reported springs (based on information collected between 1996 and 2009), identify previously unidentified seeps and springs, and identify any other surface water features. The distance between transects varied by vegetation and terrain type. This report presents the results for the southeast quadrant. Any differences in the current location of water features versus the location noted in historic information was documented.	The field investigation resulted in documentation of: 8 perennial springs 8 intermittent springs 4 intermittent seeps 1 surface water accumulation 3 dugouts 8 historical water sources
Nellis Air Force Base (AFB), Natural Resources Team, 99 CES/CEIEA. 2014e. 2013 Seeps and Springs Database Draft Final Project Report. Natural Resources Program, Nellis Air Force Base, Nevada. Prepared through the U.S. Army Corps of Engineers Contract # W9128F-09-D-0036 DO# 0002, Project 8068-002-02-01, Report No. 71-2. July 2014.	This draft report provides the results of a database project summarizing seeps and springs information based on surveys conducted through the end of 2013 (the starting date and specific surveys are not provided). The purpose was to document the locations of confirmed as well as potential seeps and springs on the Nevada Test and Training Range (North and South Ranges). Information was entered into a Microsoft Access database, which is managed by the Nellis Natural Resources Program.	Information contained in the database indicated the following results: Confirmed: 236 seeps and springs across the range Potential: 2 perennial springs 26 intermittent seeps 2 surface water accumulations 18 washes and in-channel features
Nellis Air Force Base (AFB), Natural Resources Team, 99 CES/CEIEA. 2014f. 2013 Final Report: Wetlands, Seeps and Springs Surveys,	Helicopter transects were flown across most of the NTTR North Range to confirm the location of previously reported springs (based on information collected between	Results of the study are as follows: 91 potential seeps and springs identified by infrared satellite imagery were investigated.

Table J-1. Summary of Previous Surface Water Investigations on the Nevada Test and Training Range

Report	Methodology Used	Results
Nevada Test and Training Range. Natural Resources Program, Nellis Air Force Base, Nevada. Prepared through the U.S. Army Corps of Engineers Contract # W9128F-09-D-0036 DO# 0002, Project 8068-002-02-01, Report No. 79. September 2014.	1996 and 2009), identify previously unidentified seeps and springs, and identify any other surface water features. The distance between transects varied by vegetation and terrain type. In addition to helicopter observation, investigators located potential water features using false color infrared imagery. Infrared reflectance of plant leaves is strongly correlated with chlorophyll concentration. In dry areas, more robust plants (which exhibit bright red reflectance) tend to occur in areas with water or high soil moisture. Therefore, using the characteristically bright red color associated with vegetation, potential seeps and springs were located using infrared satellite imagery. All potential seeps and springs detected in this manner were investigated in the field.	Of this total, 46 sites had a water feature present (perennial or intermittent spring, seep, or wash). 5 of the sites were man-made water features. 40 of the sites had non-water or upland features. Overall, 29 new water features (perennial spring, intermittent spring, perennial seep) were identified an added to the NTTR database. The report notes that as of September 2013, combined survey methods on the NTTR have resulted in identification of approximately 113 seeps and springs, as well as 17 wildlife water developments.

J.3 CONFIRMED SEEPS AND SPRINGS IN THE POTENTIAL EXPANSION AREAS

Figure J-1 shows potential seeps and springs that were identified in 2013, primarily through satellite imagery. Near-infrared reflectance off vegetation was considered a possible indicator of wet conditions. The potential seeps and springs were field-verified by helicopter and/or ground observations in 2013 (existing NTTR) and 2016 (potential expansion areas). Figure J-2 through Figure J-4 show seeps and springs in the potential expansion areas that were confirmed by the field investigations.

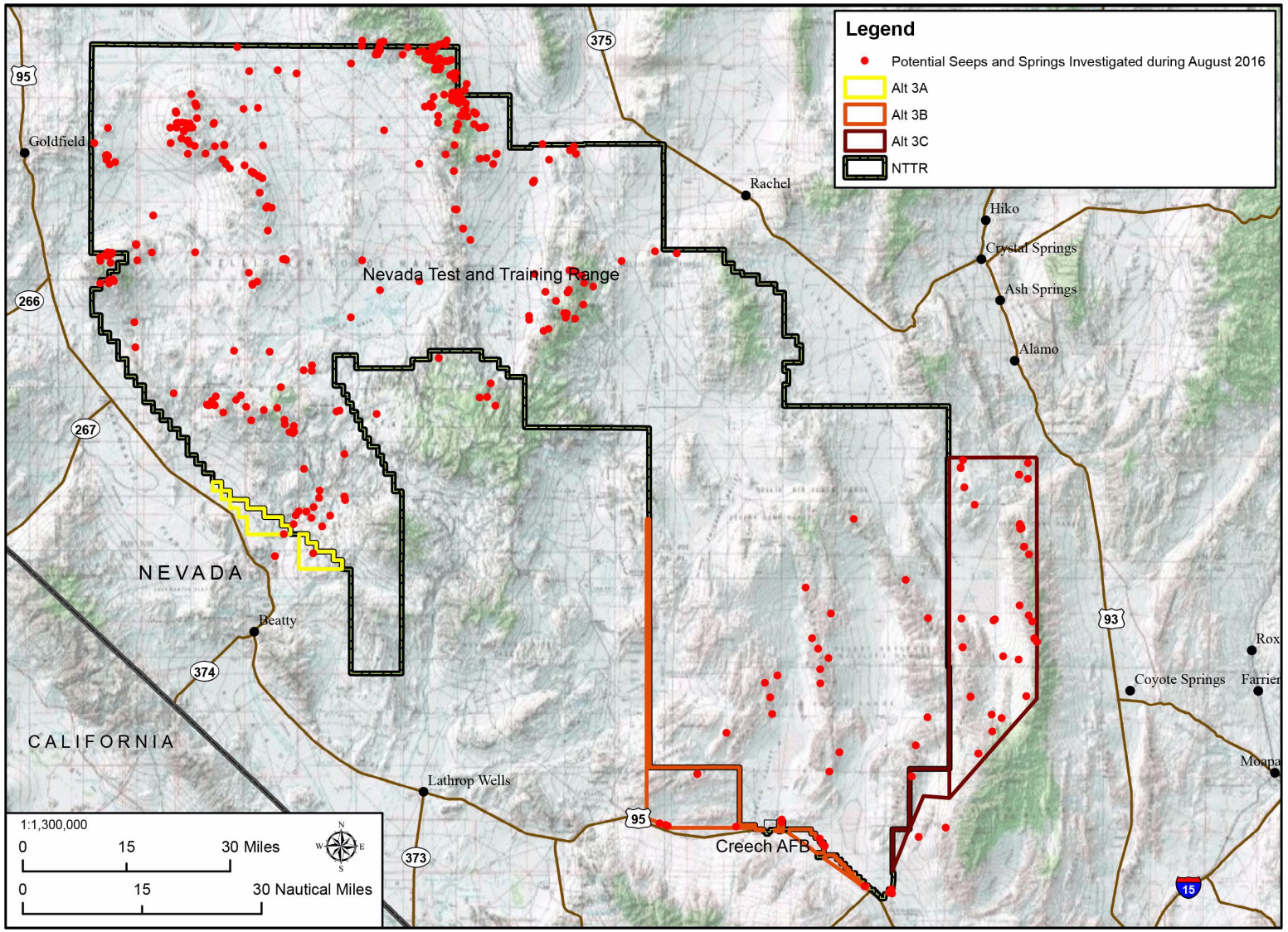

Figure J-1. Potential Seeps and Springs Investigated During August 2016

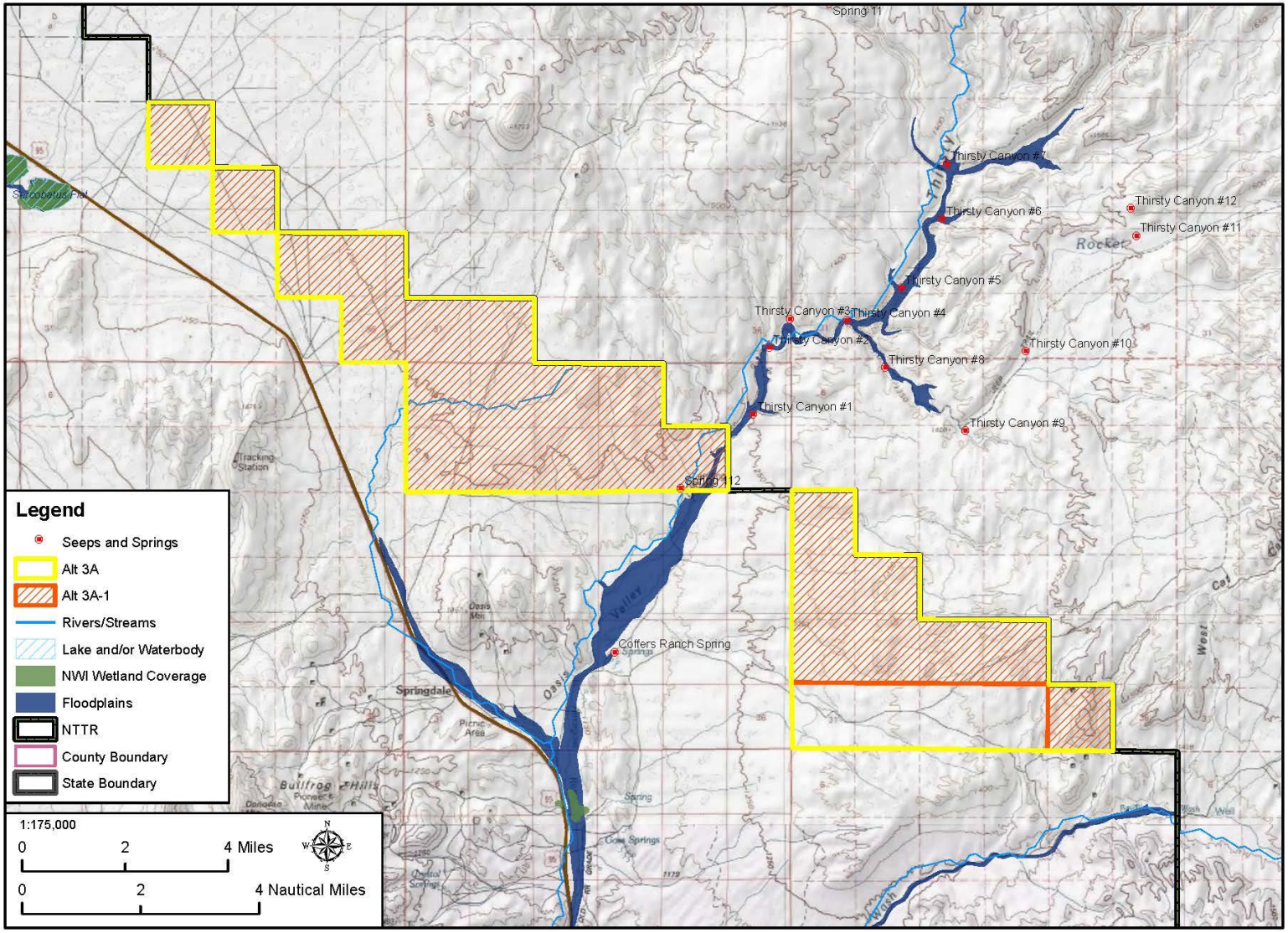

Figure J-2. Confirmed Seeps and Springs in the Potential Expansion Areas (Image 1 of 3)

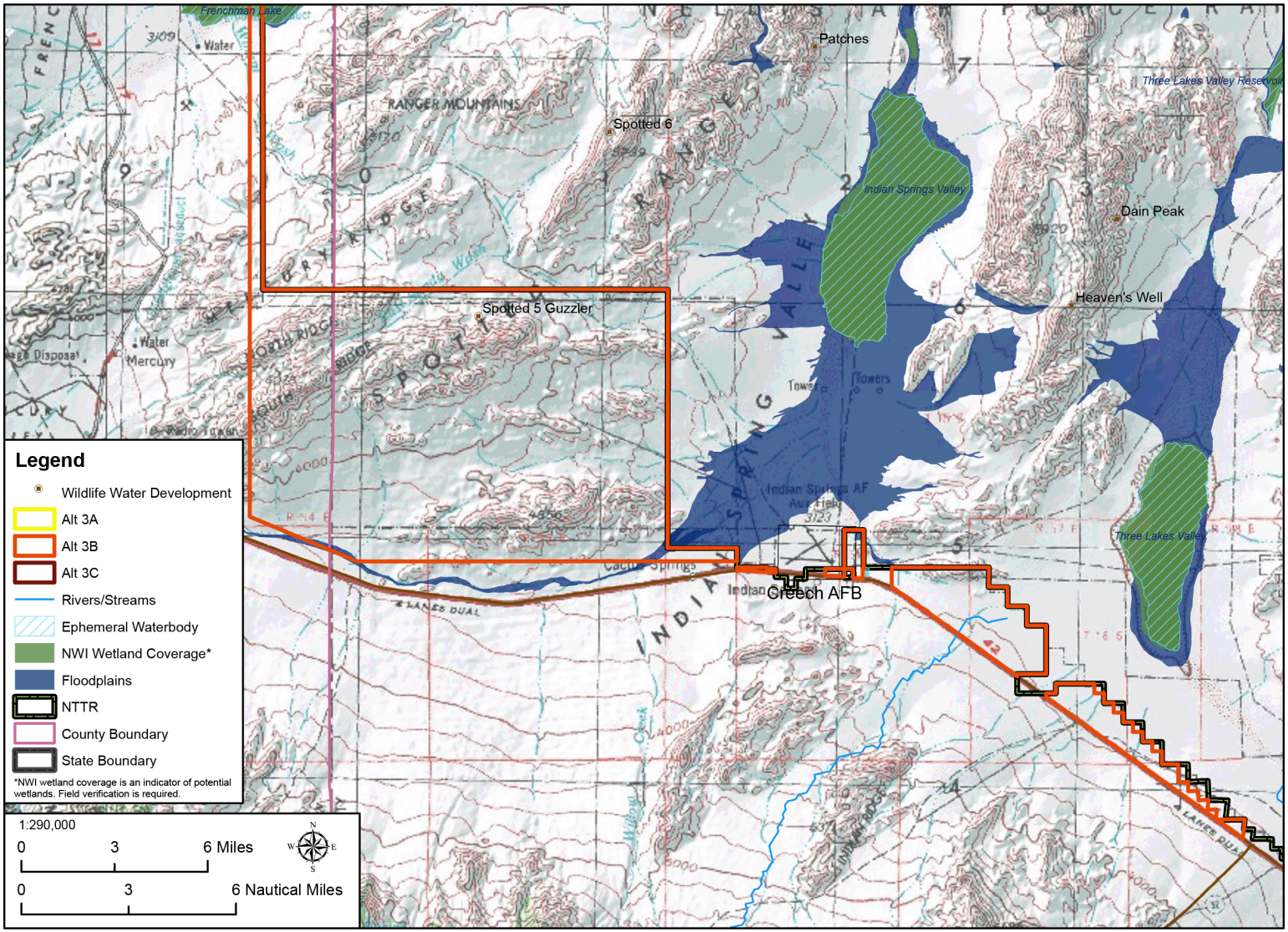

Figure J-3. Confirmed Seeps and Springs in the Potential Expansion Areas (Image 2 of 3)

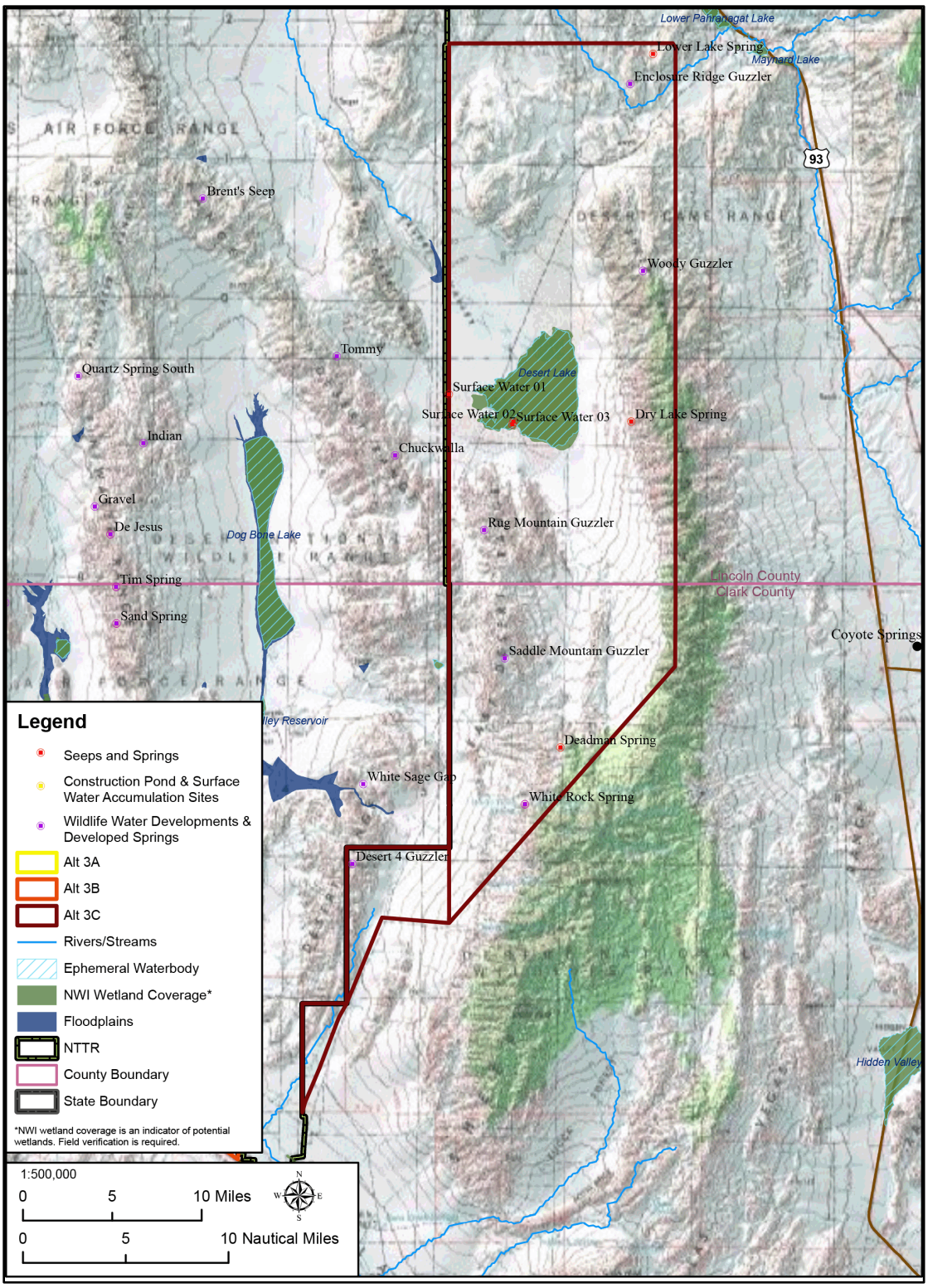

Figure J-4. Confirmed Seeps and Springs in the Potential Expansion Area (Image 3 of 3)

J.4 HYDROGRAPHIC BASINS WITHIN THE NEVADA TEST AND TRAINING RANGE

Figure J-5 shows all hydrographic basins associated with the existing NTTR and potential expansion areas. Table J-2 provides information on the total area of these basins, as well as the area of each basin that occurs within the NTTR boundary.

Table J-2. Hydrographic Basins Within the Nevada Test and Training Range

Hydrographic Basin Number and Name	Total Basin Area (square miles)	Approximate Area in NTTR (square miles)
141 – Ralston Valley	980	87
144 – Lida Valley	532	14
145 – Stonewall Flat	374	338
146 – Sarcobatus Flat	801	294
147 – Gold Flat	682	579
148 – Cactus Flat	395	335
149 – Stone Cabin Valley	979	49
157 – Kawich Valley	350	295
158A – Emigrant Valley – Groom Lake Valley	656	629
158A Excluding Range 4808A	242	216
158B – Emigrant Valley – Papoose Lake Valley	102	102
158B Excluding Range 4808A	65	65
159 – Yucca Flat	304	3
159 Excluding Range 4808A	303	2
160 – Frenchman Flat	457	212
160 Excluding Range 4808A	457	212
161 – Indian Spring Valley	671	369
168 – Three Lake Valley (northern)	289	257
169A – Tikapoo Valley (northern)	621	241
169A Excluding Range 4808A	570	190
169B - Tikapoo Valley (southern)	369	90
170 – Penoyer (Sand Springs) Valley	694	146
173A – Railroad Valley (southern)	602	71
209 – Pahranagat Valley	768	1
210 – Coyote Spring Valley	616	0
211 – Three Lake Valley (southern)	320	175
212 – Las Vegas Valley	1,544	9
225 – Mercury Valley	64	0
227A – Fortymile Canyon – Jackass Flats	267	12
227B - Fortymile Canyon – Buckboard Mesa	237	7
228 – Oasis Valley	461	264
229 – Crater Flat	181	33

NOTES: NTTR = Nevada Test and Training Range

Source: SBC, 2016

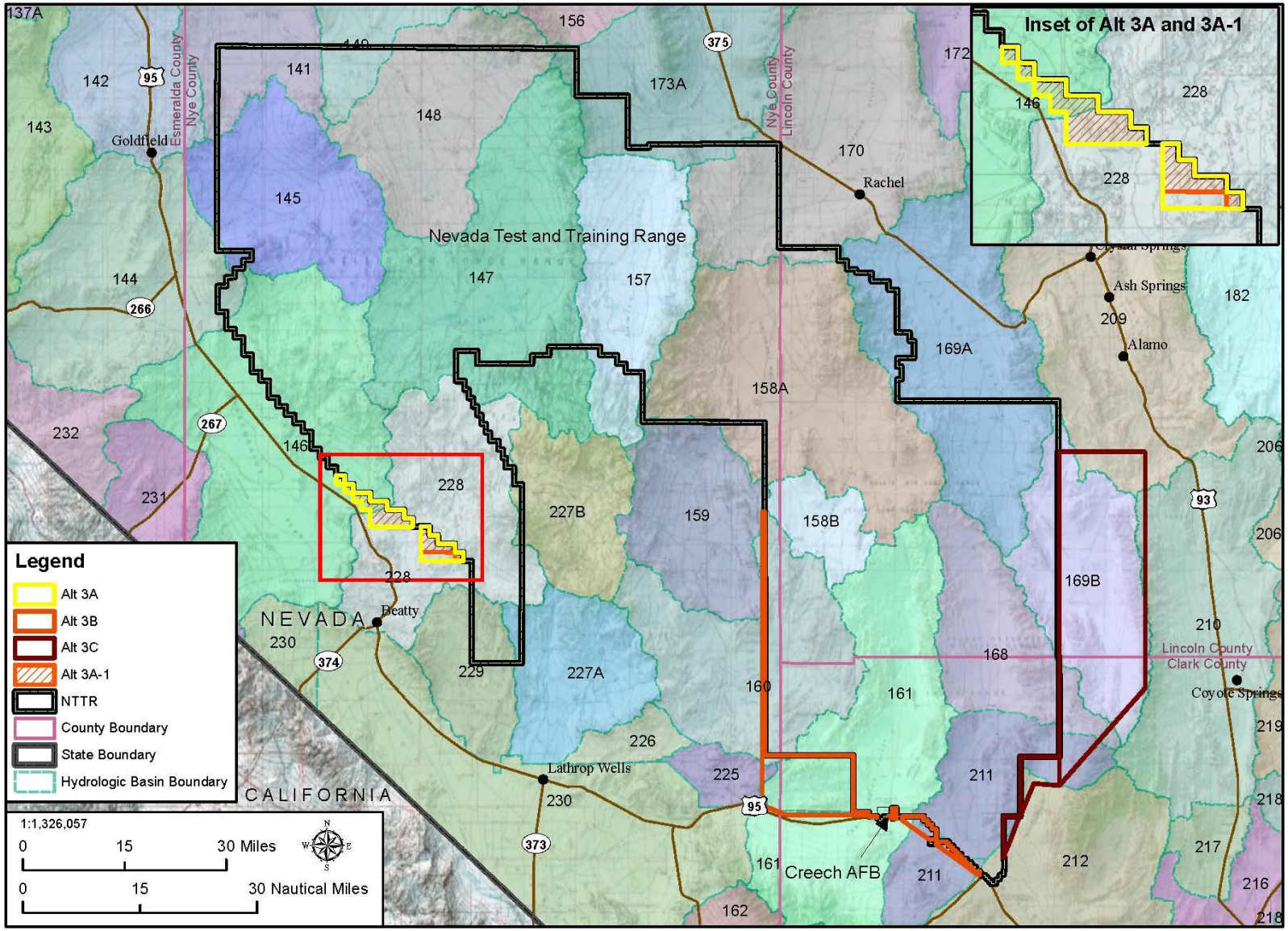

Figure J-5. Hydrographic Basins Within the Nevada Test and Training Range

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APPENDIX K

CONSOLIDATED GROUP OF TRIBES AND ORGANIZATIONS (CGTO) NATIVE AMERICAN PERSPECTIVE

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K.1 NATIVE AMERICAN ASSESSMENTS: NEVADA TEST AND TRAINING RANGE (NTTR) LAND WITHDRAWAL PRELIMINARY DRAFT LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

Summary

The Nevada Test and Training Range Land Withdrawal Legislative Environmental Impact Statement is a regulatory document in accordance with the National Environmental Policy Act (NEPA) that authorizes the Air Force to formally request the land withdrawal of the Nevada Test and Training Range (NTTR) which is used to support military operations under the direction of the US Air Force. The Consolidated Group of Tribes and Organizations (CGTO) has worked closely with the Nellis Air Force Base Native American Program since 1996. During a regularly schedule Tribal Update Meeting with the CGTO, participating tribes recommended the Air Force support Native American Writers in developing tribal text for the LEIS. The Air Force agreed to fund two meetings during the months of September and October 2017.

The Native American Resource Document is a summary of opinions and cultural perspectives relating to the Nevada Test and Training Range (NTTR) Land Withdrawal Preliminary Draft Legislative Impact Statement that represent the Consolidated Group of Tribes and Organizations (CGTO). The document contains (a) general concerns regarding long-term impacts from military operations on the NTTR and perceived impacts to the proposed land expansion areas; and (b) a synopsis of specific comments made by Native American Writers appointed by the CGTO to provide detailed responses to reflect the position of the CGTO.

The Native American Resource Document was produced in response to consultation required for the NTTR LEIS in accordance with Department of Defense Instruction 4710.02, DOD Interactions with Federally Recognized Tribes; and Air Force Instruction 90-2002 Air Force Interactions with Federally Recognized Tribes. The consultation focused specifically on four alternatives that will drive future military operations on the NTTR. However, the CGTO's response to this consultation is not limited to LEIS information and alternatives, but also for the purpose of integrating relevant recommendations made by the CGTO from previous Air Force projects in which Native Americans participated.

This Appendix was provided in its entirety by the Consolidated Group of Tribes and Organizations (CGTO). No changes have been made to the text provided by the CGTO. Text provided by the Air Force appears in boxes such as this one, to help the reader cross-reference the CGTO's perspective to the section in the main body of the LEIS being addressed by the CGTO.

The CGTO has a long history of relationships with the Nellis Air Force Base (NAFB) who oversees multiple activities on the NTTR. In 1996, the NAFB initiated a Native American Program that integrated 17 culturally affiliated tribes because of their ties to the area. Participation in the NAFB Native American Program was initiated under the auspices of the American Indian Religious Freedom Act, (AIRFA), (Public Law No. 95-341, 92 Stat. 469 (Aug. 11, 1978) commonly abbreviated to AIRFA), codified at 42 U.S.C. § 1996. AIRFA reaffirms the Native American rights under the First Amendment of the United States Constitution who require access to lands and resources essential in the conduct of their traditional religion. These rights are exercised not only in tribal lands but beyond the boundaries of a Indian reservation. The Native American Graves Protection Act (NAGPRA),(P.L. 101-601, 25 U.S.C. 3001 et seq., 104 Stat. 3048) provides a mechanism for culturally affiliated tribes to engage in consultation with federal agencies and/or museums that curate archeological collections. These consultations are conducted for the purpose of examining artifacts under their authority with the potential of repatriating items that meet the definition of NAGPRA. Executive Order 13007 permits Native American access to sacred sites that are under federal jurisdiction and located on lands managed by the US government.

To reaffirm cultural affiliation for the purpose of interacting with the federal government in addition to the loss of ancestral ties to the NTTR, 17 tribes aligned together to form the CGTO as a means of speaking collectively through one voice. The CGTO is comprised of officially appointed tribal representatives who are designated by their respective tribal governments to share insight and report back to their tribal governments. The primary focus of the group has been on the protection of cultural resources and engaging in co-management strategies. The CGTO works closely with the NAFB in cultural resource management to coincide with mission driven activities and positive interactions.

While this resource document provides information and shares tribal perspectives that target the preservation of Native American religion, culture, society and economy, the CGTO believes it is important to respond to the LEIS using the collective thoughts of participating tribes. Co-management of cultural resources (which is all inclusive), remain a priority of the CGTO. Ethnographic studies are necessary to systematically collect data that augments information that can be applied to enhance resource management. The CGTO believes it is essential to use a qualified ethnographer who is familiar with the region and has a positive working relationship with the CGTO. Such studies help document tribal perspectives and allow the Air Force to become better acquainted with cultural sensitivities surrounding those resources that could be impacted on the NTTR. This collaborative approach helps to concurrently promote progressive interactions and innovative management practices.

Consolidated Group of Tribes and Organizations

Southern Paiute

- Las Vegas Paiute Tribe, Nevada
- Moapa Band of Paiutes, Nevada
- Pahrump Paiute Tribe, Nevada
- Kaibab Paiute Tribe, Arizona
- Paiute Indian Tribe of Utah, Utah
- Chemehuevi Indian Tribe, California
- Colorado River Indian Tribes, Arizona

Western Shoshone

- Duckwater Shoshone Tribe, Nevada
- Ely Shoshone Tribe, Nevada
- Yomba Shoshone Tribe, Nevada
- Timbisha Shoshone Tribe, California

Owens Valley Paiute/Shoshone

- Benton Paiute Tribe, California
- Bishop Paiute Tribe, California
- Big Pine Paiute Tribe, California
- Lone Pine Paiute and Shoshone Tribe, California
- Fort Independence Indian Reservation, California

Mojave

- Fort Mojave Indian Tribe, Arizona

Native American Writers

Representing Southern Paiute/Chemehuevi

- Kenny Anderson, Las Vegas Paiute Tribe, Nevada
- Ron Escobar, Chemehuevi Indian Tribe, California

Representing Western Shoshone

- Maurice Frank Churchill, Duckwater Shoshone Tribe, Nevada
- Barbara Durham, Timbisha Shoshone Tribe, California

Representing Owens Valley Paiute/Shoshone

- Danelle Gutierrez, Big Pine Paiute Tribe, California
- Sean Scruggs, Fort Independence Indian Reservation, California

Representing Fort Mojave Indian Tribe

- Linda Otero, Fort Mojave Indian Tribe, Arizona

Native American Coordinator

- Richard Arnold, Pahrump Paiute Tribe

Sponsors, Organizers and Facilitators

Nellis Air Force Base

- Col Paul Murray, Base Commander 99th ABW
- Lt. Col. Patrick Kolesiak, Commander 99th CES
- Eloisa Hopper, 99th CES
- Kenneth Finger, 99th CES
- Russ Collins, 99th CES
- Kish LaPierre, 99th CES

Colorado State University Center for Environmental Management on Military Lands

- James Zeidler

Bubar and Hall, Inc.

- Ron Hall
- Dashiell Hall
- Alex Basaraba
- Abby Kerstetter

First Native American LEIS Writers Meeting

The first meeting of the Native American LEIS Writers was held on September 18-22, 2017 at the Avi Hotel in Laughlin, NV. The location is situated on the Fort Mojave Indian Reservation and was selected to maximize tribal participation in the writing activities. The goal of the first meeting was to develop a writing strategy, review pertinent sections of the LEIS, draft an outline of writing tasks and begin developing draft text to correspond with information in the LEIS. The NAFB Native American Coordinator facilitated the meeting with clerical and logistical support from Bubar and Hall, LLC.

The Native American Writers identified three major areas to be used as the foundation for the development of tribal text for corresponding sections of the LEIS:

1. Culturally affiliated tribes have lived or have cultural and historic ties to the NTTR;
2. Native American culture, economy, religion and health could be affected by the proposed alternatives; and
3. NTTR and the proposed land expansion areas could have long-term and cumulative consequences on Native American culture, economy, religion and health.

The NTTR Legislative Environmental Impact Statement provides information that includes 4 alternatives which range from existing to incrementally expanded lands for the NTTR. Another key consideration in the LEIS is the proposed duration (20, 50 years or indefinite) land withdrawal period. Due to time constraints, the Native American Writers agreed to work in groups of two to focus on assigned sections in and develop suitable text that would be presented for consideration to other group members during the second meeting.

Outline of Writing Tasks

The Native American Writers made the following three decision regarding developing Native American perspectives for the LEIS.

1. The Native American Writers will produce short technical essays to expand sections of the LEIS, particularly those sections that refer to cultural resources, economics and health and safety. These essays could be included in the main text of the LEIS.
2. Tribal writers will also produce an Native American Resource document that will be used as an LEIS appendix.
3. The Native American text will be included in the LEIS as italicized text within text boxes to distinguish from the main text that is presented.

Second Native American LEIS Writers Meeting

The second meeting of the Native American LEIS Writers was held on October 9-12, 2017 at the Santa Fe Hotel in Las Vegas, NV. The goal of the second and final meeting was to review writing assignments for editing and acceptance as a draft for the resource document. Native American Writers structured their time to maximize results and minimize duplication of efforts which aided greatly in productivity. Again the meeting was facilitated by the NAFB Native American Coordinator (NAC) with support from Bubar and Hall, LLC. Once text was drafted, the NAC worked with the information provided to develop text that would be included in the LEIS.

Native American LEIS Writers Text

CGTO NATIVE AMERICAN WRITERS TEXT

NEVADA TEST AND TRAINING RANGE (NTTR) LAND WITHDRAWAL

LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT (LEIS)

2017

1.1.1 *Introduction – Consolidated Group of Tribes and Organizations*

The numbering of the paragraphs in this section ("Native American LEIS Writers Text") represents the number of the paragraph as it would appear if it were added to the main body of the LEIS. For example, the paragraph numbered 1.1.1 here would be inserted just after Section 1.1 in the LEIS.

Position Statement: *The Consolidated Group of Tribes and Organizations (CGTO), representing Southern Paiute, Western Shoshone, and Owens Valley Paiute/Shoshone and the Fort Mojave Indian Tribe, believe we are the original caretakers of the land and natural resources located within the boundaries of the Nellis Air Force Base (NAFB) and Nevada Test and Training Range (NTTR). We are opposed to activities which harm the environment or its natural resources or limit our access to traditional use areas. Any action which is detrimental or potentially impacts these areas, should be thoroughly evaluated by the Native American Coordinator with assistance from officially appointed tribal representatives of the CGTO in the spirit of true government-to-government relations.*

This paragraph 1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 1.1, Introduction.

Since the beginning of time, the region encompassing the NTTR and the proposed land expansion areas near Beatty, Creech AFB and the Desert National Wildlife Refuge remain central to the lives of Native American Tribes. These lands are known to contain traditional and ceremonial use areas, along with traditional gathering and collection locations for Native American people. The region contains abundant ecological resources and special power places that are crucial in the continuity of Native American culture, religion and society.

The CGTO has a long-standing relationship with the Nellis Air Force Base (NAFB) that began in 1996 with the establishment of the NAFB Native American Interaction Program (NAIP). The NAIP interacts with 17 tribes representing Southern Paiute, Western Shoshone, Owens Valley Paiute/Shoshone and the Fort Mojave Indian Tribe. Each of these groups has distinct cultural and historic ties to the NTTR that are reflected in traditional stories and songs. (Steward 1938, Myhrer 1993; 2002; Fowler 2010, 2012; Spoon, et.al, 2011, 2012, 2014; Stoffle, 1982, 1989, 2001, 2012, 2016, 2017).

In 2008, Southern Paiute/Chemehuevi tribes (most of whom are members of the CGTO) formed the Nuwuvi Working Group (NWG) to reaffirm their ancestral ties to Desert

National Wildlife Refuge Complex Spring Mountains National Recreation Area managed by the US Fish and Wildlife Service and Forest Service, respectively. The NWG works closely with both federal agencies as a mechanism for providing tribal insight relating to the interpretation, management and preservation of culturally significant resources within their respective boundaries.

Several federal regulations support tribal involvement through the CGTO and NWG including but not limited to: American Indian Religious Freedom Act (P.L. 95-341); Native American Graves Protection and Repatriation Act (P.L. 101-601); National Historic Preservation Act (P.L. 89-665 as amended); and Executive Order 13007, Access to Sacred Sites. Concurrent legislation includes the addition of Department of Defense Instruction 4710.02, DOD Interactions with Federally Recognized Tribes; 2012 Sacred Sites Memorandum of Understanding with DOD, DOI, USDA, DOE, and ACHP; and lastly, Air Force Instruction 90-2002 Air Force Interactions with Federally Recognized Tribes.

Collectively, these regulations are the basis for tribal interactions and supporting tribal involvement through the Consolidated Group of Tribes (CGTO) in developing tribal text relating to the NTTR Land Withdrawal – Legislative Environmental Impact Statement (LEIS). Throughout the development of this document, DOD provided the CGTO with opportunities to create text that summarizes tribal perspectives responding to the affected environment, resource descriptions, cumulative effects to proposed activities, proposed alternatives and potential mitigation strategies under consideration.

Information produced by the CGTO for inclusion in the LEIS is presented in text boxes such as this to distinguish Native American perspectives related to resources and alternatives being evaluated and presented in *Appendix K - CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017.*

To accomplish the writing task, the CGTO appointed a subcommittee comprised of tribal representatives from the Western Shoshone, Southern Paiute, Owens Valley Paiute/Shoshone and Fort Mojave Indian Tribe. The Native American Writers evaluated information from previous documents that were blended with the collective thoughts of tribal representatives who formulated corresponding text for inclusion into the LEIS. Tribal text was developed on an accelerated schedule that relied upon available resources and information provided in the draft LEIS to the extent practicable. Those sections that were unavailable during the review process will be subsequently addressed in a similar manner upon receipt.

Information provided by the CGTO uses the terms Native American, American Indian or Indian people or tribal interchangeably to reflect varying tribal perspectives. In addition to the text within the body of the LEIS, Native American perspectives related to

resources and proposed alternatives that are evaluated in this LEIS and presented in *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017*.

1.1.1.1 Purpose and Need for Action - Consolidated Group of Tribes and Organizations

This paragraph 1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 1.4, Purpose and Need.

The Consolidated Group of Tribes and Organizations (CGTO) knows Native American people are charged by the Creator to interact with the environment and its resources in culturally appropriate ways to maintain ecological balance regardless of the intentions stated in the Purpose and Need for Action. Native Americans further believe these lands are personified and contain resources with life-sustaining characteristics that require cultural intervention to promote proper respect and nurturing to insure harmony and balance.

While tribal interaction has existed over the past 21 years, the CGTO does not support harmful land disturbing activities currently conducted or planned within the NTTR, including areas described in the proposed land expansion areas. These lands are part of the traditional Holy Lands of the Southern Paiutes, Western Shoshone, Owens Valley Paiute/Shoshone, and Mojave people. Harmful land-disturbing activities threaten the health and welfare of Indian people and will limit our access to culturally important locations and resources because of conflicting schedules, along with potential cultural contamination or resource destruction.

Native Americans are culturally obligated to manage the land and its resources for future generations. This means we evaluate and guide our actions and the level of our involvement in terms of what will be available or affect future generations that can sustain our culture. The CGTO takes this obligation very seriously and has provided information throughout the LEIS to fulfill our purpose and need to care for these lands (*Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017)*.

2.1.1 Description of Alternatives - Consolidated Group of Tribes and Organizations

This paragraph 2.1.1 provides the Native American perspective regarding the information presented in LEIS Section 2.1, Alternative Development and Screening Process.

The Consolidated Group of Tribes and Organizations (CGTO) is concerned about culturally perceived harmful land disturbing Air Force actions described in this chapter of this Legislative Environmental Impact Statement (LEIS). We are concerned because many of these actions adversely impact the NTTR land and the proposed expansion areas, which in turn affect the Native American cultural landscape and lifeways.

Since 1996, Nellis Air Force Base has worked closely with 17 culturally affiliated tribes to provide opportunities for tribally appointed representatives through the Native American Interaction Program. Tribal representatives are provided opportunities to visit areas within the NTTR to help identify resources as part of their co-management responsibilities to protect the land and its abundant cultural resources. The NTTR and proposed expansion areas described in the Nevada Test and Training Range (NTTR) Land Withdrawal contain important places, spiritual trails and landscapes of traditional and contemporary cultural significance. Air Force actions to engage tribes in a long-standing relationship are considered positive steps towards fulfilling its trust responsibility and incorporating co-management opportunities with the CGTO.

To further avert or minimize potential impacts, the CGTO recommends the Air Force and CGTO collectively develop co-management strategies to help protect the land through the following actions before continuing current or proposed activities:

- Conduct systematic ethnographic studies by a qualified ethnographer to work in collaboration with designated tribal representatives to study and understand resources on the NTTR for enhancing co-management opportunities.
- Identify areas that tribes consider are not culturally maintained or are out of balance from disrespect, isolation, or damage so balance can be restored in culturally appropriate ways.
- Avoid further harmful ground-disturbing activities to the extent practicable.
- Make mitigation of restorable areas a top priority by working closely with the CGTO.
- Avoid or minimize damage to geological formations, notwithstanding hydrological and biological resources that are integral to sustaining cultural and ecological landscapes, songscapes or storyscapes.
- Implement collaborative environmental restoration projects using techniques guided by traditional ecological knowledge and minimizing ground disturbance.
- Continue to pursue systematic consultations with Native Americans on a regular basis so potentially impacted resources can be readily identified and alternative solutions can be discussed and adverse impacts averted.
- Provide Native American people increased access as appropriate to interact with culturally significant areas for religious or ceremonial purposes to effectively restore ecological balance to the natural and spiritual harmony that lives within the boundaries of the NTTR.

The CGTO believes the continuation of Air Force and the CGTO annual meetings vital to upholding trust responsibility and providing briefings about current and proposed

actions in greater depth to deliberate on potential impacts, while developing mutually acceptable mitigation measures. Accordingly, the Air Force must support activities that sustain tribal interactions and systematically evaluate resources in culturally appropriate ways to build capacity for addressing areas important to Native Americans. This is particularly important for those actions requiring analysis under National Environmental Policy Act (NEPA), including but not limited to target or emitter placement or other development that has the potential to impact important cultural resources on lands managed by the NTTR.

In the view of Native Americans, avoidance of any action that further disturbs the land or its resources on the NTTR or proposed expansion areas is desirable. The CGTO believes we have been created and placed on these lands to serve as its voice needed to sustain life. Because of our birth-right and strong cultural ties to our ancestral land, the CGTO believes we have undeniable rights to interact with its precious resources, coupled with the continuous obligation to protect it. The CGTO takes this responsibility very seriously and has provided input for the alternatives presented throughout Chapter 3 so we may fulfill this important obligation.

2.2.1.1 Increase MCO Test and Training Capability to Meet the Demands of Strategic Guidance and Alleviate Competition for Critical MCO Electronic Assets – Consolidated Group of Tribes and Organizations

This paragraph 2.2.1.1 provides the Native American perspective regarding the information presented in LEIS Section 2.2.1, Increase MCO Test/Training Capability to Meet the Demands of Strategic Guidance and Alleviate Competition for Critical MCO Electronic Assets.

The LEIS references tribal interactions with the CGTO to evaluate cultural concerns relating to impacts from overflights to rockshelters and "p*etroglyphics*" [sic]. The CGTO is unaware of any such term. Based on the description applied to *petroglyphics*, it is presumed the text is referencing *petroglyphs* or *pictographs commonly referred to as rock writings or storied rocks*. The CGTO suggests a modification to the text is necessary and requests a reference source and introduction to properly introduce any new terminology.

Table 3-49.1 Summary of Impacts Affected Environment – Consolidated Group of Tribes and Organizations **Table 3-149 (Page 2-280)**

This paragraph provides the Native American perspective regarding the information presented in LEIS Table 3-49, Summary of Impacts.

The CGTO understands the baseline results identified in Summary of Impacts Affected Environment Alternative 1 do not accurately represent tribal perspectives or account for the culturally perceived impacts presumed to be limited or non-existent. The CGTO is aware of multiple impacts to the cultural landscape that relates to existing military activities that occurs within the NTTR and proposed expansion areas that cannot be minimized.

3.1.1.1.1 - Air Space – Consolidated Group of Tribes and Organizations

The Consolidated Group of Tribes and Organizations (CGTO) understands the existing air space will not change under the proposed land withdrawal. However, cultural views about the air within the proposed air space are described under Air Quality 3.3.1.1.1.

This paragraph 3.1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.1.1.1, Description of Resource.

3.2.1.1.1. Noise – Consolidated Group of Tribes and Organizations

The CGTO is comprised of tribes with deep-rooted epistemological beliefs that connect us to the land. The CGTO believes noise is created by unnatural or man-made sounds that can intensify the effects on the land. Central to the Indian experience of viewscapes is isolation and serenity in an uncompromised landscape. If construction and operation of the proposed activities proceed in a culturally inappropriate manner, then visual resources within the NTTR will be adversely impacted, further perpetuating an unbalanced environment. (See 3.4.1.5.1 Visual Resources - CGTO Comments).

This paragraph 3.2.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.2.1.1, Description of Resource.

Indian people know the land is a sentient being with eyes to see, ears to hear and feelings to express or react. The land must be kept in balance or else it will react and not have the ability to sustain the cultural and ecological balance needed to survive. The CGTO knows echoes can be intensified by man-made sounds such as sonic booms or other noises that occur from military activities that resonate through the landscape. This disturbance causes the land to become sick and out of balance. When sickness occurs, Indian culture is adversely impacted in the same way. Noise can cause a disruption to the serenity or can affect animals when solitude is needed to maintain resources that will ultimately have far reaching or long lasting effects beyond the NTTR.

Noise can create vibration that brings harm to the land, mountains, water, springs, rocks, rock writings (petroglyphs/pictographs), and other cultural resources including but not limited to plants and animals. Noise from sonic booms send shockwaves through the land and can cause echoes that travel through the mountains and canyons, thus becoming the voices of the land to provide warnings to everything within the region. If ignored or not understood, ecological imbalance will be inevitable creating lack of cultural continuity.

Echoes that resonate over the landscape are perceived as the voices of the land that mimic the sounds and can become a distraction to the serenity of the land. Unnatural sounds from military activities bring harm to the resources that can deteriorate them and cause an imbalance to the cultural landscape. The CGTO knows understands the cultural divisions between day time and night time and how they can act differently with different powers but have the ability to work together to sustain ecological balance in the

world. When noise is continuous or high intensive, the land reacts from being sick or out of balance. When this occurs, animal behavior changes, which can effect stress levels or animal mortality rates. The CGTO knows that cultural intervention is necessary to conduct traditional balancing ceremonies to heal the land.

3.3.1.1.1 Air Quality – Consolidated Group of Tribes and Organizations

This paragraph 3.3.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.3.1.1, Description of Resource.

The CGTO knows that the air is alive and can be affected by military activities. The Creator puts life into the air, which is shared by all living things. When a child is born, he pulls in the air to begin their life. The mother watches carefully to make sure that the first breath is natural and that there is no obstruction in the throat. It is believed if the day of birth is a windy day, it is a good day and the child will have a good life.

According to the tribal elders' perspectives expressed during visits to the NTTR, "...You can listen to the wind. The wind talks to you. Things happen in nature. Our people have weather watchers, who know when inclement weather conditions are imminent or when crops and things should occur. They watch the different elements in nature and pray to ask the winds to come and talk about these things. Sometimes you ask the north wind to come down and cool the weather. The north wind is asked to blow away the footsteps of the people who have passed on to the afterlife. That kind of wind helps people and it is considered positive. The wind also brings you songs, stories and messages. Sometimes the messages are about healing people, a sign that the sickness is gone now from the person or the land. Other times, we know change is coming to get the sickness and take it away. Other times the wind and other changes to the air can bring you the strength that you will need to confront the illness."

Dead Air - Indian people know air can be destroyed, causing pockets of *dead air*. There is only so much living air that surrounds the world. If you kill the energy, it is gone forever and cannot be restored.

Dead air lacks the spirituality and life necessary to support other life forms. Aircraft mishaps occur when they hit *dead air*. During a previous CGTO evaluation of the area, one member of the CGTO compared this Indian view of killing air with what happens when a jet flies through the air and consumes all of the oxygen, producing a condition where another jet cannot fly through it.

As one tribal elder noted, "*The spiritual journey of the Southern Paiute Salt Songs are affected as the air quality is not the same as in the days of old. This Salt Singer wonders what is going to happen if the situation isn't corrected. Southern Paiutes need this spiritual journey to ascend their deceased to the next life."*

As people are emitting things into the air that are unnatural, such as past radiative tests, climatic changes such as droughts are occurring because the air is being disrespected. As the air continues to be disrespected, it perpetuates and intensifies imbalance throughout the environment. This impacts many resources, including the land, soil, water, plants, and animals.

Dust devils in various forms and sizes are culturally significant to Indian people and known to bring harm. The CGTO knows the frequency and intensity of dust devils have increased within the NNSS and the surrounding area. Dust devils contain negative energy, and can disperse hazardous and radioactive contaminants from the soil at the NTTR. Their spirits can bring harm if the air is disrespected and if you watch it or allow them to come near or pass through you. If this occurs, a person will become ill and must seek cultural intervention to heal.

Native Americans who were present during past above ground nuclear tests at the nearby Nevada National Security Site (formerly the Nevada Test Site) that is adjacent to the NTTR, believe that the sickness many illnesses may have been derived from radiation. To some, the effects of the radiation was in addition to what happened when the air itself was killed. Some tribal elders believe that even when the plants survived the initial effects of radiation or other sicknesses, the *dead air* altered or killed many of them or made some lose their spiritual power to heal things.

As noted by tribal elders, "*Sheep and other animals are being born out of season, which places them at greater risk from predators and inhibits living full lives. Consequently, their loss adversely impacts our cultural survival, as many of our stories and traditions surround these animals. Weather is out of balance. For example, when it snows, one can also hear thunder. Native people observe the changed nature of the vegetation and blame the atmospheric change on the air quality derived from the bomb testing on the NNSS.*"

The CGTO recognizes that climatic change is occurring and will continue to impact the natural resources of the NNSS and the surrounding region. When rain gauge (anemometer) data are averaged over a decade they can mask the reality that plants and animals are adjusted to regular cycles of rain and snow. Isolated heavy rain events can increase the annual rainfall amounts, but are largely not useful for sustaining life. Plants and animals need the climate to return to its historic, normal annual rainfall, which is more evenly dispersed by season.

The CGTO knows that ceremonies have historically helped manage the climate in the NTTR region. Unfortunately, we have not been able to perform these ceremonies at the frequency needed as our holy land continues to suffer. To facilitate the healing of this area, the Air Force must make provisions for the CGTO to access the land and perform these rituals, which are further described below.

3.4.1.1.1 Land Use, Recreation and Visual Resources – Consolidated Group of Tribes and Organizations

This paragraph 3.4.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.4.1.1, Description of Resource.

The CGTO considers access issues (including the ability to visit, view or recreate) to have two key aspects that have significant cultural implications:

- Increased access to cultural resource locations may increase for contractors and/or military personnel identified under all of the proposed Alternatives. These individuals have the potential to disturb cultural resources or intrude on ceremonies without proper coordination/consultation.
- Access by Indian people to culturally important locations when requested will be limited under any action alternative.

The CGTO recognizes there are conflicting aspects with this issue; the desire for unlimited access by Indian people and the protection that is provided by restricting access for recreationalists.

Under each alternative, visual intrusions or scheduling will adversely impact resources important to Native Americans. According to the CGTO all landforms, mountain ranges and playas within the NTTR have high cultural sensitivity levels for Native Americans. The ability to see the land without obstruction or the distraction of aircraft, buildings, towers, cables, roads, and other objects related to military activities is essential for sustaining the spiritual connection between Indian people and their traditional homelands. Landscape modifications should be done in consultation with Native Americans.

3.4.1.4.1 Land Use – Consolidated Group of Tribes and Organizations

This paragraph 3.4.1.4.1 provides the Native American perspective regarding the information presented in LEIS Section 3.4.1.4, Recreation and Special Use Areas.

The Nevada Test and Training Range is within the traditional Holy Lands of the Western Shoshone, Southern Paiute, and Owens Valley Paiute/Shoshone and Mojave people. These ethnic groups rely on these lands for medicinal purposes, religious activities and ceremonies, food, recreational use, and other integral places described in traditional narratives and religious ceremonies.

Indian people know these lands not only contain important archaeological remains left by our ancestors but natural resources and geologic formations, such as plants, animals, water sources and minerals; Natural landforms that mark or identify important locations necessary for keeping our history alive and are necessary for teaching our children about our culture. We use traditional knowledge about sites in the NTTR region that are embedded in tribal stories and songs. Many locations or resources on the

NTTR are needed for making tools, stone artifacts, and creating ceremonial objects associated with traditional healing ceremonies and power places.

For thousands of years throughout contemporary times, the area that encompasses the NTTR and the surrounding region has been a central place in the lives of American Indian tribes. NTTR has been continuously used by our people until encroachment occurred in the late 1800s up until the mid-1900s when Indian people were not permitted to access the area. In 1863, the United States entered into the Treaty of Ruby Valley of 1863 with the Western Shoshone giving certain rights to the United States in the Nevada Territory. The Western Shoshone did not cede land under this treaty but agreed to allow the US the "right to traverse the area, maintain existing telegraph and stage lines, construct one railroad and engage in specified economic activities. The Treaty would continue to be contested for decades and remaining unresolved by many Western Shoshone. (See Treaty of Ruby Valley 1863 in Appendix K Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017)

Throughout our existence, traditional festivals involving religious and secular activities attracted American Indian people to the area from as far as northern Nevada and San Bernardino, California. Similarly, groups came to the area from a broad region during the hunting season and used animal and plant resources that were crucial for their survival and cultural practices.

Several areas within the NTTR region are recognized as traditionally or spiritually important locations including: Black Mountain, Stonewall Mountain, Mount Helen, Pillar Springs, Kawich Range, Belted Range, Airfield Canyon, and Pintwater Cave.

Thirsty Canyon is an equally important crossroad where trails from such distant places as Owens Valley, Death Valley, Ash Meadows, southern Nevada and the Avawatz Mountain come together. Black Cone, located in Crater Flats is a significant religious site that is considered to be a portal to the underworld (AIWS 2005). Due to the religious significance of these culturally sensitive areas, tribal representatives recommend the Air Force avoid affecting this area (Stoffle et al. 1988). Oasis Valley was historically an important area for trade as well as ceremonial use that still continues. Other areas throughout the NTTR are considered important because of the abundance of artifacts, traditional-use plants and animals, rock writings (petroglyphs/pictographs), and possible burial sites. Despite the current physical separation of tribes from the NTTR and neighboring lands, we continue to recognize the meaningful role of these lands in our culture and continued survival.

The CGTO maintains we have Creation-based rights to protect, use, and have access to lands within the NTTR and the immediate area. These rights were established at Creation and persist forever. Despite the loss of many traditional lands on the NTTR to

cultural pollution and reduced access, Indian people have neither lost our ancestral ties nor have we forgotten our responsibilities to care for it. As one elder noted, "*Land is to be respected. It sustains us economically, spiritually, and socially.*"

During the past two decades, CGTO representatives have visited selected portions of the NTTR and continue to identify places, spiritual trails, and cultural landscapes of traditional and contemporary cultural significance. Because this is a public document, the exact locations of these areas will not be revealed; however, they do include culturally significant and sensitive resources that are addressed in the American Indian Religious Freedom Act (AIRFA); Native American Graves Protection and Repatriation Act (NAGPRA); Access to Sacred Sites; and Air Force Instruction 90-2002 Air Force Interactions with Federally Recognized Tribes. The Air Force continues to take positive steps towards facilitating co-stewardship arrangements with the CGTO to help co-manage important tribal resources found on the NTTR and regain cultural, ecological and spiritual balance

One elder from Nevada responded to the potential impacts of his traditional land as follows: "*Non-Indians can move if you pollute or change the land on which you live, but we were created for this place, so we must face whatever happens here. We cannot move and continue to be tribal people-this is our land-we are this land"* (Stoffle and Arnold 2003). This view is shared by other culturally affiliated tribes within the CGTO who believe we have Creation-based rights to protect, use, and have access to land.

3.10.1.3.1 Geology – Consolidated Group of Tribes and Organizations

This paragraph 3.10.1.3.1 provides the Native American perspective regarding the information presented in LEIS Section 3.10.1.3, Geology.

During previous visits to the NTTR, the Consolidated Group of Tribes and Organizations (CGTO) noted culturally severe disturbances to the geology, soils, or minerals stemming from previous military activities. This seemingly irreparable damage has made certain areas unfit for human use and inaccessible to Native Americans who have relied on the earth, soil and minerals for medicine and religious purposes.

In general, the CGTO knows mitigation measures must be proposed by the Air Force for geology and soils to address erosion control through stabilization and revegetation. The CGTO is concerned about the unnatural erosion control methods proposed by the Air Force. In particular, the CGTO struggles with activities that require relocating rocks and soil away from where they were originally placed by the Creator and using them contrary to the Creator's intention. Native Americans know relocating soil in a culturally unacceptable manner can cause adverse impacts to the environment, such as the increased potential for noxious weed growth. This could potentially threaten nearby native vegetation and harm people and wildlife that rely on it for survival

Therefore, the CGTO recommends the Air Force implement culturally-appropriate stabilization efforts and revegetation techniques based on traditional ecological knowledge. Indian people stabilize our lands by offering prayers to explain to the soil why it is being removed, how we intend to use it, and by thanking it for its use. We then remove and protect the topsoil for future use. We replace the soil with dirt and gravel from nearby land only after once again offering prayers, and re-contour the land out of respect to the visual landscape and unseen song and storyscapes. Indian people revegetate our land by determining suitable locations, and offering prayers to bless the seeds and plants so they can grow strong. We take great care in placing the seedlings in the direction of the morning sun and give thanks for the opportunity to plant them and for the water that is used to provide nourishment. Plants must be compatible with their new homes, neighboring plants, animal habitats, and soil composition. We believe a holistic approach helps to sustain balance and protects and restores our ancestral lands.

Based on previous visits to the NTTR, the CGTO believes the geology and soils are in even poorer condition than they were during their earlier visits due to the continued drought. Drought conditions, ground disturbing site activities, and damage to the soil from previous underground nuclear testing are significantly enhancing erosion. Negative impacts to these resources are long-lasting.

Activities that alter geological structure also alter hydrologic systems. Such actions result in changes to important geologic and soil features that directly connect the tribes to their homelands in specific, spiritual ways. These changes require spiritual and cultural intervention to restore balance.

According to tribal elders, *"Bombs have melted the soil. It turned to glass….Severe disturbances are still out there. Everything is still suffering from it. …The CGTO is in agreement that they must be here to do what they can to help stop this terrible pressure put on the earth through traditional ceremonies. The land has its own songs and when you sing the songs to the land, it'll sing back to you. These songs must be sung to help heal the earth and to restore harmony and balance."*

3.4.1.5.1 Visual Resources – Consolidated Group of Tribes and Organizations

This paragraph 3.4.1.5.1 provides the Native American perspective regarding the information presented in LEIS Section 3.4.1.5, Visual Resources.

Unobstructed views from locations to and from the NTTR are an important cultural resource that contributes to the significance and performance of traditional ceremonialism. Views combined with other cultural resources produce special places where power is sought for medicine and other types of ceremony. Views can be of or from any landscape, but more central viewscapes are experienced from high places, which are often the tops of mountains and the edges of mesas. Indian viewscapes tend to be panoramic and are made special

when they contain highly diverse topography. These viewscapes or panoramas are further enhanced by the presence of volcanic cones and lava flows.

Viewscapes are tied with songscapes and storyscapes especially when the vantage point has a panorama composed of multiple locations described by traditional songs or stories. Our traditional songscapes and storyscapes can be compromised if projects like geothermal or solar energy development are pursued. If geothermal resources are altered on or near NTTR, our songs and stories will be impacted and will no longer accurately reflect key traditional aspects of the viewscape.

Central to the Indian experience of viewscapes is isolation and serenity in an uncompromised landscape. If construction and operation of the proposed activities proceed in a culturally inappropriate manner, then visual resources within the NTTR will be adversely impacted, further perpetuating an unbalanced environment. To restore balance to the environment and its visual resources, the Air Force must provide access for Native Americans to conduct religious and cultural ceremonies to fulfill traditional obligations. In this manner, we can restore and preserve our spiritual harmony as a whole.

The CGTO recognizes the cultural significance of viewscapes and has identified a number of these associated with the NTTR. The Kawich, Belted, Spotted, Desert, and Pahranagat Ranges along with Black Mountain and Mount Helen contain a number of significant vantage points with different panoramas including other nearby areas but not limited to Mount Charleston, Scrugham Peak, White Mountains, Telescope Peak and Buckboard and Pahute Mesas. The CGTO feels revisiting sites within the viewscapes are essential for Indian people to interact with the land, communicate with the spirits who watch over the land, conduct religious ceremonies with prayers and songs, and monitor the condition of each site. Special considerations should be given to tribal elders and youth to provide an educational experience and reinforce positive connections with our culture. (*Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017*).

The CGTO knows many of the activities described in this LEIS including facility construction and environmental restoration, will adversely impact visual resources. For Native Americans, the adverse impact to visual resources will most certainly impact the spiritual harmony of the environment as a whole. Facility construction and operation will impede visual resources and affect the solitude and cultural integrity of the land.

In particular, visual resources may be negatively impacted if proposed solar and geothermal projects are pursued on or near the NTTR. The CGTO must be part of any additional future discussions of these projects at a minimum as these may impact visual resources and may degrade traditional and cultural ceremonies.

Although the Air Force proposes to mitigate visual resource impacts by painting structures to reduce visibility, the CGTO knows additional mitigation measures are necessary. The CGTO recommends that landscape modifications, including those associated with environmental restoration activities, be done in consultation with tribal representatives. Specifically, Air Force should make provisions for Indian people to participate in regular monitoring of land-disturbing activities through the duration of the project. Finally, the CGTO recommends that the Air Force make provisions for Indian people to conduct ceremonies and offer prayers and songs in an effort to re-balance this adversely impacted resource. (*Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017*).

3.5.1.1.1 Wilderness and Wilderness Study Area – Consolidated Group of Tribes and Organizations

This paragraph 3.5.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.5.1.1, Description of Resource.

The CGTO remains concerned about the expansion of public lands for inclusion in the NTTR into wilderness areas including the Desert National Wildlife Refuge. Tribal representatives would no longer be afforded the necessary opportunity to use culturally sensitive areas when needed without restriction or involvement from the Air Force. Solitude is an essential component to preventing intrusion during tribal ceremonies in sacred areas. The CGTO has stated the potential for cultural discord from visual or audible intrusion of aircraft or associated activities that could impact wilderness resources important to Indian people. The CGTO will struggle with limited access to important resource locations within Wilderness or Wilderness Study Areas.

Both tribal and non-tribal recreationalists will be challenged by limited or denied access to previously visited locations. Biological and botanical resources used or needed by the CGTO will be unavailable and affect the cultural and ecological balance of withdrawn lands.

3.6.1.1.1 Socio-economics – Consolidated Group of Tribes and Organizations

This paragraph 3.6.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.6.1.1, Description of Resource.

The CGTO knows the socio-economic conditions addressed in the NTTR LEIS are inadequate in revealing the true impact upon Native people. The LEIS does not provide a full understanding of the tribal values, which are different and unique for sustaining tribal lifeways. Consideration must be given to examining tribal impacts on employment, earnings, agriculture, mining, recreation, grazing and energy corridors. Tribes have influence on these conditions however, the measure of meaning may not always be monetarily driven.

The CGTO knows value or significance is based on tribal identity and their spiritual relation to places used for sustaining traditional lifeways. For example, tribes have the ability to use a natural area for ceremonial activities to sustain balance within the cultural landscape. The CGTO believes generations upon generations of tribal people have sustained a way of life that relies upon the natural resources provided by the Creator. Rather than depleting resources, tribal practices promote active conservation to return balance to our natural world. Tribes place high value on the health and pristine nature of the land and prefer the least intrusive approach to minimize environmental change. We are the stewards who serve as the voices of the land, water, air and other living things. Thus, tribal governments are mindful of the importance of our own pursuit of economic development in culturally compatible ways that are in the best interest of the health and welfare of our people.

Native Americans prefer to live or use locations within our traditional homelands because of our special ties to the land and the unique relationship that can be severed or adversely impacted if a disconnection occurs. When Native Americans receive employment near their reservation, tribal people can reside on the reservation while commuting to work. This pattern of employment tends to have positive benefits for both the tribal communities and/or tribal enterprises like housing, health coverage and other tribal programming. The tribal community has increased participation from the individual and their financial contribution. The individual payment for tribal housing is tied to income level; when a person earns more from a job, rent is adjusted accordingly and revenues increase for housing programs; resulting in making tribally supported housing more economically sustainable and attractive for tribal governments.

Conversely, when employment opportunities decline on the reservation, Native American families must relocate from the tribal community to seek employment elsewhere. As tribal members move away, Native American culture is threatened because the number of families living on the reservation declines. Tribal members who move from their reservations impact reservation economies, schools, housing and emergency services. Both schools and tribal economies are impacted because federal funding for tribes is based on population statistics.

When local employment opportunities are offered through the Air Force for eligible tribal representatives to support land expansion activities, prices of tribal housing rise and tribal economies benefit, because of the increased revenue stream. If a positive balance occurs between increased income and increased cost of living in tribal communities is achieved, both the individual tribal member and their family including the tribe benefit from employment opportunities.

Tribal housing programs become jeopardized if vacancies occur in rental properties and dwellings remain unoccupied. If vacancies occur, tribal revenues diminish and federal

funding is adversely impacted, making it more difficult to expand housing programs in future years.

Vacant units require more maintenance and security at tribal expense. If tribal members are unavailable to occupy a tribal housing unit, then tribes make units available to non-Indians, and potentially impact Native American culture. The increased presence of non-Indians on a reservation or within the tribal community reduces the privacy needed to conduct certain ceremonies and traditional practices. When non-Indian children are in constant interaction with tribal children, it creates a disruption in cultural continuity by minimizing cultural learning opportunities that occur in everyday life.

When Native Americans move away from the reservation several dilemmas occur. Typically, Native Americans experience a feeling of isolation from their tribe, culture, and family. When an Native American relocates to an off-reservation area, the individual finds that there are fewer people of their tribe and culture to which they can connect. As a result, Native Americans must decide on the appropriateness of practicing traditional ceremonies in the presence of non-Indian people. Native Americans are continually torn between the decision to stay in the city or return to the reservation to participate in traditional ceremonies and interact with other tribal members. This dilemma occurs on a regular basis and potentially impacts the livelihood and cultural well-being of off-reservation employees and their families. When off-reservation individuals choose to return to their homelands to participate in traditional ceremonies or renew familial ties, they risk losing their jobs or being subjected to disciplinary actions against their children who attend public schools due to excessive absenteeism.

Under federal and tribal law, Native American children can be educated in tribally controlled and federally certified schools located on Indian reservations (also known as Indian Trust Land). Federal funds are available through Title VII Indian, Native Hawaiian and Alaskan Native Elementary and Secondary Education, which focuses on tribal communities with Indian special education and cultural needs for the Indian children. Compensation from the federal government is provided to any school district that has eligible students and has entered into a cooperative agreement with federally-recognized tribe(s), whether at a public, private, or an Indian-controlled school.

In addition to these potential impacts to housing and education, small rural Indian reservations must have a sufficient number of people to generate emergency management capability. The need for emergency services will decline as people move away from the reservation. Tribal members employed in these emergency services occupations may move away because of their marketable skills or that availability of increased income. Tribal revenues for administration, school, housing, and emergency services are reduced accordingly, due to a decline in eligible population.

Indian reservations within the CGTO region of influence are primarily located in remote areas with limited access by standard and substandard roads. Should an emergency situation occur resulting from NTTR related activities, including the transportation of munitions or hazardous materials, closure of the main or only transportation artery to our land could occur. If a major transportation corridor into a reservation closes, numerous adverse social and economic impacts could occur. For example, Indian students who have to travel an unusually high number of miles to or from school could suffer substantial delays. Delays also could occur for regular or essential deliveries of necessary supplies for inventories needed by medical services, tribal enterprises or personal use. The ability to deliver emergency medical services in route to or from the reservation, as well as purchases by patrons of tribal enterprises could be dramatically affected. Potential investors interested in expanding tribal enterprises and other ongoing considerations for future tribal enterprises, may significantly diminish because of the real and perceived risks related to access or the transportation of hazardous materials associated with NTTR related activities.

3.7.1.1.1 - Environmental Justice – Consolidated Group of Tribes and Organizations

This paragraph 3.7.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.7.1.1, Description of Resource.

Environmental Justice concerns identified by the CGTO and members of the public regarding effects on Native Americans include sacred land violations, perceived risks from munitions and electronic training activities, protection of Native American artifacts, cultural survival, access violations, and a request for government-to-government negotiations.

The CGTO has identified to important concerns that result in a disproportionate impact to tribal communities and perpetuate violations to tribal Holy Lands, which are at a critical state. Generations have been subjected to mistreatment and neglect without consideration and true recovery efforts required to sustain tribal religious practices. Future tribal generations must be afforded opportunities to practice native religions including access to key locations without access limitations.

The United Nations Declaration on the Rights of Indigenous Peoples was adopted by the United Nations General Assembly in 2007. The Declaration reflects the affirmation of tribal rights and offers powerful insight into understanding the value of traditional lifeways.

In consideration of the Declaration, the CGTO knows the vast landscape that encompasses the NTTR land withdrawal and proposed expansion areas is comprised of mountains, springs, dry lakes, trails, shrines, and rock writings (petroglyph/pictographs), considered integral to tribal lifeways. These elements are teaching resources upon which we rely upon. The learning and teaching of these resources is what native people

uniquely experience as sacred elements. Only through these resources, can one holistically approach the Creator. Removal or relocation from our homelands doesn't mean these places are removed from our heart as believed from past withdrawals; the NTTR land withdrawal will have an increased burden on tribal people. The recurrence of direct, indirect and cumulative impacts on the cultural landscape further diminishes the integrity of these resources effects are detrimental to tribal communities especially considering that generations upon generations have been continued to be adversely affected in some way or another.

To achieve equity in Environmental Justice, the Air Force must fulfill its trust responsibility and protect the cultural landscape while reducing the burden of sustaining the cultural values of 17 culturally affiliated tribes with ties to this region. The LEIS provides only a broad overview of the potential impacts and discounts the disproportionate affect to Native culture without acknowledging the unknown and potential risk of adversely affecting cultural transmission attributed to the NTTR withdrawal and accompanying alternatives.

Further, the following concerns associated with the intent of Executive Order (E.O.) 12898 Environmental Justice have been raised by the CGTO as noted below:

- Centrality and Continuity. Because the CGTO considers the NTTR to comprise a portion of their traditional lands, the NTTR is central to the functioning of American Indians from the surrounding region.
- Usurpation of All Resources. The CGTO sees the military land withdrawal, including the proposed lands in Alternatives 3 A-C, as a process that resembles what began with moving American Indians onto reservations and off the land, thereby causing a complete disruption of their way of life and a disconnect from important resources and culturally sensitive areas.

According to the CGTO, Air Force activities on the NTTR constitute sacred land violations, derived from perceived risks associated with munitions and electronic training activities that disturb culturally sensitive areas and cultural survival violations.

Although the Air Force and the CGTO are working together through the NAIP to provide access to certain portions of the NTTR that are not dangerous or will not conflict with training exercises, the CGTO has stated that "land disturbance and irreparable damage of cultural landscapes, traditional cultural properties and cultural resources may render certain locations unusable" (AIWS 1997).

The Air Force has initiated formal consultation with the 17 tribes and American Indian organizations through the CGTO and with the Nevada SHPO. The Air Force is working with these groups to identify cultural and traditional resources on the NTTR to co-manage. Increased participation in the LEIS process through the inclusion of tribal text and other ongoing efforts is considered a positive step towards enhancing tribal

involvement. The CGTO knows the proposed Alternatives 1 (Extend Existing Land Withdrawal and Management on North and South Range - Status Quo), 2 (Extend Existing Land Withdrawal and Provide Ready Access in the North and South Range), and 3 (Expand Withdrawal of Public Lands for the NTTR) will all restrict access to Native Americans due to scheduling conflicts and other safety or security concerns associated with military training and testing missions.

Access denial will have a disproportionate and adverse effect on the cultural integrity and sacred nature of culturally sensitive areas due to increased land disturbance. Native Americans have stated that land withdrawals, test and training activities, and land management activities by DOD and Air Force may cause further land disturbance and preclude access by Native Americans. The CGTO believes these activities create a cumulative impact that falls disproportionately upon tribal communities, by imposing access restrictions preventing use and interacting with the land and natural resources of the area that are considered critical to maintaining traditional, cultural and historic practices.

The CGTO knows that federal agencies are directed by Executive Order (EO) 12898, Environmental Justice, to detect and mitigate potentially disproportionately high and adverse human health or environmental effects of its planned programs, policies, and activities to promote nondiscrimination among various populations in the United States.

In the Record of Decision associated with the Final Environmental Impact Statement for the nearby Nevada Test Site and Off-Site Locations in the State of Nevada (1996 NTS EIS), the US Department of Energy (DOE) recognized the need to address Environmental Justice concerns of the CGTO based on disproportionately high and adverse impacts to their member tribes from the nearby DOE Nevada National Security Site (NNSS) activities.

Equally, in the 2002 Supplement Analysis for the Final Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada (2002 NTS SA), DOE concluded that the selection and implementation of the Preferred Alternative would impact its member tribes at a disproportionately high and adverse level, perpetuating Environmental Justice concerns. The CGTO maintains that Environmental Justice concerns continue to exist. Of special concern to the CGTO is the potential for Holy Land violations, cultural survival-access violations, and disproportionately high and adverse human health and environmental impacts to the Indian population. These Environmental Justice issues need to be addressed in the LEIS.

There is no question that the Native American Holy Lands have been, continue to be, and will be impacted by activities on the NTTR. It is also well known that only Indian people have lost cultural traditions because they have been denied free access to many

places on the NTTR where ceremonies need to occur, where plants need to be gathered, and where animals need to be hunted in a traditional way.

Prior to undertaking or approving activities on the NTTR, the CGTO recommends that the Air Force comply with E.O. 12898 by facilitating tribal access to the NTTR, sponsoring an Indian subsistence consumption study, and sponsoring a study to determine perceived health risks and environmental impacts resulting from NTTR activities to CGTO member tribes. The CGTO has concerns that fall within the context of E.O. 12898, such as subsistence consumption. Subsistence consumption requires the Air Force to collect, maintain, and analyze information on consumption patterns such as those of culturally affiliated tribal communities who rely principally on wildlife for existence. Most importantly, the E.O. mandates each federal agency apply equally their Environmental Justice strategy to Native American programs and assume the financial costs necessary for compliance.

To date, Air Force has not shared its design and implementation strategy for Environmental Justice with the CGTO, nor has it identified and analyzed subsistence consumption patterns of natural resources by Indian people within the region of influence. Since the E.O., specifically addresses equity to Indian people and low-income populations, it is critical that the Air Force immediately address the concerns of Indian Tribes and communities by conducting systematic ethnographic studies and eliciting input necessary for administrative compliance and in the spirit of the Air Force Instruction 90-2002. This policy outlines the principles in its decision making and interaction with federally recognized tribal governments. It requests that all departmental and installation elements ensure tribal participation and interaction regarding pertinent decisions that may affect the environmental and cultural resources of tribes. Of particular interest within these guiding principles is Section 1.5. Activities Typically Involving tribes which states:

1.5.1. *Air Force planning actions that may affect tribes include, but are not limited to (a) land- disturbing activities, (b) construction, (c) training, (d) over-flights, (e) management and protection of properties of traditional religious and cultural importance including historic properties and sacred sites, (f) activities involving access to sacred sites, (g) disposition of cultural/funerary items in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), (h) natural resources management activities, (i) educational and public affairs activities linked to tribal topics, and (j) other land use/military airspace operations in general.*

In the Record of Decision for the 1996 NTS EIS, nearby DOE recognized the need to address Environmental Justice concerns of the CGTO based on disproportionately high and adverse impacts to their member tribes tied to the adjacent Nevada National Security Site. In 2002 DOE concluded that the selection and implementation of the Preferred Alternative would impact its member tribes at a disproportionately high and

adverse level, perpetuating Environmental Justice concerns. Similarly, the CGTO maintains that Environmental Justice concerns continue to exist on the NTTR and will continue with the proposed land withdrawal and expansion areas. These concerns include (1) Holy Land violations, (2) cultural survival-access violations, and (3) disproportionately high and adverse human health and environmental impacts to the Indian population. Similarly, the CGTO knows the same circumstances persist on the NTTR that must be considered as noted below:

Holy Land Violations

The CGTO consider the NTTR lands to be as central to their lives today as they have been since the creation of their people. The NTTR lands are part of the Holy Lands of Western Shoshone, Southern Paiute, Owens Valley Paiute/Shoshone and Fort Mojave people. The CGTO perceives that the past, present, and future cultural pollution of these Holy Lands constitutes both Environmental Justice and equity violations. No other people have had their Holy Lands impacted by NTTR-related activities. Prior to undertaking or approving new activities, the CGTO should be funded to design, conduct, and produce a systematic American Indian Environmental Justice study with qualified ethnographer(s) that have experience with the CGTO.

Cultural Survival-Access Violations

One of the most detrimental consequences to the survival of Native American culture, religion, and society has been the denial of free access to Native people's traditional lands and resources. Loss of access to traditional food sources and medicine has greatly contributed to undermining the cultural well-being of Indian people. These Indian people have experienced, and will continue to experience, breakdowns in the process of cultural transmission due to lack of free access to government-controlled lands and resources such as those in the NTTR area. No other people have experienced similar cultural survival impacts due to lack of free access to the NTTR area.

In 1996, President Clinton signed E.O. 13007, Indian Sacred Sites. The E.O. promotes accommodation of access to American Indian sacred sites by Indian religious practitioners and provides for the protection of the physical integrity of such sites located on federal lands. The CGTO recommends that open access be allowed for Native Americans who must conduct their traditional ceremonies and obtain resources within the NTTR study area. Unfortunately, however, land disturbance and irreparable damage of cultural landscapes, potential Traditional Cultural Properties (TCPs), and cultural resources may render certain locations unusable.

Disproportionately High and Adverse Human Health and Environmental Impacts to the Indian Population

It is widely known that many tribal representatives still collect and use plants and animals that are found within the NTTR region. Many of the plants and animals cannot be gathered or found in other places. Consumption patterns of Indian people who still use plants and animals for food. medicine, and other cultural or ceremonial purposes force the CGTO to question if its member tribes are still being exposed pollution, and potentially hazardous waste located at the NTTR.

3.8.1.1.1 Biological Resources – Consolidated Group of Tribes and Organizations

This paragraph 3.8.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.8.1.1, Description of Resource.

The Consolidated Group of Tribes and Organizations (CGTO) knows the NTTR contains ancient playas, surrounded by mountain ranges . The runoff from these ranges serves to maintain a healthy desert floor and environment. Animals frequent the area, and there are numerous animal trails. Animals and the places where they live play a significant part in Indian history and lifestyle. The CGTO knows Indian people have lived on these lands since Creation and value all plants and animals, yet some of these may have more cultural significance in our lives. It is widely known that many Indian people still collect and use plants and animals that are found within the NTTR region. We describe these plants, animals and insects in this section in an effort to demonstrate their importance to our well-being and survival, and their role in maintaining ecological balance to our Holy Land.

The CGTO knows, based on previous ethnobotany studies in the region, that there are at least 364 American Indian traditional use plants on the NTTR. (See *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017* – Table 1 *Three Hundred and Sixty Four Native American Traditional Use Plants on NNSS and NTTR*). Plants are still used for medicine, food, basketry, tools, shelter, clothing, fire, and ceremonies - both socially and for healing purposes. One example is Sage, which is used for spiritual ceremonies, smudging and medicine. Indian ricegrass and wheatgrass are used for nutritional supplements.. Joshua tree is important for hair dye, basketry, footwear, and rope. Globe mallow had traditional medicinal uses, but in recent times is also used for curing European contagious diseases. In order to convey the Native American meaning of these plants, a series of ethnobotany studies were conducted and the findings used to establish a set of criteria for assessing the cultural importance of each plant and of places where plant communities exist. The CGTO provided these cultural guidelines so that National Environmental Policy Act analyses and other agency decisions could be assessed from a Native American perspective.

The CGTO knows, based on previous ethno-fauna studies in the area that there are at least 170 Indian-use animals on the NTTR (See *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact*

Statement - October 2017 - Table 2 *One Hundred and Seventy Native American Traditional Use Animals on NNSS and NTTR*). All are culturally important to Indian people. The CGTO knows if they care for the earth and its resources, the Creator will always provide for them. The area comprising the NTTR and proposed land expansion was among the tribes' places to hunt and trap a variety of animals. It is known that special leaders within each tribe would organize large hunts where many Indian people participated. The Indian people would use these animals for many purposes, including food, clothing, bones for tool making, fur for warm blankets, and ceremonial purposes as referenced in traditional winter stories.

Indian people refrain from eating coyote, wolves, and some birds because these animals are fundamental to stories and songs that teach us life lessons to heal, to build character and to become better people. The relationships between the animals, the Earth, and Indian people are represented by the respectful roles they play in the stories of our lives then and now. For example, the NTTR contains some valleys where important spiritual journeys occurred. One such journey involved Wolf (*Tavats* in Southern Paiute, *Bia esha* in Western Shoshone, *Wi gi no ki* in Owens Valley Paiute) and is considered a Creation or origin story. Out of respect to our traditional teachings, only parts of this story are represented here. When Wolf and Coyote had a battle over who was more powerful, Coyote killed Wolf and felt glorious. Everyone asked Coyote what happened to his brother Wolf. Coyote felt extremely guilty and tried to run and hide but to no avail. Meanwhile the Creator took Wolf and made him into a beautiful Rainbow (*Paro wa tsu wu nutuvi* in Southern Paiute, *Oh ah podo* in Western Shoshone, *Paduguna* in Owens Valley Paiute.) When Coyote saw this special privilege he cried to the Creator in remorse and he too wanted to be a Rainbow. Because Coyote was bad, the Creator changed Coyote to a fine, white mist at the bottom of the rainbow's arch. This story and the spiritual trails discussed in the full Winter version are connected to the Spring Mountains and the large sacred cave within the NTTR in addition to the surrounding lands. These areas comprise the home of Wolf, whose spirit is still present and watches over Indian people and our Holy Land.

Stink bugs, willows, frogs, hummingbirds, and *snow fleas* are all important to Indian people and are used to show our respect for the rain and snow. (For additional information on these plants and animals, please see Water Resources. Section 3.11.1.1.1. The desert bighorn sheep and the desert tortoise are both culturally sensitive animals to Indian people. When used ceremonially, these animals have special qualities that enable them to alter the weather when needed to nourish the land. The desert tortoise has further significance to Indian people because of its healing powers, longevity, and wisdom. It is integral to our traditional stories, well-being and perpetuation of our native culture. (See *Appendix K – CGTO Native American*

Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017 for more details).

The CGTO knows the current 100-year drought has increasingly stressed the physical and spiritual nature of the plants and animals on the NTTR. Its environmental impacts are unprecedented in the history of the operation and management of these lands. The CGTO knows the 100-year drought has modified the abundance and distribution of all animals and plants. The quality, quantity, and distribution of indigenous plants, animals, and insects necessary to sustain a healthy environment and to maintain a productive animal habitat are clearly affected.

Water - both as free flowing springs and absorbed by plants and distributed to animals - has diminished. Certain springs have dried up making animals travel into other unfamiliar lands. Food foraging becomes difficult and land dries up. Wildlife has less body fat, which results in shorter hibernation cycles. Native Americans have observed that ground squirrels are becoming cannibalistic to survive. Other animals are changing their habits as the environment continues to be impacted by this drought. For example, rabbits are now forced to eat unusual foods like Yucca. According to one tribal elder, "*The cries of some birds have changed since the drought began."*

Traditional use of plants and animals are an important aspect for Native Americans. The loss of important species dates back to the arrival of early settlers. Invasive species continue to threaten the natural ecosystem and resources on the lands which creates negative impacts on the growth of natural plants, trees and wildlife habitats.

The mitigation measures presented by the Air Force focus on avoidance of biological resources, relocation of animals species and monitoring plants, animals, and their habitats. The CGTO recommends the Air Force mitigate adverse impacts to biological resources through interaction with the CGTO with the goal of avoidance, culturally appropriate revegetation efforts, reintroduction of native animals, and traditional plant and animal management methods. Native Americans have extensive traditional ecological knowledge and deep concern for the biological resources of the area and should participate directly with the Air Force to mitigate impacts and protect their resources.

According to tribal elders, "*Prior to re-vegetation efforts, we must talk to the land to let it know what we plan to do and ask the Creator for help. We choose our seeds from the sweetest and best plants and store them for the winter to dry. When the winter is over, we place the seeds in a moist towel or sock until they are ready to transplant into the ground. This is a long and delicate process, requiring patience, skill and knowledge passed down from our ancestors. If the plants are struggling to grow, we tag them and move them to face the same direction of the sun.*" The Air Force would benefit from this knowledge to enhance their re-vegetation efforts. The CGTO knows the Air Force

struggles with success rates regarding the density and diversity of native plants during re-vegetation efforts. A co-stewardship approach with the CGTO continues to enable the Air Force to enhance revegetation efforts, thus saving time, money, and resources.

Mitigation measures presented by the Air Force includes notifying the US Fish and Wildlife Service (FWS) of incidental taking of desert tortoises. The desert tortoise is a culturally significant reptile to Native Americans because of its healing powers, longevity and wisdom. It is an integral part of traditional winter stories, along with our well-being and the perpetuation of our native culture. Incidental taking of this traditionally important animals is particularly disturbing to Native Americans. Accordingly, the Air Force must initiate action to concurrently notify the CGTO in tandem with FWS so traditional ceremonies can be conducted to prepare our tribal people and the environment for this loss.

According to the LEIS, over the past 14 years, various initiatives have been undertaken to restore animal habitats and reintroduce certain animals including desert bighorn sheep on portions of the NTTR without ceremonial intervention from the CGTO. Modification of habitats or the restocking of certain species is considered a highly culturally sensitive religious act and requires involvement from Native Americans through the CGTO. For these activities to be successful, it is essential to have tribal representatives involved throughout the process allowing proper access to conduct ceremonial activities. (See *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017* for more details).

3.9.1.1.1 Cultural Resources - Consolidated Group of Tribes and Organizations

This paragraph 3.9.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.9.1.1, Description of Resource.

The CGTO knows cultural resources are interconnected. They encompass more than physical structures and are not limited to sacred sites. Natural resources within the NTTR are considered culturally sensitive and include but are not limited to plants and animals, natural formations, waterways, weather and astronomy that must all be kept in balance in culturally appropriate ways. Native Americans rely on these resources to sustain life and to interact with the spiritual world as described in our traditional beliefs to keep the world in balance. If balance is not sustained, the land will react and change will occur, thus impacting cultural resources on the NTTR. The CGTO knows the complex views of tribal people must be respected in order to protect the area from contamination and other adverse effects that may destroy the cultural integrity of the landscape.

3.9.1.2.1 Region of Influence – Consolidated Group of Tribes and Organizations

Although land withdrawal alternatives have been identified in the LEIS, the CGTO cannot give specific comments on any of the areas as stated in the 2017 LEIS proposal

on page 3-183, line 11-13 "…land proposed to be withdrawn have not yet been determined…" More information is needed for the CGTO to provide a corresponding response. Once information is received, tribal text will be developed by the tribal writers using a similar evaluation process for other sections of the LEIS.

This paragraph 3.9.1.2.1 provides the Native American perspective regarding the information presented in LEIS Section 3.9.1.2, Region of Influence.

The LEIS defines the APE for the proposed action to be assumed not to extend beyond the footprint of the activity boundaries as defined for Alternatives 1, 2, 3A, 3A-1, 3B and 3C and associated airspace (LEIS 3.9.1.2 Region of Influence). The CGTO knows NEPA extends beyond proposed activity boundaries and requires systematic evaluations of "visual, auditory, social, and land use effects; impacts on community cultural integrity; impacts to cultural uses of the biophysical environment; and so on." (National Preservation Institute).

Native Americans describe cultural resources differently than federal agencies because of our epistemological view of the personified environment that encompasses life. To list and describe all the items that are considered a resource would be extremely difficult to describe. However, some examples include foods and medicines, unobstructed visual horizons of the cultural landscape to include view of the mountains or sunrise for morning blessings, water, rock shelters, and the wind to breathe air needed for songs or for the mountains, trees and insects to hear them. Connections between places are culturally critical because they constitute the foundations of cultural landscapes, which in turn define how the world is significantly interwoven into a whole. Like a net, if one place or combination of places is broken, the whole is proportionally weakened. There is no secular way to describe how the cultural resources sustain and interact to support each other -- it is only noticed once something dies or ceases to exist.

3.9.2.1.1 Analysis of Methodology – Consolidated Group of Tribes and Organizations

The CGTO knows it is difficult to describe the impact on physical sites without identifying locations of specific sites. However, Native Americans are able to comment on the impact of increased activities that support simulated combat directly or indirectly within the NTTR as it relates to the natural, physical, and spiritual worlds.

This paragraph 3.9.2.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.9.2.1, Analysis Methodology.

Native Americans have and always will rely on the entire environment for life, including air, wind, water, animals, plants, trees, rocks and anything within the cultural landscape that is visible and not visible, including unobstructed landscapes. It is essential that consultation with Native Americans through the CGTO must be maintained to discuss the impacts of any proposed or actual land disturbing activities that increase air traffic or

alteration to the land. Disturbance to any one element affects the connectedness of all. For example, limiting access or tribal involvement perpetuates tribal separation from the land and negatively affects the natural balance of the land and all living things. Our languages, traditional prayers, songs and stories help maintain the natural balance and are necessary to sustain harmony.

This paragraph 3.9.2.2.1 provides the Native American perspective regarding the information presented in LEIS Section 3.9.2.2, Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo.

3.9.2.2.1 Alternative 1 – Consolidated Group of Tribes and Organizations

According to the LEIS, "Battis (1983) indicates that sonic booms are unlikely to cause damage to archeological features." The CGTO knows sonic booms can disturb the cultural balance and physical environment by bringing harm to the spirits of the land and to culturally sensitive sites. The Air Force acknowledges the potential impact and disturbance from sonic booms over populated areas. Similarly, the CGTO believes the same impacts and disturbance occur to the living landscape.

There is no accurate way to describe the impact on animals and the spiritual world to include air currents when considering the results of Battis study without a systematic ethnographic study that involves Indian people. It is important to note that the Battis study is based on measurements taken 33 years ago when different technology was used. Today aircraft produce louder noise at different frequencies than in the past. Current data is needed to accurately assess the proposed impacts of sonic booms to the cultural landscape so the CGTO can develop a corresponding response.

This paragraph 3.9.2.2.1 provides the Native American perspective regarding the information presented in LEIS Section 3.9.2.2, Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo.

3.9.2.2.1. Alternative 1 – Consolidated Group of Tribes and Organizations

Construction of new sites or activities used to support military operations always creates new risks. While government agencies seek to "mitigate" possible disturbance, the CGTO looks for ways to avoid, prevent or minimize additional disturbance to the cultural landscape. Tribal consultation with the CGTO is required throughout the planning and implementation process associated with new undertakings that may impact the cultural landscape.

It is impossible to continue operation on the NTTR without disturbing the spiritual world and the interconnectedness to which Native Americans are charged with keeping the land in balance.

3.9.2.3.1 Alternative 2 – Consolidated Group of Tribes and Organizations

The CGTO knows a 30% increase in flight operations will have increased impacts on the land. The presence of additional aircraft will increase stress to the entire cultural landscape both visible and non-visible. There is no way to measure the true cultural impacts on air movement, effects on animal behavior, and impacts of increased operations that may further restrict Native American access to the NTTR for traditional ceremonies and other religious activities.

This paragraph 3.9.2.3.1 provides the Native American perspective regarding the information presented in LEIS Section 3.9.2.3, Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges.

3.9.2.4.1. Alternative 3 – Consolidated Group of Tribes and Organizations

The CGTO disagrees that a 30% increase in flight operations will have minimal impacts. The presence of additional aircraft will increase stress to the entire cultural landscape both visible and non-visible. There is no way to measure the true cultural impacts on air movement, effects on animal behavior and increased operations that may further restrict Native American access to the NTTR for traditional ceremonies and other religious activities.

This paragraph 3.9.2.4.1 provides the Native American perspective regarding the information presented in LEIS Section 3.9.2.4, Alternative 3 – Expand Withdrawal of Public Lands for the NTTR.

3.9.2.5.1 Alternative 4 – Consolidated Group of Tribes and Organizations

Restricting public access to culturally sensitive sites has a potential benefit for protecting those sites and resources, however it severely restricts access of tribal people to sites of importance when ceremonial use is needed. Currently, the Archaeological Resources Protection Act and other regulations protect lands and sites from desecration. Protection resulting from restrictive measures further limits Native American access to certain locations when needed. Protective measures should be consistent with the American Indian Religious Freedom Act and E.O. 13007 Access to Sacred Sites and in compliance with AFI 90-2002 Tribal Consultation with Federally Recognized Tribes and lastly, E.O. 13007 Access to Sacred Sites

This paragraph 3.9.2.5.1 provides the Native American perspective regarding the information presented in LEIS Section 3.9.2.5, Alternative 4 – Establish the Period of Withdrawal.

3.9.2.6.1 No Action Alternative - Consolidated Group of Tribes and Organizations

Native American lands have been exploited, desecrated or impacted from the time of the first settlers. Regardless of the proposed alternative, the CGTO believes it does not give the right for anyone to cause irreparable harm to our traditional homelands including the resources or the deities

This paragraph 3.9.2.6.1 provides the Native American perspective regarding the information presented in LEIS Section 3.9.2.6, **No Action Alternative.**

that protect the land. It is our responsibility to co-exist and nurture the land for those who follow us as we have done for thousands of years. Involvement with the Air Force is an example how Native Americans can live, use and visit the land that contains archaeological evidence of our past and present existence over thousands of years. While the land has changed as a result of military presence, many of the areas remain nearly the same as they have for thousands of years.

3.9.1.3.1 Cultural Resources - Consolidated Group of Tribes and Organizations

This paragraph 3.9.1.3.1 provides the Native American perspective regarding the information presented in LEIS Section 3.9.1.3, Cultural Resources.

Native Americans consider cultural resources to include not only archaeological remains left by our ancestors but also natural resources and geologic formations in the region, such as plants, animals, water sources, minerals, and natural landforms that mark important locations for keeping our history alive and for teaching our children about their culture. The CGTO knows, based on its collective knowledge of Native American culture and the universal tribal view of cultural resources and their interconnectedness is considered inseparable. In 2008, an ethnographic study of the Black Mountain area on NTTR was conducted that reaffirmed ceremonial trails, sacred sites and how they are tied together (Stoffle, Arnold, Van Vlack, O'Meara and Medwied-Savage 2009).

Contrary to descriptions in the LEIS relating to cultural affiliation by a single group rather than all, the NTTR and nearby lands are significant to Western Shoshone, Southern Paiute, Owens Valley Paiute/Shoshone and Fort Mojave people. The lands are central in the lives of these people and were mutually shared for religious ceremony, resource use, and social events (Stoffle et al., 1990a and b). When Europeans encroached on these lands, the numbers of Indian people and their relationship with one another changed, and the condition of their homelands began to be out of balance. European diseases killed many Indian people; European animals replaced Indian animals and disrupted fields of natural plants; Europeans were guided to and then assumed control over Indian minerals; and Europeans took Indian agricultural areas. Indian people believe that the natural state of their homelands was what existed before European contact, when Indian people were fully responsible for the continued use and management of these lands.

The withdrawal of Nevada's lands for military purposes occurred in the 1940's, followed by the continued process of Euro-American encroachment on Indian lands and impacts on our resources. The forced removal of Indian people from the land was combined with their involuntary removal to distant reservations. Land-disturbing activities followed, causing some places to become unusable our out of balance for Indian people. On the other hand, many places were protected by the land withdrawal because "pothunters" were kept from stealing artifacts from rock shelters and European animals were kept

from grazing on Indian plants. The forced removal of Indian people from the land was combined with their involuntary registration and removal to distant reservations in the early 1940s. Indian people were thus removed from their homelands that had been central to their lives for thousands of years.

Nellis Air Force Base has supported several cultural resource studies relating to NTTR, most occurring as a result of recommendations made by the CGTO and commitments made by the Air Force. Many of these studies are cited throughout this document. These studies were also designed to comply with various federal laws and executive orders, including the American Indian Religious Freedom Act, Native American Grave Protection and Repatriation Act, Executive Order 13007, Indian Sacred Sites and Air Force Instruction 90-2002 Interactions with Federally Recognized Tribes. Through these studies, the CGTO reaffirmed that American Indians used traditional sites on the NTTR to make tools, stone artifacts, and ceremonial objects; Many sites are also associated with traditional healing ceremonies and power places

Several areas within the NTTR and the proposed land expansion areas are recognized as traditionally or spiritually important. For example, the Kawich, Belted, Spotted, Desert, and Pahranagat Ranges along with Black Mountain and Mount Helen, contain a number of significant vantage points with different panoramas including but not limited to Mount Charleston, Scrugham Peak, and Buckboard and Pahute Mesa. Black Mountain and an inter-related cinder cone comprise an important religious site that is considered to be a portal to the underworld. Prow Pass on the nearby NNSS is considered an important ceremonial site and, because of this religious significance, tribal representatives have recommended the DOE make attempts to minimize disturbance that may affect this area (Stoffle et al. 1988). Oasis Valley near Beatty, Nevada is considered another important area for trade and ceremonies. In 1993, tribal members visited a rockshelter site containing perishable basketry and crookneck staff on the NNSS, and recommended that the items be left in place, with annual monitoring to assess their condition. Similarly, Gold Meadows near the NTTR and NNSS boundary is extremely important to the Indian people. Other areas are considered important based on the abundance of artifacts, traditional-use plants and animals, rock writing, and possible burial sites. (See *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017* for more details).

The CGTO recommends the Air Force make provisions for Native Americans to continue to identify culturally significant locations so potentially impacted resources can be identified, alternative solutions discussed, and adverse impacts averted. These studies will address and guide the Air Force in developing culturally appropriate Best Management Practices to protect cultural resources and more effectively implement mitigations measures in accordance with Council on Environmental Quality regulations

(40 CFR 1508.20 1 through 5). To accomplish best practices, Native Americans must be involved with the following actions:

- Assess and determine culturally appropriate measures to protect geological formations important to the spiritual landscape.
- Implement culturally appropriate environmental restoration techniques that require minimal ground disturbance.
- Restore impacted plant and animal species essential to the spiritual and cultural landscape.
- Provide Native Americans access to CGTO designated areas so we can conduct purification and balancing ceremonies in an attempt to restore the natural and spiritual harmony of the NTTR landscape.
- Develop and implement systematic American Indian ethnographic studies to better understand the interconnectedness of the cultural landscape, and implement culturally appropriate methods to protect the landscape and sustain spiritual and cultural balance.
- Initiate tribal re-vegetation efforts to help restore disturbed areas on the NTTR.

In addition, the CGTO recommends areas near the NTTR/NNSS boarder be set aside for exclusive Indian use because of significant cultural resources.. Efforts should be made to forego any additional land disturbances within these areas and provide access to Native Americans.

The CGTO agrees site monitoring is essential to preserving cultural resources on the NTTR, and recommends Native Americans continue to serve as site monitors. As a minimum, the CGTO recommends annual tribal visits to monitor the condition of sensitive cultural sites located within the NTTR. The CGTO further recommends visits to areas designated or potentially designated for repatriation. Finally, the CGTO recommends Native Americans conduct periodic assessments in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA) and other federal mandates.

3.9.1.4.1 Alternative 3C Alamo Withdrawal – Consolidated Group of Tribes and Organizations

This paragraph 3.9.1.4.1 provides the Native American perspective regarding the information presented in LEIS Section 3.9.1.4, Archeological Resources.

The CGTO knows the Nuwuvi Working Group (NWG) is comprised of 7 Southern Paiute/Chemehuevi Tribes that work closely with the US Fish and Wildlife and Forest Services. The NWG is a separate entity of tribally appointed representatives of which many are active participants in the CGTO. In February 2017, federally recognized tribes working with the NWG wrote a letter to the Air Force and US Fish and Wildlife expressing concerns about the impending LEIS and the proposed land expansion into the Desert National Wildlife Refuge Complex. In preparation for the LEIS, the Air Force developed a Historic

Property Identification Plan (HPIP) that did not address nor consider Southern Paiute or other tribal concerns relating to religious ties to the area or impacts to traditional tribal song and storyscapes. The NWG expressed additional concerns about an outdated methodology using predictive modeling to identify areas of cultural significance in pre-determined locations.

In response to NWG concerns, the University of Arizona-Tucson entered into a contract with Far Western Anthropological Research Group (FWARG) in September 2017 at the request of the Nellis Air Force Base to conduct an ethnographic study for the proposed land expansion areas. This region of influence is known to contain many important culturally sensitive resources, objects and places. Some key examples of these resources include religious trail systems that connect the Spring Mountains to the Pahranagat Valley and ceremonial locations that fall within a geologic constriction that lead into Desert Dry Lake playa. Other areas include numerous other important power spots and related locations that are commonly used to support traditional religious and ceremonial activities.

3.10.1.1.1 Earth Resources – Consolidated Group of Tribes and Organizations

This paragraph 3.10.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.10.1.1, Description of Resource.

The CGTO considers Earth Resources as defined in the LEIS to be interconnected with the land and inseparable from cultural resources described in 3.9.1.3.1. The CGTO knows it is charged with the cultural responsibility of serving as the voices of those elements described as Earth Resources. As such, the CGTO does not support those activities that creates sickness to the land or causes an imbalance to the cultural landscape.

3.10.1.3.1 Volcanism and Seismic Activity – Consolidated Group of Tribes and Organizations

This paragraph 3.10.1.3.1 provides the Native American perspective regarding the information presented in LEIS Section 3.10.1.3, Geology.

The CGTO knows the NTTR is located within a moderately active seismic zone that has been visited because of its culturally significant attributes to the 17 tribes. The CGTO has observed many inter-related sites both on and near the NTTR that contain deep-rooted religious significance necessary to sustain balance within our Holy Lands. Ethnographic studies have documented how and why volcanic formations are used as destinations for vision questing, medicine, quarrying sacred minerals and acquiring ceremonial songs and protocols (e.g., Carrol et al. 2006; Stoffle et al. 2009; Stoffle, Zedeno et al; 2001). Extensive and previously unknown ethnographic information was collected between 1997 and 2008 that described the area before and after the arrival of Europeans. The areas specific to the NTTR are derived from volcanic activity where sentient beings that travel through the magma to maintain cultural equilibrium and

keeps the cultural landscape in balance. If disrespected, the land reacts prompting volcanic activity to occur and causing upheaval that requires cultural intervention. The cultural centrality of volcanoes is well known and described using traditional ecological knowledge that can never be underestimated.

Minerals are culturally important and have significant roles in many aspects of Indian life. For example, the Chalcedony would have made an attractive offering that could be acquired on the NTTR, then left at the vision quest or medicine site located to the north on top of a cinder cone or peak like Black Mountain. Upon return, traditional Indian people would bring other offerings back to the initial site where a previous offering was acquired.

Obsidian is a glass-like stone produced by volcanoes. Indian people used a green volcanic glass during curing ceremonies that involved bleeding the patient. Volcanic glass was found below Obsidian Butte and used in the first arrow-making lessons for young men. Such lessons were held in small rock shelters found along the base of the basalt flow that constitutes Buckboard or Pahute Mesa. Obsidian flakes were placed before important rock art panels as offering to the spirits that lived on the other side of the passageway provided by the panel. Small obsidian stones, commonly called Apache Tears, have been found in large quantities in southern Nevada. These massive deposits of obsidian stones are interpreted by Indian people as being provided by the mountain as both a spiritual backdrop and a location rationale for vision quests (Stoffle et al. 2001).

Volcanic rocks are used in a wide range of ceremonial activities. Indian women enhance the quality of breast milk by squirting it on heated rocks (Stewart 1940; Miller 2004). They are used for medicine society sweat lodge meetings (Zedeno et al. 2001:146). Indian people call some volcanic rocks “grandfather stones,” a designation that reflects reverence as well as wisdom. Such rocks are sought in special places of power and carried over long distances to serve as heated stones in sweat lodges.

3.11.1 Water Resources Affected Environment – Consolidated Group of Tribes and Organizations

This paragraph 3.11.1 provides the Native American perspective regarding the information presented in LEIS Section 3.11, Water Resources.

Information in the LEIS does not adequately address adverse effects to water resources and the environment. Factors such as heavy metals from bombs and other munitions must be evaluated to thoroughly understand the effects to water. The effects are far-reaching and impact animals that drink water from water sources in different areas. No consideration is given to chemical, biological and cultural adverse effects to other interconnected resources.

The CGTO knows when water is respected, it sustains all life forms. Conversely, when water is mistreated, it withdraws life-giving support and returns to the underworld. The

Consolidated Group of Tribes and Organizations (CGTO) knows we are in a drought because humans have disrespected the earth. It is affecting the balance of our earth's climate. One inevitable implication of the current 100-year drought is surface water on the NTTR and surrounding areas have diminished and become more sporadic. The modification and availability of surface water has the ability to affect all trophic levels on the NTTR.

The CGTO knows drainage patterns have been unnaturally altered from Air Force operations and will continue to be impacted if no change occurs. The CGTO has observed places on the NTTR where the rain falls but does not nurture the plants and the animals cannot rely on it. The water within these features is central to our ceremonies in restoring balance. Tribal elders have noted, "*Water has been disrespected and therefore it is disappearing. It is a medicine--used to heal and used for healing. It is used for ceremonial purposes in prayer. It is alive and must be awakened. It is spiritual--an essential component to begin religious ceremonies, and part of sweat ceremonies. Historically, water was pure and available to those who respected it. Bathing was a ritual. Now we do not trust the purity of the water because it has been disrespected. Hot springs have been affected and are no longer at the temperatures they used to be."*

In the 1997 Nellis Air Force LEIS, the CGTO emphasized the importance of involving the tribes in the co-management opportunities to help sustain balance through traditional practices needed to protect the resources before, during and after water monitoring or surveys. No comprehensive systematic and collaborative ethnographic studies specific to water resources have been conducted on the NTTR to fully assess the potential effects to cultural resources derived from the military presence. By supporting the CGTO in a proposed collaborative ethnographic water management project, the Air Force would help reduce drought conditions and gain a better understanding of traditional land management practices. In turn, this project would provide spiritual, cultural and ecological benefits to the land and the environment, thereby facilitating our obligation to sustain the spiritual and ecological balance. Implementation will require cultural experts to identify locations, inventory and evaluate site resources, examine extenuating conditions, and implement culturally-appropriate mitigation measures. (See *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017* for more details)

Until such time as these studies are completed, the Air Force will remain challenged in understanding the cultural complexities associated with protecting culturally sensitive resources on the NTTR.

3.11.1.4.1 Surface Water - Existing NTTR Boundary Alternatives 1 and 2 Hydrology – Consolidated Group of Tribes and Organizations

This paragraph 3.11.1.4.1 provides the Native American perspective regarding the information presented in LEIS Section 3.11.1.4, Surface Water.

The LEIS provides information about the origin of the water that occurs on the NTTR, beginning with springs, seeps or winter snowpack which aligns with CGTO perspectives. Tribes rely on the winter snow accumulation that begins before the winter starts by incorporating traditional prayers and ceremonies. In relation to the living creatures, the *snow fleas* are the ones that make the water in the springtime to keep things in balance.

The CGTO was not included in water studies during the project survey conducted by the NTTR. Water is sacred to Native people. The Air Force should work closely with the CGTO to develop co-management strategies including systematic monitoring and intervention from participating tribes.

3.11.1.4.1 Jurisdictional Surface Waters – Consolidated Group of Tribes and Organizations

This paragraph 3.11.1.4.1 provides the Native American perspective regarding the information presented in LEIS Section 3.11.1.4, Surface Water.

According to the LEIS, surface water are navigable which is somewhat misleading since most of the rivers on or near NTTR are subsurface hydrologic systems that are too small to be used by vessels as described in the Webster dictionary. Hydrologic basins are identified as the Amargosa River and Las Vegas Wash which neither is navigable by vessel although used by cultural deities who rely on these waterways to protect the land. The CGTO knows that these supernatural beings rely on these basins to sustain the hydrological balance located in the NTTR cultural landscape. Any activities that disrupt the delicate balance of the resources and deities require tribal intervention to restore the cultural equilibrium of the area.

3.11.1.6.1 Groundwater Water Quality – Consolidated Group of Tribes and Organizations

This paragraph 3.11.1.6.1 provides the Native American perspective regarding the information presented in LEIS Section 3.11.1.6, Groundwater.

Historic nuclear testing at the Nevada National Security Site (formerly known as Nevada Test Site) adjacent to the NTTR, resulted in areas of radioactive groundwater contamination that is monitored within the boundaries of the NTTR. The CGTO knew the water would be contaminated, and according to S&B Christ Consulting, LLC 2016, a small trace of tritium was detected in an early detection well. This finding confirms the CGTO concerns relating to adverse effects onto the cultural integrity of resources on the NTTR.

According to tribal elders, "*Water is life. Water is needed by the plants and animals. Indian people bless themselves with it. It purifies the body. Water is medicine and must be respected. American Indians need It to conduct religious ceremonies. It cleans the earth. It has a vast connection to the underground. Water shouldn't be contaminated or it will die and lose its spirit*." Each of the distinct underground hydrological basins, has its own origin story that describes its personality. One tribal story tells of a distinct underground water network created by Ocean Woman where she placed her feet. According to the traditional story, there are points where the water emerges at the surface in springs and seeps. It was here that Ocean Woman placed her medicine staff into the ground and water emerged.

At other points, the surface water in low playa lakes meets the underground water channels. These points are like doorways between the surface world and the underworld. Rain calling is a basic aspect of American Indian life and culture. Rain ceremonies from the spiritual world help facilitate rain production, and were led by rain callers, often called rain shamans or rain doctors in the English language. The rain caller calls upon the rain by singing songs, and is aided by his spirit helper, which is usually in the form of a mountain sheep. The mountains also had important roles in this activity, and were called upon to interact with the clouds and the sky to call down the rain.

Even today, individual traditional Indian people can bring rain which transforms into groundwater. One way this is done is by turning a stinkbug on his back. The rain will come, provided the stinkbug allows a person to tickle his belly with a small stick. This person then prays for rain, and tells the stinkbug why he is asking for rain in a respectful manner.

If too much rain falls that could cause flooding, certain precautions are taken. For example, the children are not allowed to shake willows that will be used for weaving or to kill frogs as this brings more rain. Hummingbirds were not killed for many reasons, if they are killed, there will be flooding and lightning storms, with lightning killing the person who brought harm onto the hummingbird.

In the old days, a Snow Ceremony was performed to ensure a good winter with heavy snow fall. The spiritual leader, often called a weather doctor in the English language would call the people together and meet at a special place in the mountains, sometimes near a pine nut gathering area. The spiritual leader would sing songs and offer, prayers.

According to Indian tradition, the Snow Ceremony is performed during the late fall when the weather becomes cold A part of this ceremony involves calling on the *snow fleas*. They represent a special category of American Indian environmental knowledge because they are almost invisible and live at the highest elevations on the mountains. The *Snow Fleas* are the ones that make the snow wet and absorb into the mountain.

Without them, the snow is dry and evaporates quickly, and there is less water for the mountains and the valleys below. The Snow Ceremony is conducted in relationship with a ceremony for the seeds where young girls dance with seeds in winnowing trays and a spiritual person sings songs to bring whirlwinds, which surround the dancers and scatter the seeds as a gesture of fertilizing the earth. Water is called upon to nourish the soil and the seeds to make them fertile.

Because water is a powerful being it is associated with other powerful beings, such as *water babies,* supernatural beings like the people of the water. They are highly respected by American Indian culture. If water is contaminated the water babies will move to other areas that are not contaminated. Proof of their existence has been depicted in historic rock drawings throughout Nevada, including several pecked image at various locations including the volcanic butte at Black Canyon, Pahranagat Valley.

According to a tribal elder, "*Water babies are important to our culture. They are supernatural. They connect everything and you don't want to disrespect them. The springs are all connected and they follow the water flow Water babies are supernatural beings and are the guardians of the water. They can make sounds like a baby. and you don't want to startle them because they can disturb life. We are taking their native environment away when we drill and contaminate the water. It angers them. When they get mad, there are adverse impacts to wildlife as they can drain you spiritually and physically.*"

Playas - The CGTO knows playas occupy a special place in American Indian culture. Playas are often viewed as empty and meaningless places by western scientists, but to Native Americans playas are lakes that come back during excessive precipitation and contribute to the ground water. When the lake is replenished they have an important role because it contains special resources that do not occur anywhere else. The CGTO knows that playas were used in traveling or moving to places where work, hunting, pine cutting, or gathering of other important foods and medicine could be done. One elder remembers crossing over dry lake beds and traveling around near the edges. Oftentimes, provisions were left there including at nearby springs that previous travelers used at these important locations.

According to tribal elders, who were interviewed during previous evaluations, "*Indian people left caches in playa areas for people who crossed valleys when water and food was scarce. Frenchman playa is such a place. Indian people took advantage of traveling through this playa as mountains completely surround this area. The CGTO knows that most dry lakes are not known to be completely dry. Some examples are Indian Springs Valley, Dog Bone Lake, Three Lakes Valley, Cactus Flats and Soda Lake near Barstow, California. Often, the Mojave River which flows near Barstow and Victorville is culturally significant to Indian people including those from Fort Mojave. The river is intermittent and flows into this dry lake that looks dry but actually flows*

underground. Although some people continue to view these playas as a wasteland or unimportant, the CGTO knows they are not." If these areas are disrespected, the resources will disappear and the world will be out of balance. (See *Appendix K – CGTO Native American Assessments: Nevada Test and Training Range Legislative Environmental Impact Statement - October 2017* for more details)

3.11.2.1 Analysis Methodology – Consolidated Group of Tribes and Organizations

This paragraph 3.11.2.1 provides the Native American perspective regarding the information presented in LEIS Section 3.11.2.1, Analysis Methodology.

What are the potential impacts to the water resources under each of the alternatives? The CGTO knows historic nuclear testing at the NNSS adversely impacted cultural resources within the traditional homelands of Southern Paiute, Western Shoshone, Owens Valley Paiute/Shoshone and Fort Mojave people and resulted in radiological contamination and a cultural imbalance to the land. Even though an agreement is in place with the NNSS and the State of Nevada, the CGTO should be signatories to a similar agreement in principle with DOE and the NTTR.

3.11.2.2.1 Alternative 1 - Extend Existing Land Withdrawal and Management of NTTR (North and South Range) - Status Quo – Consolidated Group of Tribes and Organizations

This paragraph 3.11.2.2.1 provides the Native American perspective regarding the information presented in LEIS Section 3.11.2.2, Alternative 1 – Extend Existing Land Withdrawal and Management of NTTR (North and South Range) – Status Quo.

Any munition or debris from military activities that leave conventional metal residue or Depleted Uranium (DU) is always a concern of the CGTO. Storm models and projections do not accurately reflect the day-to-day and cumulative impact to the land. There is no study that identifies the cultural impacts to culturally sensitive areas from radioactive materials. Personnel working in certain areas must monitor exposure using dosimeters to identify exposure over the lifetime of human presence in a controlled environment. No systematic ethnographic studies have been conducted on the NTTR to evaluate the cultural impacts for munition or debris associated with military activities. Until such a study is conducted, the long-term effects cannot be thoroughly evaluated or understood.

Contaminated water introduces direct exposure to animals and insects of varying sizes that may be consumed by larger predators. The introduction of DU to the food chain for an untold number of years is not supported by the CGTO. Residual effects from contaminated pools of water require tribal intervention through traditional cultural practices to regain ecological balance.

3.11.2.3.1 Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges – Consolidated Group of Tribes and Organizations

This paragraph 3.11.2.3.1 provides the Native American perspective regarding the information presented in LEIS Section 3.11.2.3, Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges.

As with Alternative 1, the potential impacts will be generally the same as in Alternative 2, the CGTO remains opposed to the introduction of DU or other debris. The CGTO recommends removal of debris that can introduce F.O. (Foreign Objects) into the cultural landscape as described and understood by Native Americans. The Air Force understands that F.O. that are introduced into aircraft intake and/or cockpits can have catastrophic results immediately or over time if not removed quickly as they can interfere with the proper function and safety of the aircraft. Equally, the same is true for impacts to the Native American cultural landscape from objects or material that are left behind or discarded and result in contamination or what is referred to as cultural pollution.

3.11.2.4.1 Alternative 3 – Expand Withdrawal of Public Lands for NTTR – Consolidated Group of Tribes and Organizations

This paragraph 3.11.2.4.1 provides the Native American perspective regarding the information presented in LEIS Section 3.11.2.4, Alternative 3 – Expand Withdrawal of Public Lands for the NTTR.

The CGTO disagree with the LEIS analysis that increased aircraft and emitter operations over and through the land, water sources and airspace will not have an adverse impact on culturally sensitive areas and resources. The CGTO knows Increased air traffic, ground personnel, munitions residue or structures will continue to disturb culturally significant wildlife, water, air and spiritual serenity of the environment. Equally, numerous locations within the cultural landscape have not been systematically evaluated archaeologically, ethnographically and biologically. Once areas are finally identified, cultural and scientific analysis will be necessary to properly evaluate those locations. Water quality must be sustained to remain clean and uncontaminated to maximize protection of the entire cultural landscape.

3.12.1.1.1 Hazardous Materials and Solid Waste – Consolidated Group of Tribes and Organizations

This paragraph 3.12.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.1.1, Hazardous Materials and Solid Wastes.

The CGTO knows cultural resources are interconnected and encompass more than physical structures or sacred sites. Natural resources within the NTTR are considered culturally sensitive and include but are not limited to plants and animals, natural formations, waterways, weather and astronomy that must be kept in balance in culturally appropriate ways. Native Americans rely on these resources to sustain life and to interact with the spiritual world as described in our traditional beliefs

to keep the world in balance. If balance is not sustained, the land will react and change will occur, thus impacting cultural resources on the NTTR. The CGTO knows the complex views of tribal people must be respected in order to protect the area from contamination and other adverse effects that may destroy the cultural integrity of the landscape. It is the right and duty of Native Americans to protect these culturally sensitive resources from any contamination, pollution and other activities that seek to degrade or interfere with their existence.

3.12.1.5.1 Department of Defense Environmental Monitoring Program – Consolidated Group of Tribes and Organizations

This paragraph 3.12.1.5.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.1.5, Department of Defense Environmental Monitoring Program.

The CGTO acknowledges that the Air Force has made improvements to identify ways to enhance their efforts in restoring the land. Native Americans play an essential co-management role in understanding the complexities of the cultural landscape. Involvement in this process is one that advocates on behalf of the resources and protection of them. Restoration can never be achieved if the original soil on sites is contaminated, affecting plants, animals, air, climate and water. Traditional prayers and cultural ceremonies for the land can help heal it and bring spiritual balance using complex spiritual approaches. The CGTO knows the Air Force must continue to recognize that these interactions are not just limited to singular ritually based events and cannot be rushed or abbreviated. When access is limited, opportunities are affected that prevent the CGTO from engaging in co-management activities to make the land is whole again.

3.12.1.5.1.1 Areas of Concern – Consolidated Group of Tribes and Organizations

This paragraph 3.12.1.5.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.1.5, Department of Defense Environmental Monitoring Program.

The CGTO knows any hazardous or industrial waste left at the NTTR is always a concern. Cultural and ecological balance is essential and must be maintained by removing debris before the land can heal and be fully restored. The LEIS suggests the location of two AOCs that are as yet unknown and along with the other 73 AOCs that contain "disposal pits" and associated items that may be stored within them. The disclosure of this information prompts the CGTO to question when these areas will be unearthed, cleaned up and visited by Natives to conduct ceremonial activities to help heal the land and keep it in balance. Tribal involvement is an essential component for understanding the area and identifying new sites with the same concern about how they will be treated.

3.12.1.5.1.1.1 Resource Conservation and Recovery Act Facility Assessment – Consolidated Group of Tribes and Organizations

This paragraph 3.12.1.5.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.1.5, Department of Defense Environmental Monitoring Program.

Similar to other locations, the CGTO discourages any consideration for supporting landfills and underground storage tanks that can easily corrode or contaminate water and other resources that the land and wildlife rely on for survival. Contamination creates imbalance for the entire ecosystem and places unnecessary strain on resources throughout the NTTR. When animals are forced to share water that doesn't know them or wasn't meant to be shared, an imbalance occurs which brings sickness to the land. Cumulative impacts over time will have an irreversible effect on the entire ecosystem that cannot be restored, repaired, or mitigated.

3.12.1.5.1.1.1.1 Munitions Residue – Consolidated Group of Tribes and Organizations

This paragraph 3.12.1.5.1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.1.5, Department of Defense Environmental Monitoring Program.

The CGTO knows that the Air Force has made great strides in eliminating lead from water, gas, and paint, yet NTTR lands continue to contain lead from training rounds or other hazardous waste. The CGTO knows when hazardous material is left on the land in any training area, the land will react and the material becomes a major threat to the environment. The CGTO knows these materials harm animals, contaminate water and pollute the environment in such a way that has permanent and lasting effects.

3.12.1.5.1.1.1.1.1 Depleted Uranium Target Assessment – Consolidated Group of Tribes and Organizations

This paragraph 3.12.1.5.1.1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.1.5, Department of Defense Environmental Monitoring Program.

The CGTO knows the seriousness of Depleted Uranium (DU) should not be minimized as "mildly radioactive." The CGTO knows the USAF, DOD, DOE and other agencies take preventative measures to permanently ban the use of equipment or munitions that contain any form of radioactive material. These elements are extremely dangerous and pose a significant health hazard to all living things that cannot be restored, thus the land is permanently scarred, sterile and/or dead. Animals rely on food sources and water on the NTTR to support themselves and to sustain the food chain--once contamination is introduced, the far reaching effects will remain permanent and worsen with time. The cumulative effect cannot be accurately forecasted by studies or models. In time, these effects cause sickness where increased cancer rates can be elevated and become a concern. Equally, water sources may become

contaminated as flash floods, wind and erosion work to spread contaminants from one location to another.

Any munition or debris from military activities that leave conventional metal residue or Depleted Uranium (DU) is always a concern of the CGTO. Storm models and projections do not accurately reflect the day-to-day and cumulative impact to the land. There is no study that identifies the cultural impacts to culturally sensitive areas from radioactive materials. Personnel working in certain areas must monitor exposure using dosimeters to identify exposure over the lifetime of human presence in a controlled environment. No systematic ethnographic studies have been conducted on the NTTR to evaluate the cultural impacts for munition or debris associated with military activities. Until such a study is conducted, the long-term effects cannot be thoroughly evaluated or understood.

Contaminated water introduces direct exposure to animals and insects of varying sizes that may be consumed by larger predators. The introduction of DU to the food chain for an untold number of years is not supported by the CGTO. Residual effects from contaminated pools of water require tribal intervention through traditional cultural practices to regain ecological balance.

The CGTO questions where the other 162 tanks that contain DU or “low-level radioactive waste” that does not qualify for free release will be disposed. It remains a concern of the CGTO that this equipment must be properly dismantled and disposed of through proper methods. On-site traditional ceremonies are required to concurrently restore the ecological balance so the cultural integrity can be brought back to the land.

3.12.1.5.1.1.1.1.1.1. Surface Soil Sampling at NTTR Bombing Targets – Consolidated Group of Tribes and Organizations

This paragraph 3.12.1.5.1.1.1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.1.5, Department of Defense Environmental Monitoring Program.

The two-phase study in May 2015 identified that lead and explosive residues were migrating from their original locations. That finding validates the CGTO position that any debris, residue or non-natural material that is left in the NTTR poses a threat to the natural environment. The study also states that these materials don’t pose a threat to humans. Conversely, the CGTO knows that these residues pose a dangerous threat to animals, plants, water, and the air., all of whose well-being must be equally considered.

3.12.1.5.1.1.1.1.1.1.1 Spills and Aircraft Crashes – Consolidated Group of Tribes and Organizations

This paragraph 3.12.1.5.1.1.1.1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.1.5, Department of Defense Environmental Monitoring Program.

It is impossible to guarantee that spills will never occur. With that understanding, the CGTO finds it necessary to be notified when and where a spill occurs, and how it will be cleaned up. Tribal consultation is essential in the restoration process for evaluating potential effects, conducting traditional prayers and initiating mitigation to aide any disturbed cultural resources (all-inclusive of water, air, animals, plants, or soil affected) to help bring closure to the restoration process.

3.12.1.5.1.1.1.1.1.1.1 Aircraft Mishaps – Consolidated Group of Tribes and Organizations

This paragraph 3.12.1.5.1.1.1.1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.1.5, Department of Defense Environmental Monitoring Program.

Aircraft mishaps of manned and unmanned aircraft have occurred in the past 10 ten years. The CGTO was never consulted or notified of restoration, mitigation, or cleanup efforts related to any of these. For example, the F-16 operates with hydrazine, a chemical that causes asthma-like conditions to humans and has unknown effects on animals and plant resources upon exposure. Equally, graphite and other materials are introduced when an aircraft is lost due to a mishap. Systematic human health and biological evaluations must be conducted to determine the effects on cultural resources, including archaeological sites, wildlife, groundwater and soils.

The CGTO is aware that human life has been lost in the NTTR. The CGTO knows that *Dead Air* occurs when air is destroyed, causing pockets of *dead air* to cause anomalies in the air currents. There is only so much living air that surrounds the world. If you kill the living air, it is gone forever and cannot be restored.

Dead air lacks the spirituality and energy necessary to support other life forms. Aircraft mishaps occur when they hit *dead air*. During a previous CGTO evaluation of the area, one member of the CGTO compared this Indian view of killing air with what happens when a jet flies through the air and consumes all of the oxygen, producing a condition where another jet cannot fly through it.

The CGTO knows in order to maintain balance not only in the physical environment, but among interrelated spiritual elements, cultural ceremonies must be conducted to restore the integrity of the area in culturally appropriate ways. Without these traditional blessings, the air continues to be sick and out of balance and cannot understand what has happened or how to bring itself back into harmony.

3.12.1.6.1 Department of Energy Environmental Restoration Program – Consolidated Group of Tribes and Organizations

Plutonium is a serious concern of the CGTO, as are the consistent monitoring activities associated with atomic testing. The CGTO continues to work with the Air Force and NNSS to gain access to the land and review associated studies to determine exposure of radioactive materials to all-inclusive cultural resources that supports life.

This paragraph 3.12.1.6.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.1.6, Department of Energy Environmental Restoration Program.

The CGTO knows that any areas affected by radioactive materials will always be contaminated and bring sickness to the land. Once these materials are released into the air, detonated under the ground and spread across the land, permanent contamination occurs that requires ceremonial intervention. No amount of restoration will ever remove these radioactive elements as long as they remain on the NTTR. The radioactivity poses a threat to all cultural resources from the associated effects that can neither be predicted nor mitigated.

3.12.1.7.1 Solid Waste Management – Consolidated Group of Tribes and Organizations

The CGTO does not support disposing solid waste on the NTTR and believes all solid waste should be removed from NTTR as it is generated in order to prevent further environmental hazards. Many times during tribal monitoring visits, sites have been discovered that were previous landfills for similar waste streams that eventually became compromised during excessive precipitation events or flash flooding. These events left large debris fields that caused further pollution to the environment and our traditional homelands.

This paragraph 3.12.1.7.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.1.7, Solid Waste Management.

The CGTO continues to strongly oppose the transportation, storage, and disposal of radioactive waste but knows environmental restoration occurs on the NTTR. The CGTO believes cultural intervention must continue to fulfill our birth-rite obligation to care for our Holy Land and do what we can to restore balance in contaminated locations.

The CGTO knows Native Americans hold traditional views that are sometimes challenged by scientific views of radioactive materials and waste. As an example, the former builds on the view that all resources, including the rocks that Native Americans treat as sentient beings. Radioactive rocks are powerful but they can become "*angry rocks*" if they are removed without proper ceremony, used in a culturally inappropriate way, disposed of without ceremony, or placed where they do not want to be. (Stoffle et al., 1989a and 1990c). The practice of dealing with "*bad medicine*" or neutralizing negative forces is a part of our traditional culture. Indian knowledge and use of

radioactive rocks, or minerals, in the western United States goes back for thousands of years. Areas with high concentrations of these minerals are called dead zones. Such areas contain places of power or energy and can only be visited or certain minerals used under the supervision of specially trained Indian people, who are sometimes referred to in the English language as a shaman or medicine man (Stoffle and Arnold 2003). Therefore, the Air Force would benefit from incorporating traditional ecological knowledge if applied correctly.

A former head Salt Song singer and religious leader for the Chemehuevi Paiutes once explained the impacts of radiation as follows:

"Our spirits will paint their faces and become angry because they are disturbed by the presence of angry rocks. When we are out there now, it is still and peaceful; it is like being in a church chamber. Radiation will disturb the harmony...It will no longer be the same. It will be violated. All the previous songs stories that have been shared in the area will be disturbed. Once a song is sung it continues to be there. When you sing a song you are on the trail--your spirit is making that trip. You are describing where you are at and what is happening. You tell in the song where you are and what you are doing. When people go to these areas today a person can get a song. Previous songs actually hear it...There are still areas today where you can go and hear the song. Some people hear the songs and it scares them because they do not know what it is. Young people need to be told what it is they are hearing. The places need to be protected from damage so the songs continue to be there for future generations. It is like a delayed echo that never goes away and can come again and again to new people."

The CGTO is very concerned about radioactive contamination on the NTTR that is left or buried in place and could become airborne residue that adversely impacts the environment.

According to tribal elders, "Environmental restoration of man-made radioactive elements *is not a natural process. The natural environment is altered. The wildlife could become contaminated. Water and birds could disperse the elements over the land causing insects and vegetation to become contaminated. This contamination would then adversely impact the food chain. The CGTO is concerned about the animals that will become contaminated or sick if they ingest other contaminated species in the food chain."*

The CGTO is concerned about adverse impacts to the land, animals, plants, water, air, and insects from the waste and noise generated during explosive detonations on the NTTR. The CGTO understands the destructive force of explosive detonations and the resulting destruction to the environment. For example, animals relocate to unfamiliar habitats, which adversely impact their survival rate. Air is adversely impacted,

increasing the occurrence of *dead air*. Noise and vibration from the detonations impact the insects, and disrupt vegetative growth.

The CGTO knows if the earth and environment are being disrespected, the spirits that protect and watch over these can become upset and respond negatively. This can result in the characteristics of the environment changing, causing animals to leave their natural habitats, reducing the native vegetation, further reducing water resources, and increasing occurrences of perceived mishaps.

The CGTO is concerned about transporting hazardous and radioactive waste associated with environmental restoration activities on the NTTR and through traditional homelands that could adversely impact their health and environment. Tribal homelands within the region of influence are located in remote areas with limited access by standard and substandard roads. Should an emergency situation resulting from NTTR related activities, including the transportation of hazardous and radioactive waste occur, it could result in the closure of a major reservation road. If a major (and sometimes only) road into a reservation is closed, numerous adverse social and economic impacts could occur. For example, Indian students who have to travel an unusually high number of miles to or from school could suffer delays. Delays also could occur for regular deliveries of necessary supplies for inventories needed by tribal enterprises and personal use. Purchases by patrons of tribal enterprises and emergency medical services in route to or from the reservation could be dramatically impeded. Potential investors interested in expanding tribal enterprises and on-going considerations by tribal governments for future tribal developments may significantly diminish because of the perceived risks associated with NTTR related activities including the transportation of radioactive waste associated with environmental restoration activities.

Finally, the CGTO struggles with the ethics of handling radioactive waste during environmental restoration activities without tribal intervention, which would allow people to live without fear of radioactivity. The CGTO is greatly concerned about the adverse spiritual, environmental, and health impacts associated with relocating these angry rocks from their current locations to our Holy Land. We believe continual disrespect to our land perpetuates animosity and discord among tribal governments.

3.12.2.1.1 (Environmental Consequences) Analysis Methodology – Consolidated Group of Tribes and Organizations

The CGTO agrees the release of hazardous materials poses challenges for preventing related health problems and an imbalance to the cultural landscape in the future due to the absence of tribal involvement. Prevention is necessary for timely and full removal of all hazardous materials and waste as they are generated. Sustainment of the cultural integrity of these

This paragraph 3.12.2.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.1, Analysis Methodology.

locations can be accomplished through tribal intervention and involvement from designated tribal monitor(s) to validate the removal process and help protect the ecosystem.

3.12.2.2.1 Hazardous Materials (Alternative 1 - Extend Existing Land Withdrawal and Management of the NTTR (North and South Range) - Status Quo) – Consolidated Group of Tries and Organizations

The CGTO knows hazardous materials can cause problems to the environment. The CGTO must be notified of spills or contamination releases to determine culturally appropriate activities that should be integrated into the remediation process. The CGTO remains committed to working closely with the Air Force in co-managing cultural resources and minimizing the effects from pollution, damage and imbalance that result from introducing hazardous chemicals into the living environment.

This paragraph 3.12.2.2.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.2, Alternative 1 – Extend Existing Land Withdrawal and Management of the NTTR (North and South Range) – Status Quo.

3.12.2.2.1.1 Hazardous Waste Management – Consolidated Group of Tribes and Organizations

The CGTO knows it is necessary to be actively involved in the review of disposal plans of newly identified waste streams in order to become more proactive in managing cultural resources rather than becoming involved after a disturbance occurs and hazardous materials are released into the environment.

This paragraph 3.12.2.2.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.2, Alternative 1 – Extend Existing Land Withdrawal and Management of the NTTR (North and South Range) – Status Quo.

The CGTO disagrees that “no significant impacts would occur.” According to Air Force reports, lead munitions residue does in fact migrate over time. Disposal pits erode and buried solid waste is unearthed from burrowing animals or precipitation events. The CGTO knows all living things are tied to the land and are considered Native American cultural resources.

The CGTO strongly believes that co-management or consultation is necessary to sustain cultural and ecological integrity before the action occurs. Collaborative methods should be examined to identify approaches for preventing further damage or contamination to important cultural resources.

3.12.2.2.1.1.1 Environmental Restoration and Monitor Programs - ERP and AOCs – Consolidated Group of Tribes and Organizations

This paragraph 3.12.2.2.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.2, Alternative 1 – Extend Existing Land Withdrawal and Management of the NTTR (North and South Range) – Status Quo.

Although many sites have been cleaned up to comply with NDEP standards, the CGTO is typically not consulted on the final disposition of "cleaned up or restored sites." Native Americans are the stewards of cultural resources and help co-manage the cultural resources found on the NTTR. Although sites may have been restored to an acceptable scientific level by regulators, the CGTO plays an important role in cultural restoration of the land that requires cultural intervention using traditional ceremonies based on traditional ecological knowledge.

3.12.2.2.1.1.1.1 Munitions Residue – Consolidated Group of Tribes and Organizations

This paragraph 3.12.2.2.1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.2, Alternative 1 – Extend Existing Land Withdrawal and Management of the NTTR (North and South Range) – Status Quo.

The CGTO believes that all munitions debris especially those containing lead and Depleted Uranium (DU) must be removed from the NTTR to prevent harm and damage to the natural and biological resources. Cultural intervention using traditional ceremonies must occur to restore the ecological balance to the cultural landscape that encompasses the NTTR.

3.12.2.2.1.1.1.1.1 Depleted Uranium Target Assessment – Consolidated Group of Tribes and Organizations

This paragraph 3.12.2.2.1.1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.2, Alternative 1 – Extend Existing Land Withdrawal and Management of the NTTR (North and South Range) – Status Quo.

The CGTO knows Depleted Uranium (DU) poses a threat to all living animals, plant life, water and air. The continued use of this material puts the environment and cultural landscape at risk and creates challenges for proper mitigation strategies. The CGTO must be called upon to intervene by conducting traditional ceremonies to restore ecological balance of the cultural landscape within the NTTR.

3.12.2.2.1.1.1.1.1.1 Spills and Aircraft Mishaps – Consolidated Group of Tribes and Organizations

This paragraph 3.12.2.2.1.1.1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.2, Alternative 1 – Extend Existing Land Withdrawal and Management of the NTTR (North and South Range) – Status Quo.

The CGTO recognizes it is impossible to guarantee that spills will never occur on the NTTR. As co-stewards of the land, the CGTO must be notified when spills occurs and how they will be cleaned up. The CGTO plays an integral role in the restoration process and must properly evaluate

appropriate cultural intervention needed to restore ecological balance within the cultural landscape that encompasses the NTTR.

3.12.2.2.1.1.1.1.1.1 Department of Energy Environmental Restoration Program – Consolidated Group of Tribes and Organizations

The CGTO knows it is necessary to visit contaminated sites and be notified when cleanup begins and concludes. As co-managers of these lands, we share the responsibility of protecting our traditional homelands. The CGTO knows complete restoration of contaminated sites is essential for completely restoring cultural resource integrity.

This paragraph 3.12.2.2.1.1.1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.2, Alternative 1 – Extend Existing Land Withdrawal and Management of the NTTR (North and South Range) – Status Quo.

3.12.2.2.1.1.1.1.1.1.1 Solid Waste – Consolidated Group of Tribes and Organizations

The CGTO does not support the disposal of solid waste at the NTTR and recommends that all solid waste be removed as it is generated to prevent further environmental hazards. Many times, during tribal monitoring sites have been discovered that were previous landfills for waste that became unearthed during major precipitation events. Under these circumstances, large debris fields developed that further polluted the environment and cultural landscape.

This paragraph 3.12.2.2.1.1.1.1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.2, Alternative 1 – Extend Existing Land Withdrawal and Management of the NTTR (North and South Range) – Status Quo.

3.12.2.3.1.1 Alternative 2 - Extended Existing Land Withdrawal and Provide Ready Access in the North and South Ranges - Hazardous Materials – Consolidated Group of Tribes and Organizations

The CGTO disagrees with limited impacts associated with providing ready access and the continued use of hazardous materials in the North and South ranges. The CGTO believes with a projected increase in operations by 30%, it is reasonable to expect there will a proportionate impact or result of increased introduction of hazardous materials, munitions or other non-natural materials corresponding to increased activities. While there may not be a direct correlation, it can be reasonably assumed an increase is inevitable.

This paragraph 3.12.2.3.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.3, Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges.

The CGTO knows hazardous materials can cause problems to the environment. The CGTO must be notified of spills or contamination releases to determine culturally appropriate activities that should be integrated into the remediation process. The CGTO remains committed to working closely with the Air Force in co-managing cultural

resources and minimizing the effects from pollution, damage and imbalance that result from introducing hazardous chemicals into the living environment.

The CGTO knows cultural resources are interconnected and encompass more than physical structures or sacred sites. Natural resources within the NTTR are considered culturally sensitive and include but are not limited to plants and animals, natural formations, waterways, weather and astronomy be kept in cultural equilibrium in culturally appropriate ways. Native Americans rely on these resources to sustain life and to interact with the spiritual world as described in our traditional beliefs to keep the world in balance. If balance is not sustained, the land will react and change will occur, thus impacting cultural resources on the NTTR. The CGTO knows the complex views of tribal people must be respected in order to protect the area from contamination and other adverse effects that may destroy the cultural integrity of the landscape. It is the right and duty of Native Americans to protect these culturally sensitive resources from any contamination, pollution and other activities that seek to degrade or interfere with their existence.

3.12.2.3.1.1.1 Hazardous Waste Management – Consolidated Group of Tribes and Organizations

The CGTO recognizes the importance of working collaboratively with the Air Force in its shared co-management responsibility to assist in the siting and disposal plans of newly identified waste streams. The CGTO knows to fulfill its cultural obligations to sustain our traditional homelands, tribal representatives must become proactive in managing important cultural resources rather than reacting after hazardous materials are released into the environment.

This paragraph 3.12.2.3.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.3, Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges.

The CGTO knows cultural resources are interconnected and encompass more than physical structures or sacred sites. Natural resources within the NTTR are considered culturally sensitive and include but are not limited to plants and animals, natural formations, waterways, weather and astronomy that must be kept in balance in culturally appropriate ways. Native Americans rely on these resources to sustain life and to interact with the spiritual world as described in our traditional beliefs to keep the world in balance. If balance is not sustained, the land will react and change will occur, thus impacting cultural resources on the NTTR. The CGTO knows the complex views of tribal people must be respected in order to protect the area from contamination and other adverse effects that may destroy the cultural integrity of the landscape. It is the right and duty of Native Americans to protect these culturally sensitive resources from any contamination, pollution and other activities that seek to degrade or interfere with their existence.

3.12.2.3.1.1.1.1 Environmental Restoration and Monitoring Programs – Consolidated Group of Tribes and Organizations

The CGTO disagrees there will be "no adverse impact" on the environment with increased operations and failure to clean up or restore contaminated sites. Currently, there are certain locations on NTTR that are contaminated and pose threats to the our traditional homelands. It can be reasonably assumed that threats to culturally sensitive areas will continue without cultural intervention by the CGTO.

This paragraph 3.12.2.3.1.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.3, Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges.

Solid Waste

The CGTO does not support disposing of solid waste at the NTTR and recommends that all solid waste be removed as it is generated to prevent further environmental hazards. The CGTO knows during Tribal monitoring activities, former landfill sites have been identified that were used for disposing waste. These sites were revealed after major precipitation events left behind large debris fields that caused further cultural pollution onto the environment and within the cultural landscape.

This paragraph provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.3, Alternative 2 – Extend Existing Land Withdrawal and Provide Ready Access in the North and South Ranges.

Restoration of solid waste sites and debris fields requires tribal involvement in consultation with the CGTO. Solid waste is derived from an unnatural occurrences that create ecological imbalance that cannot be ignored. The Air Force should work closely with the CGTO to develop a solid waste management plan the is culturally acceptable to the extent practicable.

3.12.2.4.1 Alternative 3 - Expand Withdrawal of Public Lands for the NTTR - Hazardous Materials, Hazardous Waste Management, Environmental Restoration and Monitoring Program Sites and Solid Waste – Consolidated Group of Tribes and Organizations

The CGTO needs further explanation as to why two runways would be constructed but would not be used for aircraft as described in Alternative C. Construction of runways will disturb the land, minerals, plant life, and wildlife. Negative impacts to the physical, spiritual, and visual integrity will occur for no apparent reason. Therefore, it is not understood why construction or alteration to the cultural landscape is necessary.

This paragraph 3.12.2.4.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.4, Alternative 3 – Expand Withdrawal of Public Lands for the NTTR.

The CGTO has strong cultural ties to the NTTR. An alteration to the natural environment requires tribal notification and involvement in any construction and/or survey of the land prior to the commencement of construction activities associated with runway development and fence installation.

The CGTO disagrees with the LEIS analysis that hazardous materials, hazardous waste management, environmental restoration and monitoring program sites and solid waste will not be impacted because no maintenance will occur in the expanded lands. The CGTO asserts with a projected increase in operations, it is reasonable to expect there will be a proportionate impact or result of increased introduction of hazardous materials, munitions, or other non-natural materials corresponding with increased activities. While there may not be a direct correlation, it can be reasonably assumed an increase is inevitable.

The CGTO knows hazardous materials can cause problems to the environment. The CGTO must be notified of spills or contamination releases to determine culturally appropriate activities that should be integrated into the remediation process. The CGTO remains committed to working closely with the Air Force in co-managing cultural resources and minimizing the effects from pollution, damage and imbalance that result from introducing hazardous chemicals into the living environment.

The CGTO knows cultural resources are interconnected and encompass more than physical structures or sacred sites. Natural resources within the NTTR are considered culturally sensitive and include but are not limited to plants and animals, natural formations, waterways, weather and astronomy that must be kept in cultural equilibrium in culturally appropriate ways. Native Americans rely on these resources to sustain life and to interact with the spiritual world as described in our traditional beliefs to keep the world in balance. If balance is not sustained, the land will react and change will occur, thus impacting cultural resources on the NTTR. The CGTO knows the complex views of tribal people must be respected in order to protect the area from contamination and other adverse effects that may destroy the cultural integrity of the landscape. It is the right and duty of Native Americans to protect these culturally sensitive resources from any contamination, pollution and other activities that seek to degrade or interfere with their existence.

3.12.2.5.1. Alternative 4 – Establish the Period of Withdrawal – Consolidated Group of Tribes and Organizations

This paragraph 3.12.2.5.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.5, Alternative 4 – Establish the Period of Withdrawal.

The CGTO understands military activities on the NTTR are necessary and integral to national security and protecting the interests of the United States. The proposed period of withdrawals range from 20

and 50 years period to an indefinite withdrawal, spans a wide range of time with multiple variables to the traditional homelands of the CGTO possible.

At the same time, the CGTO has a cultural obligation to look after the best interests of the land and to sustain the perpetuation of Native culture. The CGTO maintains that a collaborative relationship is vital with the Air Force is vital in protecting culturally sensitive resources and the cultural equilibrium that is necessary for both to co-exist on the NTTR. Communication with the CGTO remains ongoing with special consideration given to addressing tribal concerns in advance, while maintaining reasonable access to the cultural resource locations on the NTTR. Special provisions must be made to access sacred sites and other culturally sensitive areas to continue religious ceremonies, achieve access to traditional foods and medicines and most importantly to care for the land, animals and other resources.

While there is great disparity between the proposed periods of withdrawal, the CGTO knows the NTTR will always fall within our traditional homelands as we fully integrate co-management opportunities of the resources that are vital to our mutual interests and co-existence. The CGTO believes, provisions must be included to fund and sustain tribal interactions through an institutionalized Native American Program with culturally affiliated tribes.

3.12.2.6.1 No Action Alternative Hazardous Materials (3-258: 1-8) – Consolidated Group of Tribes and Organizations

This paragraph 3.12.2.6.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.6, No Action Alternative.

The CGTO finds it necessary to work with all federal agencies on a government-to-government basis and serving as co-managers to monitor hazardous materials use, disposal and reclamation necessary to preserve the land regardless of future decisions pertaining to land status.

The CGTO disagrees that the analysis of hazard materials would cease completely and asserts with a projected increase in operations, it is reasonable to expect there will be a proportionate impact or result of increased introduction of hazardous materials, munitions or other non-natural materials corresponding to increased activities. While there may not be a direct correlation, it can be reasonably assumed an increase is inevitable.

The CGTO knows hazardous materials can cause problems to the environment. The CGTO must be notified of spills or contamination releases to determine culturally appropriate activities that should be integrated into the remediation process. The CGTO remains committed to working closely with the Air Force in co-managing cultural resources and minimizing the effects from pollution, damage and imbalance that result from introducing of hazardous chemicals into the living environment.

The CGTO knows cultural resources are interconnected and encompass more than physical structures or sacred sites. Natural resources within the NTTR are considered culturally sensitive and include but are not limited to plants and animals, natural formations, waterways, weather and astronomy that must be kept in cultural equilibrium in culturally appropriate ways. Native Americans rely on these resources to sustain life and to interact with the spiritual world as described in our traditional beliefs to keep the world in balance. If balance is not sustained, the land will react and change will occur, thus impacting cultural resources on the NTTR. The CGTO knows the complex views of tribal people must be respected in order to protect the area from contamination and other adverse effects that may destroy the cultural integrity of the landscape. It is the right and duty of Native Americans to protect these culturally sensitive resources from any contamination, pollution and other activities that seek to degrade or interfere with their existence.

Hazardous Waste Management (3-258: 10-24)

This paragraph provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.6, No Action Alternative.

The CGTO finds it necessary to work with all federal agencies on a government-to-government basis and work closely with the Air Force as co-managers to monitor hazardous materials use, disposal and reclamation to preserve the land regardless of future decisions pertaining to land status.

3.12.2.6.1 Environmental Restoration and Monitoring Programs – Consolidated Group of Tribes and Organizations

This paragraph 3.12.2.6.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.6, No Action Alternative.

The NTTR falls within the traditional homelands of the CGTO. The existing and proposed areas must include provisions for involving the CGTO in projects to restore traditional homelands to a condition that is culturally compatible with the CGTO and Air Force mission. The CGTO knows tribal epistemology is based on sustaining the natural ecosystem and the resources provided on the land which in turn give back to all life in the NTTR.

In an attempt to sustain environmental restoration and monitoring programs, the CGTO and Air Force must work in tandem as co-managers to restore the land using traditional ecological knowledge to sustain a healthy ecosystem. This collaborative project supports the NTTR mission and can be mutually beneficial for the CGTO and Air Force.

3.12.2.6.1.1 Solid Waste – Consolidated Group of Tribes and Organizations

This paragraph 3.12.2.6.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.2.6, No Action Alternative.

The CGTO believes the cultural integrity of our traditional homelands is vital to perpetuating and sustaining tribal culture. The CGTO continues to advocate that any waste

generated on the NTTR be removed to preserve the cultural integrity and restore balance of the resources within the traditional homelands of the CGTO.

This paragraph 3.12.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.12.1.1, Description of Resource.

3.12.1.1.1 Hazardous Materials and Solid Waste

Although American Indian languages in the NTTR region have no words equivalent to the concepts of radiation and radioactive materials, the term "angry rocks" expresses the cultural perception. American Indians with experience with the NTTR, believe that breaking or disturbing a rock, without accompanying the action with a full explanation, may release the rock's power and upset its natural balance. This action will "anger" the rock and result in "the creation of a source for cultural anomalies, which upsets the balance of the cultural ecosystem and affects Indian people" (AIWS 1997). American Indians believe that radiation, or the power released by the "angry rock," can hurt, damage or kill plants, animals, people, water, or the air.

Indian people believe that past releases of radiation have already contaminated plants and animals used in traditional cultural practices. Some Indians feel they can detect radiation; if an area is determined by whatever means to be contaminated, then Indian people can no longer use its resources.

The CGTO remains concerned with other hazardous materials and solid waste found on Nellis and Creech AFB as well as other areas within the boundaries of the NTTR. Transporting hazardous waste and/or other materials can cause long-term effects and disrupt the cultural integrity and ecological balance needed for resources to flourish.

This paragraph 3.13.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.13.1.1, Description of Resource.

3.13.1.1.1 Health and Safety – Consolidated Group of Tribes and Organizations

The CGTO believes health and safety applies to all living things within the affected environment, including but not limited to: socio economics related to tribal communities; cultural resources; air space; noise; air quality; visual resources; wilderness; biology; earth resources, including geology, soils, minerals; and paleontological resources; and water resources. The CGTO knows equal consideration must be applied to culturally perceived impacts that affect tribal communities and the resources associated with the land on which they rely upon. The health of tribal communities can be impacted by an imbalance in the cultural equilibrium that is derived from the land or its resources within our traditional homelands when it is sick or out of balance. If tribal communities are denied or granted limited access to culturally important areas as prescribed according to traditional protocol, sickness occurs raising health risks. When the land or related resources are disrespected and not treated in

culturally appropriate ways, those resources will react, elevating safety concerns for individuals that rely on resources on the NTTR or proposed expansion areas.

This paragraph 3.14.1.1.1 provides the Native American perspective regarding the information presented in LEIS Section 3.14.1.1, Description of Resource.

3.14.1.1.1 Transportation – Consolidated Group of Tribes and Organizations

The CGTO knows transportation resources, include infrastructure required for the movement of people, materials, and goods. This infrastructure within the context of the 2017 LEIS, includes the public roadways and culturally important access points that provide access to and from our homelands, including those on the NTTR.

The road and trail network within the NTTR, and include culturally significant songscapes and storyscapes that also fall within the proposed expansion areas. These locations are vital for access areas to sustain cultural equilibrium. When transportation infrastructure is developed or considered to support Air Force activities without CGTO involvement, the potential for inadvertent damage to culturally sensitive resources and locations increases greatly.

Portions of the current road system within the western US is based on ancient pathways developed by Indian people. The Southwestern Desert Trail System was not used for trivial activities, but for important trade, commerce, pilgrimage, and most often for a hasty retreat or pursuit of an enemy in the event of warfare or intrusion. Trails were used to relay important messages to distant tribal groups in times of trouble or when cultural imbalance occurred within the traditional homelands.

In an attempt to minimize potential impacts to trail systems and sustain their cultural integrity, the CGTO and Air Force must work together to exchange information and develop plans based on systematic ethnographic studies designed to evaluate the culturally perceived impacts associated with the effects of transportation.

Tribal governments support safe transportation practices and believe ongoing consultation with tribal governments must occur and include a ethnographic perceived risk study to evaluate cultural implications associated with transportation impacts to culturally sensitive resources and locations. Such studies must be facilitated by a qualified ethnographer and the CGTO. [AIWS 1997].

This paragraph 4.1.4 provides the Native American perspective regarding the information presented in LEIS Section 4.1.4, Cumulative Effects.

4.1.4. Cumulative Effects Analysis – Consolidated Group of Tribes and Organizations

The CGTO believes the Cumulative Effects Analysis does not adequately address nor represent the tribal perspectives with respect to effects of impacts on the traditional homelands or impacts to the cultural landscape encompassing the NTTR. No cultural consideration is applied

to: Airspace Use and Management 4.4.1; Noise 4.1.4.2; Air Quality 4.1.4.3; Land Use 4.1.4.4 (including Visual Resources); Wilderness and Wilderness Study Area 4.1.4.5; Socioeconomics 4.1.4.6; Environmental Justice 4.1.4.7; Biological Resources 4.1.4.8; Cultural Resources 4.1.4.9; Earth Resources 4.1.4.10; Water Resources 4.1.4.11; Hazardous Materials and Solid Wastes 4.1.4.12; Health and Safety 4.1.4.13; and Transportation 4.1.4.14. The CGTO believes that systematic ethnographic studies should be conducted on the aforementioned section to more accurately assess the cultural cumulative effects to these resources.

This paragraph 4.1.4.4.1 provides the Native American perspective regarding the information presented in LEIS Section 4.1.4.4, Land Use.

4.1.4.4.1 Land Use – Consolidated Group of Tribes and Organizations

The CGTO is aware of tribal initiatives within the proposed Region of Influence near the NTTR and proposed land expansion areas that are omitted from consideration. The LEIS fails to mention the Moapa Tribal Enterprises Travel Plaza and Retail Store in addition to the Moapa Southern Paiute Solar Project that lies near Interstate 15 and the proposed Alamos Land Expansion Area within the traditional homelands of the Moapa Band of Paiutes. Further, there is no mention of the Las Vegas Paiute Tribe-Snow Mountain Reservation, which currently operates three 18-hole championship golf courses, a gas station and a retail smoke shop and is planning an 800-acre solar project located on the southwest corner of the tribal lands nearby US 95 and within close proximity to Creech Air Force Base. The Las Vegas Paiute Tribe-Snow Mountain Reservation is adjacent to the Desert National Wildlife Refuge encompassing the proposed Alternative 3C Alamo land expansion areas.

This paragraph 4.1.4.9.1 provides the Native American perspective regarding the information presented in LEIS Section 4.1.4.9, Cultural Resources.

4.1.4.9.1 Cultural Resources – Consolidated Group of Tribes and Organizations (page 4-24 (8)

The LEIS indicates there are 2,889 cultural resource locations (prehistoric, historic and ethnographic) currently on the NTTR. The CGTO believes this universal definition of cultural resources applies only to the following: *prehistoric and historic sites, structures, artifacts and any other physical or traditional evidence of human activity considered relevant to a particular culture or community for scientific, traditional, religious or other reasons to the evaluation*. This interpretation does not account for intangible traditional and religious areas or culturally sensitive resources that are integral to Native American epistemology but not understood by archaeologists. Equally, geologic formations may be embedded in traditional or religious activities that are often overlooked and consequently not considered in any analysis.

Lastly, no systematic ethnographic studies have been conducted that are designed to identify, document and understand culturally sensitive resources or locations within the proposed land expansion of Alternatives 3 A near Beatty, NV or 3C in the Alamos. In an

attempt to gain a better understanding, the University of Arizona initiated scoping meetings in September 2017 as part of expanded ethnographic studies to document tribal perspectives that can contribute to baseline data for analyzing perceived impacts within the proposed land expansion areas. While the study is underway and will not be completed to fully understand the cultural impacts, the Native American Writers are unable to provide a systematic review and analysis of the findings of the study.

Mitigation

Indian people bring a unique perspective based on our traditional ecological knowledge, which guides us on how and where to interact with the land and its resources. In an attempt to minimize impacts to these precious resources, the CGTO continuously strives to maintain a delicate balance of the land while sustaining its spiritual integrity. According to tribal elders, "*Indian people have the conviction that the ecology of the natural environment is inter-connected. We have been blessed from the beginning of creation as having a unique understanding of being good stewards, and a clear path to care for the land and its resources. The songs, stories, traditions, and customs provide the foundation for this conviction. It is like the world is a huge stage and there are many cast members using their roles to create a successful event*."

The CGTO supports culturally appropriate resource management strategies for the NTTR based on traditional Indian perspectives and ecological knowledge. The CGTO's long-term objective is to enhance existing government-to-government relationships through innovative approaches for expanding co-management opportunities for bringing the NTTR lands into balance. The CGTO believes the existing relationship with the Air Force is built on transparency and trust that promotes positive interactions.

One example of integrating tribal views is in the Installation Cultural Resources Management Plan (ICRMP) that serves as a framework for the Air Force to manage cultural resources on the NTTR. The CGTO believes a blended approach that incorporates two world views will provide a better understanding of cultural perspectives through progressive management strategies. In turn, this collaboration will promote awareness and understanding of culturally sensitive resources and management strategies that are mutually beneficial for the Air Force and the culturally affiliated tribes. The CGTO understands the ICRMP is a dynamic, living document that requires periodic evaluation and updates. Accordingly, the CGTO recommends the Air Force use the CGTO Document Review Committee to evaluate the draft ICRMP before the plan is approved and implemented. Further, the Air Force must continue to hold mid-year and annual tribal update meetings to provide opportunities to discuss current and proposed activities on the NTTR, as well as periodic updates on the ICRMP, mitigation measures associated with adverse impacts, along with the supporting opportunities for field observations.

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ATTACHMENT 1

TREATY WITH THE WESTERN SHOSHONI, 1863

Oct. 1, 1863. | 18 Stats., 689. | Ratified June 26, 1866. | Proclaimed Oct. 21, 1869.

Treaty of Peace and Friendship made at Ruby Valley, in the Territory of Nevada, this first day of October, A. D. one thousand eight hundred and sixty-three, between the United States of America, represented by the undersigned commissioners, and the Western Bands of the Shoshonee Nation of Indians, represented by their Chiefs and Principal Men and Warriors, as follows:

ARTICLE 1.

Peace and friendship shall be hereafter established and maintained between the Western Bands of the Shoshonee nation and the people and Government of the United States; and the said bands stipulate and agree that hostilities and all depredations upon the emigrant trains, the mail and telegraph lines, and upon the citizens of the United States within their country, shall cease.

ARTICLE 2.

The several routes of travel through the Shoshonee country, now or hereafter used by white men, shall be forever free, and unobstructed by the said bands, for the use of the government of the United States, and of all emigrants and travelers (sic) under its authority and protection, without molestation or injury from them. And if depredations are at any time committed by bad men of their nation, the offenders shall be immediately taken and delivered up to the proper officers of the United States, to be punished as their offences shall deserve; and the safety of all travelers (sic) passing peaceably over either of said routes is hereby guarantied (sic) by said bands.
Military posts may be established by the President of the United States along said routes or elsewhere in their country; and station houses may be erected and occupied at such points as may be necessary for the comfort and convenience of travelers (sic) or for mail or telegraph companies.

ARTICLE 3.

The telegraph and overland stage lines having been established and operated by companies under the authority of the United States through a part of the Shoshonee country, it is expressly agreed that the same may be continued without hindrance, molestation, or injury from the people of said bands, and that their

property and the lives and property of passengers in the stages and of the employes (sic) of the respective companies, shall be protected by them. And further, it being understood that provision has been made by the government of the United States for the construction of a railway from the plains west to the Pacific ocean (sic), it is stipulated by the said bands that the said railway or its branches may be located, constructed, and operated, and without molestation from them, through any portion of country claimed or occupied by them.

ARTICLE 4.

It is further agreed by the parties hereto, that the Shoshonee country may be explored and prospected for gold and silver, or other minerals; and when mines are discovered, they may be worked, and mining and agricultural settlements formed, and ranches established whenever they may be required. Mills may be erected and timber taken for their use, as also for building and other purposes in any part of the country claimed by said bands.

ARTICLE 5.

It is understood that the boundaries of the country claimed and occupied by said bands are defined and described by them as follows:
On the north by Wong-goga-da Mountains and Shoshonee River Valley; on the west by Su-non-to-yah Mountains or Smith Creek Mountains; on the south by Wi-co-bah and the Colorado Desert; on the east by Po-ho-no-be Valley or Steptoe Valley and Great Salt Lake Valley.

ARTICLE 6.

The said bands agree that whenever the President of the United States shall deem it expedient for them to abandon the roaming life, which, they now lead, and become herdsmen or agriculturalists, he is hereby authorized to make such reservations for their use as he may deem necessary within the country above described; and they do also hereby agree to remove their camps to such reservations as he may indicate, and to reside and remain therein.

ARTICLE 7.

The United States, being aware of the inconvenience resulting to the Indians in consequence of the driving away and destruction of game along the routes travelled by white men, and by the formation of agricultural and mining settlements, are willing to fairly compensate them for the same; therefore, and in consideration of the preceding stipulations, and of their faithful observance by the said bands, the United States promise and agree to pay to the said bands of the

Shoshonee nation parties hereto, annually for the term of twenty years, the sum of five thousand dollars in such articles, including cattle for herding or other purposes, as the President of the United States shall deem suitable for their wants and condition, either as hunters or herdsmen. And the said bands hereby acknowledge the reception of the said stipulated annuities as a full compensation and equivalent for the loss of game and the rights and privileges hereby conceded.

ARTICLE 8.

The said bands hereby acknowledge that they have received from said commissioners, provisions and clothing amounting to five thousand dollars as presents at the conclusion of this treaty.

Done at Ruby Valley the day and year above written.

James W. Nye.

James Duane Doty.

Te-moak, his x mark.

Mo-ho-a.

Kirk-weedgwa, his x mark.

To-nag, his x mark.

To-so-wee-so-op, his x mark.

Sow-er-e-gah, his x mark.

Po-on-go-sah, his x mark.

Par-a-woat-ze, his x mark.

Ga-ha-dier, his x mark.

Ko-ro-kout-ze, his x mark.

Pon-ge-mah, his x mark.

Buck, his x mark.

Witnesses:

J.B. Moore, lieutenant-colonel Third Infantry California Volunteers.

Jacob T. Lockhart, Indian agent Nevada Territory.

Henry Butterfield, interpreter.

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ATTACHMENT 2

AIR FORCE INSTRUCTION 90-2002

BY ORDER OF THE
SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 90-2002

19 NOVEMBER 2014

Certified Current 9 July 2015

Special Management

AIR FORCE INTERACTIONS WITH FEDERALLY-RECOGNIZED TRIBES

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Department of Defense Instruction (DoDI) 4710.02, DoD Interactions with Federally-Recognized Tribes, Air Force Policy Directive (AFPD) 90-20, Encroachment Management Program. It directs all echelons to build relationships and conduct consultation with federally-recognized Indian/Alaska Native tribes, bands, nations, pueblos, or communities as required by federal laws and regulations, Executive Orders, and Presidential

Memoranda listed in Attachment 1. This AFI applies to all Air Force (AF) installations within the United States, Headquarters United States Air Force (HQ USAF), major commands (MAJCOMs), the Air Force Reserve Command (AFRC), direct reporting units (DRUs), field- operating agencies (FOAs), and Government-Owned, Contractor-Operated (GOCO) facilities, including those not located on AF installations. For the purposes of this AFI, AFRC will operate as a MAJCOM. The National Guard Bureau (NGB) will support the intent of this AFI by preparing an appropriate policy document reflecting its unique legal status and structure, as recognized by the reserve component authorities of Title 10 of the United States Code, Air Force Doctrine and other governing authorities. MAJCOMs and GOCOs, DRUs and FOAs may supplement this Instruction. MAJCOMs, FOAs, and DRUs must send a draft copy of their proposed supplement to HQ USAF Office of the Director of Civil Engineers (HQ USAF/A4C) for coordination; all other component commands excluding NGB send one copy of each supplement to Assistant Secretary of the Air Force, Environment, Safety and Infrastructure (SAF/IEE). The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI33-360, Publications and Forms Management, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, Management of Records, and disposed IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, Recommendation for Change of Publication; route AF Form 847s from the field through the appropriate functional chain of command.

Chapter 1

PROGRAM OVERVIEW

1.1. Purpose of this AFI. This AFI addresses fundamentals of policy, responsibilities, and essential procedures. It is intended to implement DoDI 4710.02, DoD Interactions with Federally-Recognized Tribes, which supports the unique trust relationship the U.S. government has with tribes and emphasizes aspects of the Air Force's mission that may affect tribes. Detailed guidance on installation level procedures will be provided in adaptable tools such as the AF's Civil Engineer Process Playbooks and AF Operational Airspace Instructions.

1.2. Definitions. Clear understanding of terminology associated with interaction with tribes is essential. Important terms include the following:

1.2.1. Commander. Military O-6 (or above) or equivalent civilian leader of the installation, wing, or other AF organization with the authority to enter into agreements with tribes on installation/organization actions that affect those tribes.

1.2.2. Indian Lands. Any lands the title to which is either, (1) held in trust by the United States for the benefit of any Indian tribe or Individual, or, (2) held by an Indian tribe or Individual as defined by DoDI 4710.02 and Title 32 Code of Federal Regulations (CFR) Part 229.3(f), Protection of Archaeological Resources, Definitions, 1 July 2011.

1.2.3. Tribe. A federally-recognized Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of Interior published in the Federal Register pursuant to the Federally Recognized Indian Tribe List Act of 1994, as amended, Title 25 United States Code (USC) Section 479a.

1.2.4. Protected Tribal Resources. Those natural resources and properties of traditional or customary religious or cultural importance, either on or off Indian lands, retained by or reserved by or for Indian tribes through treaties, statutes, judicial decisions, or Executive Orders, including tribal trust resources.

1.2.5. Tribal Rights. Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, un-extinguished aboriginal title, treaty, statute, judicial decision, Executive Order, or agreement, and that give rise to legally enforceable remedies.

1.2.6. Government-to-Government. The relationship between federally-recognized tribes and the United States is one between sovereigns, i.e., between a government and a government.

1.2.7. Consultation. Primarily, a process involving regular meetings, preferably face-to-face, supplemented by written, telephone, and electronic communications about issues and concerns important to the parties involved. Consultation involving tribes is most effective when based on respect, trust, and strong relationships between Air Force leaders and tribal leaders. It is a dynamic, ongoing dialogue including face-to-face communication at both technical and leadership levels, and not necessarily driven by a single need or issue. Achieving consensus, when possible, is a major goal. Legal requirements often prompt specific consultation efforts, resulting in formal agreements.

1.3. Policy. It is AF policy to:

1.3.1. Take into consideration the significance that tribes place on protected tribal resources.

1.3.2. Meet responsibilities to tribes as derived from federal trust doctrine, treaties, and agreements between the United States Government and tribal governments, and comply with federal laws and regulations, Executive Orders, and Presidential Memoranda governing interactions with tribes.

1.3.3. Build stable and enduring government-to-government relations with federally-recognized tribal governments in a manner that sustains the AF mission and minimizes effects on protected tribal resources and activities.

1.3.4. Fully integrate, down to staff officers and civilian staff personnel at the installation level, the principles and practices of meaningful consultation and effective cross-cultural communication with tribal representatives.

1.4. General.

1.4.1. An Installation Commander's role is similar to that of an ambassador and sets the tone for discussions geared towards building relationship between and of mutual benefit to the Air Force and tribes.

1.4.2. Face-to-face engagement with tribes will be facilitated by development of formal agreements identifying mutual goals and general protocols, and/or other formal issue-based agreements. The primary goal of such agreements is to foster relationships aimed at facilitating AF missions while respecting issues of importance to tribes.

1.4.3. Installations will consult with tribes early in the planning process when a proposed action may have the potential to significantly affect protected tribal resources, tribal rights, or Indian Lands (e.g., Title 32 CFR Part 989, the Environmental Impact Analysis Process, 20 June 2014). Matters of interest to tribes as well as protocols will be established in advance of the need for issue-based consultation between installation and tribal leaders.

1.4.4. Installations will provide regular updates to and seek feedback from interested and/or potentially affected tribes regarding ongoing activities of the installation where such activities might affect protected tribal resources, tribal rights, or Indian Lands.

1.5. Activities Typically Involving Tribes.

1.5.1. AF planning actions that may affect tribes include, but are not limited to (a) land-disturbing activities, (b) construction, (c) training, (d) over-flights, (e) management and protection of properties of traditional religious and cultural importance including historic properties and sacred sites, (f) activities involving access to sacred sites, (g) disposition of cultural/funerary items in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), (h) natural resources management activities, (i) educational and public affairs activities linked to tribal topics, and (j) other land use/military airspace operations in general.

1.5.2. Installations are required to develop and maintain an Integrated Cultural Resources Management Plan (ICRMP) per AFI 32-7065, Cultural Resources Management Program. Tribes having a historic or cultural affiliation with lands addressed by an installation's ICRMP or otherwise attaching religious and cultural importance to historic properties or sacred sites covered by the ICRMP will be provided opportunities to consult on and participate in the development and maintenance of the ICRMP. Additionally, since most tribes attribute cultural significance to natural resources, tribes should be briefed on the content of the natural resources program, and provided the opportunity to consult on and participate in, as

appropriate, update or development of Integrated Natural Resource Management Plans (INRMPs), AFI 32-7064, Natural Resource Management Program in accordance with the Installation Tribal Relations Plan. The ICRMP will include an appended Installation Tribal Relations Plans (ITRP) and/or copies of formal written agreements (Memoranda of Understandings, Comprehensive Agreements, Programmatic Agreements, etc.).

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. The Assistant Secretary of the Air Force for Installations, Environment, & Energy (SAF/IE) through the Deputy Assistant Secretary of the Air Force for Environment, Safety & Infrastructure (SAF/IEE) shall:

2.1.1. Serve as the principal AF representative on all tribal-related issues with the Office of the Secretary of Defense (OSD) staff, other federal agencies, and Congress.

2.1.2. Serve as, or appoint, an AF Tribal Liaison Officer (AFTLO) who is the OPR for the AF Tribal Relations Program and advocate within the Air Force Corporate Structure for tribal relations resources.

2.1.3. Provide guidance, direction, and oversight for all matters pertaining to the formulation, review, and execution of plans, policies, programs, and budgets related to Air Force government-to-government tribal interaction.

2.1.4. Delegate authority to the HQ USAF/A4C and all other component commands including ANG for tribal program execution management.

2.1.5. Enhance AF organizational understanding of tribal issues through education, training programs and outreach activities.

2.1.6. Oversee AF implementation of, and compliance with, this Air Force Instruction (AFI).

2.2. The Air Force Tribal Liaison Officer (AFTLO) shall:

2.2.1. Promptly notify higher headquarters concerning tribal issues that have the potential to be elevated.

2.2.2. Coordinate policy and best practices with other federal agencies and tribal organizations, as appropriate, on tribal issues of regional and national scope.

2.2.3. Engage in government-to-government relations with federally-recognized tribes, as appropriate, when requested by installations, installation support teams (ISTs), or tribes. Consult in a time and manner responsive to stakeholder interests and means.

2.2.4. Identify a single installation that will serve as the designated Point of Contact (POC) for a tribe in cases where more than one installation manages airspace over a specific tribe's land, for that airspace activity.

2.2.5. Ensure installation commanders receive appropriate senior level training that highlights tribal history, laws, treaties, and government-to-government consultation requirements and techniques.

2.2.6. Honor treaties and implement trust relationships.
2.2.7. Work with non-federally-recognized tribes and interest groups, when appropriate.

2.2.8. Integrate the requirements of federal laws and regulations, Executive Orders, and Presidential Memoranda, regarding AF interactions with tribes into AFIs and guidance.

2.2.9. Issue specific guidance regarding training and funding opportunities pertinent to this AFI.

2.2.10. Review and approve Commanders' requests for alternate ITRP to deviate from conducting twice-yearly face-to-face meetings with tribal leaders.

2.3. The Director, Public Affairs, (SAF/PA) shall:

2.3.1. Develop Air Force strategic messaging on tribal relations in coordination with the AFTLO.

2.3.2. Assist AF organizations in developing cross-cultural communication opportunities.

2.3.3. Develop mechanisms to coordinate communication between tribal leadership, installations, and headquarters leadership with AFTLO.

2.4. The Deputy Chief of Staff for Operations, Plans and Requirements (AF/A3/5) shall:

2.4.1. Incorporate the policies of this Instruction into AF operational instructions when installation, airspace and/or range operations may affect tribal lands, rights, resources or interests.

2.5. The Air Force General Counsel, Installations, Energy and Environmental Law (SAF/GCN) and the Air Force Legal Operations Agency, Environmental Law Field Support Center (AFLOA/JACE-FSC) shall:

2.5.1. Provide legal counsel to all AF organizations concerning the application of Indian treaties, Indian case law, and DoD policies to AF plans, activities and operations.

2.5.2. Assist AF organizations in identifying and complying with requirements of federal laws and regulations, Executive Orders, and Presidential Memoranda governing interactions with tribes.

2.5.3. Provide subject-matter expertise and assistance to installation legal offices on issues involving American Indian and Alaskan Native tribes.

2.6. The Deputy Chief of Staff for Logistics, Installations and Mission Support (AF/A4) through the Office of the Air Force Director of Civil Engineers (AF/A4C) shall:

2.6.1. Plan, program, and budget for statutory and regulatory requirements applicable to interactions with tribes within available resources.

2.6.2. Develop and implement the AF Tribal Relations Program to monitor, achieve, and maintain compliance with this Instruction, including compliance by installations and their tenant activities. The AF Tribal Relations Program will specify how the AF will coordinate or consult with tribes for various kinds of actions, at different scales of complexity.

2.6.3. Prepare and issue guidance for executing tribal relations program policy and supplemental guidance; advocate for resources; and oversee execution of tribal relation programs and management requirements throughout the AF.

2.6.4. Review and forward Commanders' requests for alternate ITRP to deviate from conducting twice-yearly face-to-face meetings with tribal leaders to AFTLO for final approval.

2.6.5. Provide installation Annual Report to the AFTLO.

The Air Force Civil Engineer Center (AFCEC) shall:

2.7.1. Assist Commanders in identifying tribes with historic or cultural affiliation with lands controlled, used or overflown by the AF.

2.7.2. Direct and oversee the development and maintenance of ITRPs at AF installations.

2.7.3. Develop and provide subject matter experts (SMEs) for installations and reach-back support to HAF and MAJCOMs.

2.7.4. Provide support to installations concerning compliance with inventory, reporting, curation, disposal, and notification procedures according to federal laws.

2.7.5. Ensure installation pre-publication NAGPRA notices are coordinated through the IST to the AF Cultural Resources SME and AFLOA/JACE-FSC.

2.7.6. Develop metrics and evaluate implementation of installation tribal programs where tribal interests or resources may be affected.

2.7.7. Ensure tribal relations lesson learned and best practices are institutionalized throughout the AF.

2.7.8. Provide training to installation personnel on tribal culture, history, laws, and treaties, as well as access, use and privacy issues that may be affected by AF operations, such as low- level flights and access to sacred sites.

2.7.9. Assist installation personnel in developing information on cross-functional education and economic opportunities that can be shared with tribes.

2.7.10. Coordinate with installations on alternate ITRPs and Annual Reports.

2.8. Major Commands (MAJCOMs) shall:

2.8.1. Oversee implementation of ITRPs and provide MAJCOM specific guidance to their installations, as appropriate.

2.8.2. Review Commanders' requests for alternate ITRP to deviate from conducting twice-yearly face-to-face meetings with tribal leaders and forward to AF/A4C for AFTLO final approval.

2.8.3. Provide installation Annual Report through AF/A4C to the AFTLO.

2.9. Installation Commanders (or designated O-6 representative or equivalent civilian leader, empowered to make decisions for the commander) shall:

2.9.1. Conduct at least twice-yearly face-to-face meetings to establish mutually beneficial relationships with tribal leaders, and to periodically discuss installation or tribal issues of interest. If conducting twice-yearly face-to-face meetings with tribal leaders is not practical, the Commander shall develop an alternate ITRP to meet the intent of this Instruction, coordinate with AFCEC CZ, and submit through the MAJCOM and AF/A4C to the AFTLO for final approval. (T-0).

2.9.2. Personally initiate consultation when first contacting tribes. Follow-on interaction shall be at a level and using procedures agreed upon by the installation commander and tribal leadership. (T-0).

2.9.3. Involve tribal governments early in the planning process for proposed actions that may have the potential to significantly affect protected tribal rights, land, or resources. (T-0).

2.9.4. Designate a military or civilian government employee as the Installation Tribal Liaison Officer (ITLO), trained commensurate with the responsibilities of the position, to interface between senior leadership and other staff across the installation. (T-0).

2.9.5. Ensure that proponents of actions on installation lands or in installation-managed airspace coordinate tribal issues with the host installation in order to identify and address tribal concerns early in the planning process. (T-0).

2.9.6. Review and provide an Annual Report coordinate with AFCEC CZ, and submit through the parent MAJCOM and AF/A4C, to the AFTLO, within 90 days following the end of the fiscal year. (T-0).

2.10. The ITLO shall:

2.10.1. Develop and oversee the implementation of the ITRP in accordance with this Instruction and supplementary guidance. (T-1).

2.10.2. Identify, in consultation with tribal leaders, a tribal representative to work routine issues. (T-3).

2.10.3. Coordinate with the installation Small Business Director to increase local tribal awareness of Small Business Administration and Business Development Program opportunities, for example requirements for prequalification of tribal firms, etc. (T-0).

2.10.4. Verify tribes having a historic or cultural affiliation with installation-controlled lands or lands under its managed airspace are identified. (T-1).

2.10.5. Ensure compliance with the installation/tribal written agreement whenever a planned action has the potential to significantly affect protected tribal resources, tribal rights, or Indian lands. (T-1).

2.10.6. Ensure the ICRMP describe appropriate tribal consultation protocols. Summarize and reference protocols in the INRMP, as appropriate. (T-0).

2.10.7. Ensure the installation involves tribes in early planning for actions analyzed under the AF Environmental Impact Analysis Process (EIAP). (T-0).

2.10.8. Educate installation personnel who conduct activities that may affect tribal lands or resources to understand local tribal issues and rights, which may be affected by military plans, activities or operations. (T-0).

2.10.9. Ensure tribes with historic or cultural affiliations with lands and resources managed by the installation have opportunities to consult in and/or participate in the development and maintenance of the ICRMP and INRMP. (T-0).

2.10.10. Work with the Installation Cultural Resources Manager and AFCEC specialists to consider and strive to protect cultural resources of concern to tribes. (T-0).

2.10.11. Work with the installation organizations to ensure information on the locations of sensitive archaeological resources, traditional tribal places, and sacred sites are not disclosed to the general public. (T-0).

2.10.12. Prepare an Annual Report for the Installation Commander and report on any other ITRP activities. (T-1).

2.10.13. Provide to tribes, upon request, information on acquiring surplus equipment and personal property, through the Defense Logistics Agency (DLA), Reutilization, Transfer and Donation (R/T/D) program. (T-1).

2.11. The Installation Staff Judge Advocate shall:

2.11.1. Advise the installation commander on relationships with Indian tribes and legal requirements for consultation, when requested. (T-3).

2.11.2. Seek assistance from AFLOA/JACE-FSC in resolving new or complex issues requiring a high level of legal expertise. (T-3).

2.12. The Installation Contracting Activity, with assistance as necessary from the Air Force Installation Contracting Agency (AFICA), shall:

2.12.1. Coordinate with the appropriate AF entities [e.g. SAF Small Business (SAF/SB) and SAF Acquisition (SAF/AQ)] to ensure that the installation is well informed on programs and opportunities of potential interest to tribes. (T-1).

2.12.2. Make information available for distribution to tribes on contracting opportunities, grants, and cooperative agreements available to Indian tribes, Native American Corporations, and Indian-owned enterprises. (T-1).

2.12.3. Ensure contracts include Defense Federal Acquisition Regulation Supplement (DFARS) clause 252.226-7001, when required by DFARS 226.1. This clause implements the DOD Indian Incentive Program, which is designed to generate business for Indian-Owned Economic Enterprises and Indian Organizations. (T-1).

2.13. The Installation Force Support Squadron shall:

2.13.1. Provide to tribes, upon request, information on education, training, and employment opportunities. (T-1).

Chapter 3

REPORTING REQUIREMENTS

3.1. Annual Report. Coordinating through the parent MAJCOM and AF/A4C, each Installation Commander shall submit a report on all tribal relations activities from the previous fiscal year. This report is due within 90 days following the end of the fiscal year. See Attachment 2 for report format and content. (T-0).

Effective Date: This AFI is effective immediately.

MIRANDA A. A. BALLENTINE Assistant Secretary of the Air Force (Installations, Environment, and Energy)

Attachment 1
GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References
NOTE: The user of this instruction is responsible for verifying the currency of the cited

documents.

25 USC §479a, Federally Recognized Indian Tribe List Act of 1994, Definitions, 2006 Edition, Supplement 4

25 USC §1544, Indian Financing Act of 1974, Additional compensation to contractors of Federal agency, 2006 Edition, Supplement 3

32 CFR Part 229, Protection of Archaeological Resources: Uniform Regulations, 1 July 2001 32 CFR Part 989, Environmental Impact Analysis Process (EIAP), 20 June 2014
FAR Part 26, Federal Acquisition Regulations, Other Socioeconomic Programs, 29 May 2014 EO 13175, Consultation and Coordination with Indian Tribal Governments, 6 November 2000 DoDI 4710.02, DoD Interactions with Federally-Recognized Tribes, 14 September 2006 AFPD 32-90, Encroachment Management Program, 12 April 2012

AFGM 2014-90-1, Government-to-Government Relations with Federally-Recognized Tribes, 18 July 2014

AFI 32-7065, Cultural Resources Management Program, 1 June 2004
AFI 32-7064, Integrated Natural Resources Management, 17 September 2004 AFI 33-360, Publications and Forms Management, 25 September 2013 AFMAN 33-363, Management of Records, 1 March 2008

Abbreviations and Acronyms

ACHP—Advisory Council on Historic Preservation AFI—Air Force Instruction

AFLOA/JACE/FSC—Air Force Legal Operations Agency, Environmental Law Field Support Center

AFTLO—Air Force Tribal Liaison Officer ARPA—Archaeological Resources Protection Act of 1979 CFR—Code of Federal Regulations
Council—Advisory Council on Historic Preservation CRM—Cultural Resources Manager EIAP—Environmental Impact Analysis Process EO—Executive Order

FAR—Federal Acquisition Regulations FR—Federal Register

HQ USAF A4—Headquarters, The Deputy Chief of Staff for Logistics, Installations and Mission Support

AF/A4C—Air Force Director of Civil Engineers

HQ AFCEC—Headquarters, Air Force Civil Engineer Center

HQ USAF—Headquarters, United States Air Force

ICRMP—Integrated Cultural Resources Management Plan

IST—Installation Support Team

ITLO—Installation Tribal Liaison Officer

ITRP—Installation Tribal Relations Plan

MAJCOM—Major Command

NAGPRA—Native American Graves Protection and Repatriation Act of 1991

NEPA—National Environmental Policy Act of 1969

NHPA—National Historic Preservation Act of 1966

POC—Point of Contact

SAF/GCN—Air Force General Counsel, Installations, Energy and Environmental Law

SAF/IE—Assistant Secretary of the Air Force for Installations, Environment, and Energy

SAF/IEE—Deputy Assistant Secretary of the Air Force for Environment, Safety and Infrastructure

SHPO—State Historic Preservation Officer SME—Subject Matter Expert THPO—Tribal Historic Preservation Officer USC—United States Code

Terms

NOTE: The purpose of this glossary is to help the reader understand the terms used in this publication. It does not encompass all pertinent terms. Terms defined below are also contained in AFI 32—7065, Cultural Resources Management Program.

Advisory Council on Historic Preservation (Council or ACHP)— The independent federal agency charged by the NHPA, as amended to advise the President, Congress, and federal agencies on matters related to historic preservation. The Council also administers and implements the Section 106 consultation process of the NHPA through Title 36 CFR Part 800, Protection of Historic Properties. 12 December 2000

Archaeological Resources—Any material remains of past human life or activities that are capable of providing scientific or humanistic understandings of past human behavior and cultural adaptation through the application of scientific or scholarly techniques such as controlled observation, contextual measurement, controlled collection, analysis, interpretation, and explanation (see ARPA and 32 CFR Part229.3).

Area of Potential Effect (APE)—The land area an undertaking has the potential to affect. The APE includes the footprint of the proposed project, and areas around the footprint that might be affected by visual, auditory, erosional, and other direct and indirect results of the undertaking.

Comprehensive Agreement (CA)—An agreement between a federal agency and an Indian Tribe affiliated with NAGPRA remains or cultural objects, concerning all agency land management activities that could result in the intentional excavation or inadvertent discovery of Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony. The CA should establish procedures for consultation, treatment, and disposition of NAGPRA remains or cultural objects likely to be found during any undertaking or action on agency lands [per Title 43 CFR Part10.5(f), NAGPRA, Consultations, 1 October 2008]. The signed agreement, or correspondence related to efforts to reach agreement, constitute proof of consultation. A Contingency Plan of Action is similar to a CA, but deals only with NAGPRA remains and objects likely to be discovered during a specific undertaking or action. Tribal and agency officials (e.g., the installation commander) must sign CAs, but only the agency official signs Plans of Action [per Title 43 CFR Part 10.5(e)].

Consulting Parties—In accordance with Title 36 CFR Part 800.2(c), SHPOs (and THPOs acting in lieu of SHPOs on matters affecting tribal lands), Indian Tribal governments, and the ACHP (when it chooses to participate) have consulting roles in the NHPA Section 106 process. Optional participants include representatives of local governments; applicants for federal assistance, permits, licenses, and other approvals; and members of the public with interests in the undertaking.

Curation—The process of managing and preserving an archaeological collection of artifacts and records according to professional museum and archival practices, as defined in Title 36 CFR Part79, National Park Service. Refer to Legacy Resource Management Program Office, Legacy Project No. 98-1714, Guidelines for the Field Collection of Archaeological Materials and Standard Operating Procedures for Curating Department of Defense Archaeological Collections," available through the DENIX and AFCEC websites.

Installation Tribal Relations Plan (ITRP)— The ITRP outlines the approach installations will use to establish long-term relationships between the Air Force, specific to a given installation's mission, and tribes. This AFI gives flexibility to installations to develop their own ITRP for building and maintaining tribal relationships. The Government-to-Government Desk Guide for Native American & Alaska Native Tribal Governments and the U.S. Department of Defense published in 2007 includes information, in Section III, on a tool which can be used as a template for the ITRP and working on a government-to-government basis with the tribes. At a minimum, the ITRP should include (1) how the installation plans to reach out to identified federally-recognized tribes with historic or cultural affiliation to installation lands; (2) specific details on how the installation plans to address areas of concern for tribes; (3) how the installations plans to maintain tribal relationships between regularly scheduled twice-yearly face-to-face meetings; (4) a standard process for consultation whenever issues arise between the tribe(s) and the installations; and (5) a list of current tribal government points of contact.

Integrated Cultural Resources Management Plan (ICRMP)—A document prepared by each DoD installation that describes how it defines the procedures and outlines plans for managing cultural resources on that installation. ICRMPs must contain the information required by DoDI 4715.16, Enclosure 6.

State Historic Preservation Officer (SHPO)—The official appointed by the Governor of each State and territory to carry out the functions defined in the NHPA, and to administer the State Historic Preservation Program. SHPOs provide advice and assistance to federal agencies regarding their Cultural Resources Management programs and historic preservation responsibilities. Throughout this AFI, SHPO is understood to mean THPO where consulting a designated THPO is appropriate.

Tribal Historic Preservation Officer (THPO)—The official appointed by an Indian Tribe in accordance with the NHPA to administer the Tribal Historic Preservation Program and assume duties and functions for tribal lands similar to those that the SHPO has for State lands. The Secretary of Interior designates tribes with THPO responsibilities. Air Force installations must consult with the THPO, instead of the SHPO, on undertakings on or over Indian tribal lands where a Tribe has been granted THPO responsibilities by the Secretary of the Interior.

Attachment 2 INSTALLATION COMMANDER'S

ANNUAL REPORT ON TRIBAL RELATIONS

SECTION 1: INSTALLATION TRIBAL RELATIONS PLAN

1a. Does the installation have an Installation Tribal Relations Plan (ITRP)? Yes/No If yes, is this an alternate ITRP? Yes/No
If no ITRP, please provide explanation.

1b. Has the ITRP been updated in the last 6 months? Yes/No
If yes, highlight any major changes from the previous ITRP. If no, please provide the date of the last update.

1c. Has the installation designated an Installation Tribal Liaison Officer (ITLO)? Yes/No If yes, please provide the ITLO contact information (Name, Rank/Civilian, Phone, Email).
If no, please provide explanation.

SECTION 2: GENERAL INFORMATION

2a. Has the installation identified any tribes with historic or cultural affiliation with lands controlled, used, or overflown by the AF? Yes/No

If yes, please provide the number of tribes identified.
If no, please provide an explanation as to why no tribes have been identified.

2b. Has the installation identified any other tribal interests related to installation activities within the last year? Yes/No

If yes, please identify the relevant tribes and the nature of their interests.

2c. Did the installation identify any new tribes within the last year? Yes/No
If yes, please provide additional information on the tribe (i.e., Name of Tribe, Address, Tribal Point of Contact Name, Phone Number)

2d. Does the installation have a map of its airspace and activity areas in relation to tribal lands or tribal use areas? Yes/No

If yes, when was the map last updated? If no, please provide an explanation.

SECTION 3: CORRESPONDENCE

3a. Did the installation commander (or designated O-6 representative) conduct meetings with tribal leaders during the past year? Yes/No

If yes, how many meetings were conducted?

3b. Did the installation meet with all identified tribes at least twice face-to-face during the past year? Yes/No

If no, please provide an explanation.

SECTION 4: AGREEMENTS

4a. Did the installation sign any new cooperative agreements, MOUs, MOAs, CAs, or PAs during the past year? Yes/No

If yes, please provide additional information (i.e., Date Signed, Title/Subject, Representatives) including a copy of any agreements.

SECTION 5: TRAINING

5a. Did the installation provide training on-base to personnel specific to tribal relations? Yes/No
If yes,

How many individuals attended training?
How many hours did each individual spend training?

5b. Did any installation personnel attend outside training specific to tribal relations? Yes/No If yes,

How many individuals attended training?
How many hours did each individual spend training?

5c. Did the installation provide training to tribal members? Yes/No
If yes, please provide information on the type of training provided and how many tribal members attended training.

SECTION 6: FEEDBACK

6a. Based on your experiences with the AF tribal relations program to date, what is working well, what needs improvement, and/or what needs to be addressed?

Table 1 Three Hundred and Sixty Four Native American Traditional Use Plants on NNSS and NTTR

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Table 1 Three Hundred and Sixty Four Native American Traditional Use Plants on NNSS and NTTR

Scientific Name	Common Name	Southern Paiute Ethnic Group Names	Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Abies concolor	White fir	ca-ta-vee[8]	wong-govie[8]	
Abronia turbinata	White sand verbena		nut-zooh-boh-hombe[8]	
Abronia sp.	White sand verbena		bah-gun-boh-hombe[8]	
Achillea millefolium	Milfoil yarrow	i'itsikwasipi[f]		
Achillea sp.	Yarrow	i'itsikwasipi[f] todze-tonega[8] toe-tee-tone-ga[8] wats-ov[8] toh-tee-tone-e-gah[8] toh-tee-tonega[8]	coo-see-pah-wah-zip[8] dogowah-wan-guh[8] donzee-anga[8] pah-ronzee-ah[8]	
Agave utahensis var. *kaibabhensis*	Kaibab agave	kaiva uusiv[b]		
Agave utahensis var. *utahensis*	Utah agave	yaant[b] nanta[f] yant[f]		
Agave sp.	Agave, Mescal	yant (mp)[f]		
Agropyron smithii	Western wheat grass	paxankwa[f]		
Agropyron sp.	Wheat grass	paxankwa[f]		
Agrostis exarata	Spike bentgrass	NF[f]		
Allium sp.	Wild onion	kwichasi[f]	bah-zuh-see[g]	un-zee[g]
Amaranthus albus	Pale amaranth	toki-mont[f] tokimont[f]		
Amaranthus retroflexus	Redroot pigweed	kumutu[f]		
Amaranthus powellii	Powell's amaranth, Pigweed	kumutu[f] pun-kont[f]		

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Amaranthus sp.	Pigweed	toki-mont[f] ku-mont[f] camoot[f] kumutu[f]	tokimont[f] pun-kont[f] punkont[f]		
Ambrosia dumosa	White bursage, Burrobush	kutsiav[f]	tumpisangwav[b]		
Ambrosia artemisiifolia	Ragweed	NF[f]			
Amelanchier alnifolia	Saskatoon service-berry	toyabe[f]	tuvwampu[f]		
Amelanchier utahensis	Utah serviceberry	tungwump[f] tuvwampu[f] NF[e]	kwiyav[f] toyaba[f]	duh-hee yemba[8]	
Amelanchier sp.	Serviceberry	tŭ-ab´ (k)[4] kwiyav[f] tungwump[f] kwiyav[f]	toyabe[f] tuvwampu[f] toyaba[f] tungwump[f]		
Amsinkia tesselata	Fiddleneck	NF[e]			kua[e]
Androstephium breviflorum	Funnel-lily	NF[f]			
Anemopsis californica	Yerba mansa	cheu-pahn-iv (mp)[8] tchupaniv[e]	NF[f]	chew-pon-iv[8] NF[e]	tchawanav[e] tsawaniv[e]
Anemone tuberosa	Desert thimbleweed, Windflower	NF[f]			

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Angelica sp.	Angelica	to'nchavi[f] kibah na-tizuah[8]	tontsabi[f] bogo[8]	bee-ah-bogo[8] be-ah boquah[8]	
Apocynum cannabinum	Dogbane, Indian hemp	NF[1]			
Arabis pulchra	Pretty rockcress	ak[e]	ahk[e]		
Arabis sp.	Rockcress	toxopakuv[f]		don-zeah[8]	
Arceuthobium sp.	Mistletoe	San-hap´ o-tsav[4]		Not-toí-yum	
Arctostaphylos patula	Green-leaf manzanita	ararumpipi[f]			
Arctostaphylos pungens	Pointleaf manzanita, Mexican manzanita	ararumpipi[f]	ada'dimpipi[f]		
Arctostaphylos sp.	Manzanita	ki´-app´e (k)[4] a-rai´-um-pīv (k)[6] tim-go´-op (lv)[6]	ararumpipi[f] ada'dimpipi[f]	yah-he-wat-um[8]	
Arenaria sp.	Sandwort			boo-ee nut-zoo[8]	
Argemone sp.	Prickly poppy	esha-ah-goo-wha[8]		sag-ee-da[8] sag-ee-dump[8] wya-sag-wee-duh[8] wya-sag-gee-gee[8]	
Artemisia bigelovii	Bigelow sagebrush	sangwav[b]			NF[9]
Artemisia dracunculus	Tarragon	sangwavi[f]	pas[f]		
Artemisia ludoviciana	Water sage, Louisiana wormwood, Sage herb	huipata-sangwav[b, c] sangwa[f]	sangwavi[f] pass-pahs[f] pa'sangwav[e]		

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Artemisia nova	Black sagebrush	sangwav[d] sangwav[c]	sua'piv[c]	bah-que-numb[8] boh-hoe-be[8] du-boh-hobe[8] toyabe-behobe[8] bahopi[c]	
Artemisia spinescens	Bud sage, Button brush	kuh-eeb tah-cun-oh-guah[8]	kuh-wepit-tuh-cun-o-guah[8]	doot-see-ab[8] dootsie-up[8] koo-buh tah-cun-o-quah[8] ku-ba-tah-cun-oh-quah[8]	
Artemisia tridentata	Big sagebrush	po-ho´-be (lv)[4] sahng-wav´ [4] sah-wahb´ (k)[4] sangwav[c, e] pah-eesh sah-wavvy[8] pah-hoe-be[8]	sangwavi[f] sangwa[f] sanwa'bi[f] pah-wavvy[8] sah-wah-be[8] sah-wavvy[8]	bah-guh-yoom[8] bah-hoe-be[8] bah-vah-hoe-be[8] boh-hoe-be[8] boh-ombe[8] sah-wah-be[8] wah-gup-pee[8] povi[e] pohovi[e] bahopi[c] povi[c] po-hó-be (ps)[4]	NF[e, c]
Artemisia sp.	Sagebrush	ïnáp´[u 1] po-ho´-be (lv)[4] sahng-wav´ [4] sah-wahb´ (k)[4] sangwav[c, e] pa'sangwav[e] huipata-sangwav[b, c] wadzo-ba[8] coo-see pah-wah-zip[8] coo-see quatz-oh-bah[8] coo-see-sah-wah-be[8] coo-see sah-wavvy[8]	chumav[b] sangwa[f] sangwavi[f] sanwa'bi[f] pas[f] pass-pahs[f] salmapweep[f] salm-ap-weep[f] coo-see-wy-up[8] koh-see-wah-ah[8] pah-wadz-oh-buh[8] wat-sob[8] whood-see-tah-cun-oh-quah[8]	bah-vah-hoe-be[8] bav-oh-hoe[8] coo-see-pah-zip[8] coo-see-pah-wah-zip[8] pah-vah-hobe: pava-hobe[8]	

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Asclepias speciosa	Milkweed	nah-quee-dah nat-tizuah[8] toh-hawk-quee[8]	ut-sah-av[8] wee-ab-a-nuh[8]	be-ah bee-sha divo-oh-wip[8] be-jah-no-ko[8] be-sha-no-ko[8] bee-sha-wannup[8] pee-gee-wanna[8]	
Asclepias sp.	Milkweed, broad leaf	hewovey[8] NF[1]	wa-na[8]	we-ā´-vimp (ps)[4]	
Aster frondosus	Leafy aster	tods-e-tonega[8]			
Aster sp.	Aster	NF[f]		hoo-nut-zoo[8] dimbe-be-ett-zee[8] duh-na-eye-go[8]	
Astragalus praelongus	Milkvetch	NF[b]			
Astragalus purshii	Milkvetch	NF[f]			
Astragalus spp.	Locoweed	NF[b]		tim-bah-hay nut-zoo[8] coopi-joomb[8] gup-wuh-ghu[8] tok-quee[8]	
Atriplex canescens	Four-wing saltbush	skump[b] tono[b]	murunibi[f]	noo-roon-up[8]	tonoh[e]
Atriplex confertifolia	Shadscale	NF[2] oavi[f]	kakumb[e]		
Atriplex lentiformis	Big saltbush	NF[f]			
Atriplex sp.	Saltbush	kakumb[e] skump[b] tono[b] oari[f]	oavi[f] que-aheque[f] murunibi[f]		

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Avena sativa	Wild oats	hoo-wēv´ (c)[4]		
Baccharis sp.	Seepwillow	koauw[b] kanav[b]		
Balsamorhiza sp.	Balsamroot	key-gah-da-goop[8] ah-ku-pah[8] coo-see quah-soop[8] pah-kuk[8]	ah-kuk[8] coo-see ah-kuh[8]	
Berberis fremontii	Freemont's barberry	tonip[f]		
Berberis repens	Creeping barberry	cor-ren-nup pah-vee[8] poo-heg-wee-dah[8] NF[f]	so-go-diem[8] so-go-du-yembe[8] toh-yuh-tu-yuh-bu-huh[8]	
Berberis sp.	Oregon grape, Barberry	tonip[f]		
Betula sp.	Birch	un-gai´-yu-nin-jump (lv)[6] kai´-shu-imp (k)[6]	who-ghee-juup[g]	
Brickellia oblongifolia	Mohave Brickell bush		sahn-a wap[8]	
Brodiaea pulchella	Desert hyacinth	NF[e]	sigo[e]	
Bryophytes	Moss	NF[f]		
Calochortus bruneaunis	Sego lily	sixo'o[c]	se'go[c]	
Calochortus flexuosus	Weakstem mariposa	sixo'o[f] sixo'o[e]	sigo[e]	kogi[e]
Calochortus nuttallii	Sego lily	sigo'o[f]		
Calochortus sp.	Sego lily, Mariposa lily	sixo'o[f] sigo'o[f]		

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Carex douglasii	Sedge	NF[r]		
Carex sp.	Sedge	sambiv[d] NF[f]		
Castilleja chromosa	Early Indian paintbrush	NF[e]	angawitambu[e]	NF[e]
Castilleja linariaefolia	Paintbrush		anga-quee-ah-wee-tumb[8] dogowah-die-um[8]	
Castilleja martinii	Narrowleaf paintbrush			NF[e]
Castilleja sp.	Indian paintbrush	NF[d]		
Caulanthus crassicaulis	Squaw cabbage	NF[f]	wah-numb[8]	
Ceratoides lanata	Winterfat		NF[e]	
Cercoparpus ledifolius	Curl-leaf mountain mahogany	tonumpi[f] Dunumbe[f] dunumbe[f](mp)[8] too-pee[8] toobe-[8] toobe-buh-ah[8]	doh-numbe[8] toh-nombe[8] toobap-ee[8] too-be[8] too-bee-boh-ah[8] too-nambe[8] too-pee[8]	
Cercocarpus sp.	Mountain-mahogany	to-namp´ (k)[4] dunumbe[f] tonumpi[f] dunumbe[f]	too-num´-be (ps)[4] too-namp´-pe[4] toó-nam-be[4]	NF[9]
Chaenactis douglasii	Douglas dusty-maiden	hoot-see-eva[8] toh-hoe-quah[8] si-af-iv[8]	witch-ah das-ah-dee-ah[8] witch-ah-numba[8] yahn-gan-gooie[8]	

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Chamaebatiaria millefolium	Fernbush	par-o-wah tah-cun-o-quah[8]		ting-wee-buh[8]	
Chenopodium fremontii	Frémont goosefoot	sax'watikup[c]		u'uphi[c]	
Chenopodium sp.	Goosefoot	sax'watikup[c]			
Chorizanthe rigida	Rigid spine-flower	sanuv[f]	kamuhurusanuv[f] kanumuvusanuv[f]		
Chorizanthe sp.	Spine-flower	sanuv[f]	kamunuru[f]		
Chrysothamnus nauseosus	Rubber rabbitbrush	s'kump[c, e] sikomp[b] sikump[f]	sikump[f] pantus'kump[d]	see-bape[8] su'pimba[c] NF[e]	
Chrysothamnus viscidiflorus	Little rabbitbrush	see-gu-pee[8] tah-bee-she-goop[8]	tah-beese-see-goop[8]	nagaha-see-bup-ee[8] oh-ha-see-bup-e[8]	
Chrysothamnus sp.	Rabbitbrush	koo-chum´-ahv (lv)[4] koo-tsam´-mah hav´ (c)[4] sikomp[f]	sikump[f] sikump[f] s'kump[c, e]	siǵ-um-bip´ (ps)[4]	
Cirsium mohavense	Desert thistle	tsiev[e]			
Cirsium sp.	Pink thistle	manavip[b]			
Claytonia sp.	Spring beauty	NF[f, 8]			
Clematis ligusticifolia	Virgin's bower, Wild clematis	esha-wanna[8]		esha-wanna[8] esha-wannup[8]	
Coleogyne ramosissima	Blackbrush	NF[f, e]			

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Comandra umbellata	Bastard toad-flax	NF[f]		
Cordylanthus sp.	Birdsbeak		tim-bah-hay nut-zoo[8]	
Cornus stolinifera	Dogwood	NF[f]		
Cornus sp.	Dogwood	NF[f]		
Coryphantha vivipara var. *desertii*	Fishhook cactus, Coryphanth cactus	manav[d]		NF[e]
Coryphantha vivipara var. *rosea*	Foxtail cactus	manav[d] yuav[c] manav[c]	NF[c]	
Cowania mexicana (see *Purshia stansburiana*)	Cliffrose			
Crepis sp.	Hawksbeard		ah-zah-div-o-wip[8] bee-sha-no-go[8] bee-jee div-o-wip[8]	
Cryptantha sp.	Cryptantha	NF[f]		
Cucurbita foetidissima	Coyote gourd, Missouri gourd	ankompi[f] ahn-noquav[f] ahn-no-quav (mp)[8, f] arnocup[f] arno-cup[f, 8]	poo-nono[8]	
Cuscuta spp.	Dodder	canaza-kwee-sha[8] too-vah-saah[8]		
Cymopterus globosus	Golfball spring-parsley	ye-duts[8] ye-luts[8]		
Cymopterus sp.	Spring-parsley	nampip[f]		

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Dalea fremontii (see *Psorothamnus fremontii*)	Fremont indigo bush				
Dalea polyadenia	Smokebush	ma-good-du-hoo[8] ma-good-tu-hoo[8]	moh-goon-du-hoop[8] moh-goon-du-hoopie[8]	ma-good-tu-hoo[8] moh-goon-du-hu[8]	
Dalea sp.	Indigobush	kaatamonʉp[f] i-era-midja[f]	i-eramidja[f]		
Datura meteloides	Sacred thorn-apple, Sacred datura, Jimsonweed	moa-nump[7] momomp[b, e] momompʉ[f] mimip[f] man-op-weep[f]	main-oph-weep[f] mainophweep[f] manopweep[f] moh-mope (mp)[8]	moh-eep[8]	
Datura sp.	Jimsonweed	mu-maup´ (k)[6] moa-nump[7] momomp[b, e] momompʉ[f] mimip[f]	main-oph-weep[f] man-op-weep[f] mainophweep[f] manopweep[f]		
Delphinium parishii	Larkspur	NF[e]			
Descurainia pinnata	Tansy mustard	akʉ[f] aku[f] NF[b]	hahck[f] ku'u[e]	poyah[e]	
Descurainia sophia	Tansy mustard, Herb sophia	ahk[e]		poyah[e]	
Descurainia sp.	Tansy mustard	ahk[e] ku'u[e] akʉ[f] aku[f]	hahck[f] ak[f] ok[f]		

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Dichelostemma pulchellum	Bluedicks	NF[f]			
Distichlis spicata	Saltgrass	ẽ´-shŭ (lv)[4] e-soov´ (c)[4]	Nf[f] mo-nump´ (k)[4]	pas-shoo-tum (ps)[4] ó-hah só-nĭp[4] ŏ-hah só-nip[4]	ongavi[e]
Dyssodia pentachaeta (=*D. thurberi*)	Scale glandweed	sakwapi[b]	NF[f]	ahn-dah-gah nut-tah-zoom[8]	
Echinocactus polycephalus	Cotton-top cactus	tash[e]		NF[e]	NF[e]
Echinocactus sp.	Barrel cactus	pavio[f] tamar (lv)(p)[f]	tamar (mp)[f]		
Echinocereus engelmannii	Engelmann hedgehog cactus	usivwuits[f] tule[e]	manav[d]		
Echinocereus triglochidiatus	Claretcup cactus	chuamanav i'mamanavi[b] ova'xobi[f]	cacuusov'xobi[f]		
Echinocereus sp.	Hedgehog, Tule cactus	tule[e] chuamanav i'mamanavi[b] usivwuits[f]	ova'xobi[f] cacuusov'xobi[f] usirwuits (lv)(p)[f] NF[d]		
Echinochloa sp.	Cockspur	NF[f]			
Eleocharis palustris	Spikerush	NF[c, f]			
Eleocharis sp.	Spike rush	pahrasiev[c]		bumohap[c]	NF[9]
Elymus cinereus	Wild rye				NF[9]

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Elymus elymoides	Squirrel tail	saxwanartotsivuaium[c]		
Elymus triticoides	Beardless wildrye, Creeping wildrye	NF[f]		
Elymus sp.	Wildrye, Wheatgrass	ph-hoe-buh wah-hava[8] sah-wah-havva[8] wah-havva[8] saxwanartotsivuaium[c] NF[f]	pay-wah-guave[8] wy-ron-zip[8]	
Encelia farinosa	White brittlebrush	NF[b]		
Encelia frutescens var. resinosa	Brittlebush	sana ich[b] tuwich[b]		
Encelia virginensis (all varieties)	Virgin encelia, Brittlebush	sana ich[b] suopiv[e] tuwich[b]		
Enceliopsis nudicaulis	Nakedstem		anga-go-ahp[8] coo-see ah-kuk[8]	
Ephedra nevadensis	Nevada Indian tea	tup, tup[b] hutuup[c] tu'up[c] tutuupi[f] tutupi[f, e] tu-tupe (mp)[8] tutupe[f] utuupi[f] u'tuup[e] yatup[e] NF[d]	coo-see too-roombe[8] tutumbi[e] turundi[c]	turup[e] tutuup[c]
Ephedra torreyana	Torrey Indian tea	tutuupi[f] tutu'pi[f] tu-tupe[f] u´tup[b] tupi[b]		
Ephedra viridis	Indian tea	tup[b] tup[b] tutuupi[f] soo-roop-ee[8] too-roop-ee[8] tutu'pi[f] utuupi[f] u'tuup[e] too-toop-ee[8]	too-roombe[8] too-toom-be[8] tutumbi[e] NF[c]	turup[e] NF[e]

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		NF[c]			
Ephedra sp.	Mormon tea, Jointfir, Indian tea	too-troop´ (c)[4] hoo-toop´ (k)[4] tup, tup[b] u'tuup[e] yatup[e] hutuup[c] tu'up[c]	tutuupi[f] utuupi[f] tutu'pi[f] tutupi[e, f] tutupe[i] tu-tupe[f]	too-toom´-bip (ps)[4]	
Equisetum laevigatum	Smooth scouring rush	sakwa-'ivi-p[b]	paxwav[f]		
Equisetum sp.	Scouringrush			bah-see-noo[8] kah-wah-quah-see[8]	
Eragrostis sp.	Love grass	NF[f]			NF[9]
Eriastrum eremicum	Mohave eriastrum	NF[c]			NF[c]
Erigeron sp.	Daisy	booie na-tizuah[8] dootsie tah-bah-she-up[8]	kah-noop-ah[8] too-bee-man-ob[8]	boo-ee nut-zoo[8]	
Eriodictyon angustifolium	Narrow-leaf yerba santa	wee-poo-en-ub (mp)[8, f] weepoo-enub[f]	kutsa'rimpi[f] pa'sinipi[f]	wee-pah-got-um[8]	
Eriogonum inflatum	Desert trumpet, Bladderstem, Indian pipeweed	papakurum[f] papakurum[f, e]	papakurum(p)[e]	tusarambokup[e]	
Eriogonum microthecum	Wild buckwheat	pee-wee-guy-womb-mutz-zee[8]		ahn-ga-see-ga wee-ub[8] anga-kah-sah-rumba[8]	
Eriogonum ovalifolium	Butterballs	ya-paw-taw-the[8]		naka-donup[8]	

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Eriogonum caespitosum	Buckwheat brush	NF[f]		

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Fritillaria atropurpurea	Spotted missionbells, Leopard-lily	NF[f]			
Garrya flavescens	Ashy silktassel	ka'ninkwap[f]			
Gaura coccinea	Scarlet beeblossom	NF[f]			
Gilia aggregata (see *Ipomopsis aggregata*)	Scarlet gilia, Skyrocket				
Gilia congesta (see *Ipomopsis congesta*)	Ballhead gilia				
Gilia inconspicua (see *Ipomopsis inconspicua*)	Floccose gilia				
Glycyrrhiza lepidota	Desert root, American licorice	NF[f]			
Grayia spinosa	Spiny hop sage				NF[c]
Grindelia squarrosa	Gum plant	oha tonega[8]	sah-nah tonegan[8]	sah-nah cav-oh-no-ah[8] sah-nah-goop-ah-rah[8] woh-ah-gum[8]	
Gutierrezia microcephala	Matchweed, Small-head snakeweed	NF[e]	yainup[b] waarump[b]	tavishepi[e]	
Gutierrezia sarothrae	Snakeweed, Matchweed	s'kump[d]		see-gupe[8] too-goot-se-ooh-goope[8] toom-bee-see-bupe[8]	
Haplopappus acaulis	Stemless Goldenweed	pau'p[f]	apu'p[f]		

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Haplopappus sp.	Goldenweed	pau'p[f]	apu'p[f]		
Helianthus annuus	Common sunflower	ah-kump´ (k)[4]	bah-kuk[8]		
Helianthus sp.	Sunflower	ah-kump´ (k)[4]	akumpf		
Heliotropium curassavicum	Heliotrope	tube-manabe[8] wa'ateyowimpi[f]	tu-ma-nabe[8]	i-yah-oh-ho[8] i-yah-oh-ho[8] tu-man-ah-be[8]	
Hermidium alipes	Four-o'clock	he-wov-bee[8]	hewovey[8]		
Heuchera rubescens	Alum root			toya-dimba-wah-rumb[8] zee-guoy[8]	
Hilaria rigida	Big galleta	NF[f]			
Holodiscus dumomus	Mountain spray	oh-na-nut-tiz-u-wabbe[8]	tah-see-vuh[8] wah-poose-oh-guay[8]	tot-zip[8] toya-huhnabbe[8]	
Hymenoclea salsola	White cheesebush, Burrobush	paiab[f]			
Ipomoea sp.	Morning glory	NF[f]			
Ipomopsis aggregata	Scarlet gilia, Skyrocket	anka'siti[f] soh-noy tah-cun-oh-quah[8]	pah-wah-gopish[8] para-give[8]	enga-mo-wanya[8] enga-mutz-oh-y-newie[8] tem-piute[8] tin-ah-piute[8]	

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Ipomopsis congesta	Ballhead gilia	quoy-hee nooma natiz-u-ah[8]	bas-oh-nup[8] be-he-vah[8] bee-ah-du-hu[8] bee-hee-vah[8] hoe-ni[8] hoo-na[8] hoo-ni[8] sah-tone-zee[8] sah-tone-zee-yung[8]	
Ipomopsis inconspicua	Floccose gilia			NF[c]
Ipomopsis sp.	Gilia	eck-quee-hu-binga[8] sigh-yah-gava[8] si-yah-gum[8] too-bee man-a-ba[8] too-bee too-ben-aba[8] too-man-aba[8]	din-ah-ee-goom[8] duh-na-ee-go[8] duh-nah-eye-go[8] duh-nah-eye-gum[8] tin-ah-ee-go[8] NF[c]	
Iris missouriensis	Wild iris	pah-see-toob-ah[8] poo-gooey-roop[8] poo-gooey-rub[8]	pah-sag-ee-dah[8] pah-sag-ee-duh[8] pah-sag-e-dump[8] pah-sag-gee-gee[8] sag-e-dump[8]	
Iris sp.	Iris	NF[f]		
Iva axillaris	Poverty weed	quee-duh-tee-nava[8] too-ha-babba[8]	du-du-zip[8] too-du-zip[8]	
Juncus mexicanus	Wire grass	NF[d] pa'sip[e]	sonophi[e]	NF[e]
Juncus sp.	Rush	paxwav[f] pauv[b]		

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Juniperus communis	Common juniper	pawa'apʉ[f] pah-wap-o-ruit[f] dootsie pah-wap-pee[8]	pahwaporuit[f] pah-wap-o-ruitz (mp)[8] wap-pee[8]	mah-hav-wa[8]	
Juniperus osteosperma	Utah juniper, Cedar	wa'ap[c, d, e] wa'apu[f] wa'apʉ[f] wa'apumpi[f]	wa'apʉmpi[f] noo-ahntup[f] noo-ahn-tup[f] NF[d]	sahwavi[e] suwavi[c] sawabi[c]	hunuvu[e] hunuvu[c]
Juniperus scopulorum	Rocky mountain red cedar	bah-sah-mabe[8]	bas-um-ah-be[8]		
Juniperus sp.	Juniper, Cedar	wah-ahp´ (lv) [4] che-emp´ (c)[4] pah-wahp´ (k)[4] wahp´ [4] wap (k)[6] wa-op (lv)[6] wa'ap[c, e] pahwaporuit[f] noo-ahntup[f] wah-pee[8]	noo-ahn-tup[f] wa'apʉ[f] wa'apʉmpi[f] pawa'apʉ[f] wa'-pi[f] wap[f] wa'apu[f] wa'apumpi[f] pah-wap-o-ruit[f] wah-puee[8]	sah-mah-be[8] sam-ah-bee[8] sahn-ah-poh[8] sam-ah-bee[8] sahm-wah´-be[4] tsé-kev-ve[4] sah´-nah-be[4]	NF[9]
Krameria parvifolia	Range ratany	nagavaronump[e]	NF[f]		
Krameria sp.	Ratany	nah-kah-vah dah-tohnub (mp)[8, f]		nah-gee too-nah-nib[8]	
Lappula occidentalis	Stickseed	NF[f]			
Larrea divaricata	Creosote bush	yah-temp (mp)[8]		ya-temp[8]	
Larrea tridentata	Creosote bush	yatʉmpi[f] yatʉmp[f] yatump[f, e]	yah-temp[f] yahtemp[f] ys'ya'mip[f]	yatumbi[e]	NF[e]

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Larrea tridentata	Creosote bush	yatamp[f, e] ya'tampi[f] yatumb[b]	ya'ta'mpi[f] yatampi[f]		
Lepidium fremontii	Fremont's peppergrass	NF[f]			
Lepidium lasiocarpum	Desert pepperweed	NF[f]			
Lepidium Montanum	Mountain Pepperplant	NF[a]			
Lewisia rediviva	Bitter root	NF[f]		gungah[c]	
Lichen	Lichen	NF[f]	timpapsuchicu[c]		
Linum lewisii	Blue flax, Wild flax	booie-ah-nooma[8] booie na-tizuah[8]	po-eena-tiz-uah[8] NF[f]	boo-ee nut-tah-zoom[8] boo-ee nut-zoo[8] boo-eep nut-zoo[8] poo-ena nut-tiz-zooh[8]	
Lithospermum ruderale	Gromwell, Stoneseed			nem-ish-aw[8] nom-ish-aw[8]	
Lomatium sp.	Biscuitroot, Indianroot	NF[f]			
Lupinus spp.	Lupine	quee-duh-kwana[8]		quee-duh-quen-ah[8]	
Lycium andersonii	Anderson wolfberry	u'upwivi[b] u'up[d, f] pa'up[d]	u'upi[f] hu'up[e] u'up[e]	huupi[e]	huupia[e]
Lycium pallidum	Pale wolfberry	u'upi[f]	pa'up[e]	huupi[e]	huupia[e]

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Lycium sp.	Squawberry, Wolfberry	u'up[f] pa'up[d, f] hu'up[e] u'upwivi[b] u'up[b]	u'up[f] u'upi[f] pa'up[e, f] u?upi[2]		
Lygodesmia spinosa	Indian gum plant, Skeleton weed	i-goon-zon-um[8] pee-ee-ah-gub[8] see-ko-pe[8]	too-man-abbe[8] too-wan-oo-pah[8]		
Mahonia repens (see *Berberis repens*)	Creeping barberry				
Marrubium vulgare	Common horehound	quee-ban-oob[8]	NF[a]		
Melilotus alba	White sweet-clover	NF[2]			
Melilotus indicus	Yellow sweet-clover	NF[2]			
Menodora spinescens	Spiny Menodora	NF[e, f]		huupi[e]	
Menodora sp.	Menodora	NF[f]			
Mentha arvensis	Field mint, American wild mint	NF[b]			
Mentha sp.	Mint	paxwa'nanimpi[f] pah-guanna[8] pah-guanna-ah[8] pah-guanna-ah[8]	paxananumpi[f] pah-guanna-ay[8] quee-boh-nay[8] toh-see-ten-ava[8]	pah-guanna[8]	
Mentzelia albicaulis	Desert corsage, White-stem blazingstar	ku'u[f] ku'u[c]	NF[e]	pacita[e] kua[c, e]	kua[c] ma'kua[c]

Scientific Name	Common Name	Southern Paiute Ethnic Group Names	Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Mentzelia laevicaulis	Blazing star			NF[9]
Mentzelia oreophila	Blazing star, Stickleaf	ku'u[f]		
Mentzelia sp.	Stickleaf, Desert corsage	ku'u[c, f]		
Mimulus guttatus	Monkey flower		unda-vitch-quanna[8] pahn-zah-quatum[8]	
Mirabilis multiflora	Colorado four-o'clock	toxo'owatsiv[c] tukwivi[b]		
Monardella odoratissima	Western bee balm	see-boo moh-goon-up[8] too-buzz-see-be[8]	guy-moh[8] toya-abba-hobe[8]	
Muhlenbergia asperfolia	Scratchgrass	wichavi ma'ap[b]		
Muhlenbergia sp.	Muhly	nutavi[f]		
Nasturtium officinale	Watercress	pamavu[b] paunaxunanar[b]		
Nicotiana attenuata	Coyote tobacco	koapi[f] bah-moh[8] koap[f] poo-ee-bah-hoon[8] koaop[f] poo-ee-bah-moh[8] tsaw-wap[f] poo-wee-buh-hoon[8] koap[c] toh-quoh-quah[8]	new-wha bah-hoon[8] poo-ee-pah[8] pue-bax[8] NF[c]	NF[c]
Nicotiana trigonophylla	Indian tobacco, Desert tobacco	koapi[f] saxwaxwapi[e] nungwukoap[f] koap[b] nungwukoap[f] nungwukoap[b]	pombi[e]	

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Nicotiana sp.	Tobacco, Wild tobacco	ko-op´[6] sĕ-wah´-wahp (lv)[4] ko-ahp´ (c)[4] sow-wow´-wahp (k)[4] sĕ-wah´-gwah'b[4] koapi[f]	koap[f] koaop[f] saxwaxwapi[e] nungwukoap[f] nungwukoap[f] tsaw-wap[f]	pah-hum´-be (ps)[4]	
Oenothera pallida	Pale evening-primrose	sixo[b]			
Opuntia basilaris	Beavertail cactus	manav[b] yuavi[f] yuavimp[f] NF[e]	yuavimpu[f] yuavimpi[f] navump[f]	nugwia[e] nah-vomb[8] wo-gay-be[8]	
Opuntia echinocarpa	Golden cholla, Silver cholla	NF[e]		wiatimbu[e]	
Opuntia erinacea	Mohave prickly pear, Grizzly bear cactus	yuavip[b] manavi[e]	manav[d]		
Opuntia phaeacantha	Engelmann prickly pear	manav[b]			
Opuntia polyacantha	Central prickly pear	usivuwits[c]		NF[e]	
Opuntia spp.	Tuna, "Tule" cactus	manav[b] yuavimpi[f] yuavip[b] usivwuits[f] navump[f] manavimpi[f]	manavi[f] yuavimpu[f] yuavimpu[f] yuavimp[f] yuavi[f] manavimp[f]		
Orobanche cooperi	Broomrape	tu'u[f]			

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Orobanche corymbosa	Broomrape, Wild asparagus	tu'u[c]		tu'tum[c] tu'du[c]	
Orobanche fasciculata	Broomrape	tu'u[f]			
Orobanche sp.	Broomrape, Indian asparagus	tu'u[f] tue-hoo[8]	too-hoo[8] NF[a]	doo[8] too-ee[8]	
Oryzopsis hymenoides	Indian ricegrass	wa-i[7] wa'iv[b]	wa'ir[e] wa'ai[d,e,f]	wai[e]	wai[e] NF[9]
Osmorhiza occidentalis	Sweetroot	pah-wah-cape[8] pah-wah-capish[8] pah-wah-gah-bish[8]	wadda-eye-gop[8] worra-eye-gob[8]	bah-soh-wip[8] bas-oh-gway[8] bas-oh-wip[8]	
Panicum sp.	Panic grass	NF[f]			
Parthenocissus sp.	Virginia creeper	patowanamauv[b]			
Pedicularis sp.	Lousewort, Elephant head			gooie-took-ie[8]	
Penstemon eatonii	Red penstemon			toh-quoh-bag-um[8]	
Penstemon floridus	Panamint beard tongue				NF[c]
Penstemon pahutensis	Pahute beard tongue	NF[c]			NF[c]
Penstemon palmeri	Palmer beardtongue	toxo'awatsip[f]			
Penstemon sp.	Beardtongue	toxoawatsip[f] too-buzz-sah-wop[8] toh-quoh-wat-ziv[8]	toxo'awatsip[f] toe-buzz-see-bee[8]	dim-bah-sego[8] dim-bah-shego[8] too-buzz-see-bee[8]	

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Peraphyllum ramosissimum	Squawapple	suovi[e]			
Phacelia sp.	Phacelia	NF[f]			
Phlox sp.	Phlox	moh-goon-zee-eye-ah[8] quee-duh-too-nabba[8] NF[f]	toh-hah-tonegan[8] tu-be-man-up[8]	din-ah-ee-go[8] eye-go-dun-um[8] so-go-div-oh-sah[8] so-go-ron-zee-ah[8]	
Phragmites australis	Common reed, Giant common reed, Cane, Honey dew	po´-ru (k)[6] pa-gump (lv)[6]	paxamp[b, f] pa'xamp[e] pah-gump[f]	NF[e]	pihavi[e]
Phragmites communis	Common reed, Honey dew	moh-goh-koh (mp)[8] pahgump[f] pa-hump[7]	wo-cau-cau-pu[8] hohgohkoh[f]		
Phragmites sp.	Reed	po´-ru (k)[6] pa-gump (lv)[6] pahgump[f]	hoh-goh-koh[f] paxamp[b, f] hohgohkoh[f]		
Physalis crassifolia	Groundcherry	NF[f]			
Physalis sp.	Groundcherry	NF[f]			
Physaria chambersii	Chambers' twinpod	tah-rah-gee-noob[8]	NF[f]	tah-pah-day[8]	
Pinus monophylla	Singleleaf pinyon,	tu-vap´ (lv)[4] toov´ (c)[4] tŭ-bah´-kah-bub (k)[4] tuvap[c, e] sahn-a-pah wah-pee[8] too-bee[8] tu-ba[8]	tu'uv[c] tuva[f] tuva[f] tuvwap[e] tu-bap-ee[8] wah-pee[8]	wahpi[c, c] tuvah[e] wah-pee[8] wahp´ (ps)[4] wah´-pe[4] sah´-nah-wah´-pe[4] tipa[9]	tuvap[e] tuva[c] tiba[9]

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Pinus ponderosa	Ponderosa pine	yu-vim´ (lv)[4] ŏ-gump´ (k)[4] yu-wim´p [4]	wung-gah-be[4] wun-kó-be (ps)[4]	
Pinus sp.	Pinyon	tu-wop´ (k), (lv)[6] tu-vap´ (lv)[4] toov´ (c)[4] tŭ-bah´-kah-bub (k)[4] yu-vim´ (lv)[4] ŏ-gump´ (k)[4] yu-wim´p[4] tuva[f] tivah[f] tuva[f] tuvap[c, e] tu'uv[c] tuvwap[e]	wong-govie[8]	
Pinus sp.	Sugar pine		wi-ah´-kah-tum (ps)[4]	
Plantago major	Common plantain		wee-dee[8] woo-dee[8]	
Pluchea sericea (see *Tessaria sericea*)	Arrow weed			
Poa bigelovii	Bluegrass	NF[f]		
Poa fendleriana	Muttongrass, Bluegrass	uxwishuv[f]		
Populus fremontii	Fremont cottonwood	sovip[b]		
Populus tremuloides	Quaking aspen		sing-gah-ve[8] sung-up[8]	
Populus trichocarpa	Black cottonwood		sing-gah-ve[8] sing-gop[8] so-ho-be[8] su-nabbe[8] toya-soo-nap[8]	

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Populus sp.	Cottonwood	sho-wīp´ (k)[6] so-vwīp (lv)[6]	sovip[b] só-vip (k)[4] sah´-vip (lv)[4] sah´-vip´ (c)[4]	só-o-vimp´ (ps)[4] sah´-hah-be[4] sig´-ge[4]	
Porophyllum gracile	Odora	pa'kwitupip[f]			
Porophyllum sp.	Odora	pa-guidobe (mp)[8]			
Portulaca sp.	Purslane	topuene[f]	to-puene[f]		
Prosopis glandulosa var. *torreyana*	Torrey mesquite	opimp[b] 'op[f]	'opimpʉ[f] o'pimb[e]	o'phi[e]	
Prosopis pubescens	Screwbean	kwiyarʉ[f] wi'ump[e] kwierum[e]	'opimpʉ (mp)[f] quee-et-umb[8]		
Prosopis spp.	Mesquite	'Op[f] opimp[b] 'opimpʉ[f]	kwiyarʉ[f] quee-et-umb[f] quee-etumb[f]		
Prunus andersonii	Desert peach	sahn-avvie[8] sahn-nab-bee[8]	NF[f]	bahn-zon-ip[8]	
Prunus fasciculata	Desert almond	tonopi[f]	tonapi[f]		
Prunus virginiana	Chokecherry	tonap[f] doh-ish-ah-boo-e[8]	tonapi[f] toh-ish-a-booe[8]		
Prunus sp.	Chokecherry	tonap[f] tonopi[f]	tonapi[f]		
Psathyrotes annua	Turtle back	sebu-moh-goon-a-bu[8]		yoh-nip[8]	
Psathyrotes ramosissima	Turtle back	ka-sigh-yah-gave[8] sebu-moh-goon-a-bu[8]	see-boh mo-goon-ub[8] sigh-yah-gava[8]	quoy-hee nut-zoo[8]	

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Psoralea sp.	Scruf-pea	kwaovi[f]			
Psorothamnus fremontii	Fremont indigo-bush	kaatamonup[f]	i-era-midja (mp)[8] i-eramidjar	quee-um-be[8] tuh-goo-buss-e-emp[8]	
Psorothamnus polydenius	Dotted dalea			muipuh[e]	NF[e]
Purshia glandulosa	Buckbrush	u'nup[e]		hunavi[e]	
Purshia stansburiana (=*Purshia mexicana* and *Cowania mexicana*)	Cliffrose	unapu[f] uh-nop (mp)[8] hunap[e]	uhnop[f] NF[d]	hunavi[e] be-ah-huh-nabbe[8] huh-nabbe[8]	
Purshia tridentata	Bitterbrush,	unap[e] NF[f]	huh-na-bee[8]	huh-nabbe[8] linna-huh-nabbe[8]	
Purshia sp.	Cliffrose	hunap[e]		hunavi[e]	
Quercus gambelii	Gambel oak, Scrub oak	tuav[e]	kwiav[e]		tsiginoh[e] tsigino[e] we'a[e]
Quercus sp.	Oak	kwi´-uv (k)[6] to-mum-pīv (lv)[6] hēm´-pah (c)[4] kwe´-av[4] we-am´-pe (c)[4] hēm´-pah (c)[4]	tomumpi[f] tuav[e] kwiav[e] tomump[f] tomumpi[f]	wé-ah (ps)[4]	wiya[9]
Rhus aromatica	Skunkbush, Sumac	i'is[e]	su'uv[e] u'up[e]		

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Rhus trilobata (all varieties)	Squawbush	e-is´ [4] i'isi[f] i-siv´ (lv)[6] shen-pimp´ (lv)[6] suuv[b] shuuvi[b] siuvimpu[f] huupi[f] see-a-wimp (mp)[8]	huiupi[f] su'uvimpu[f] i'isi[f] suuvimp[f] i'is[f] see-a-wimp[f] see-awimp[f] su'uv[d, f] su'uv[e]		
Rhus sp.	Skunkbush, Lemonade- berry, Sumac, Poison oak	i'is[c]	su'uv[c]	nat´-soo ō'k[4]	
Ribes aureum	Golden currant	bo-gumbe[8] poh-oh-bis[8]	NF[f]	bo-gumbe[8]	
Ribes cereum	White squaw currant	NF[1]	NF[c]	bogombi[c]	
Ribes velutinum	Desert gooseberry	NF[c]		NF[c]	NF[c]
Rorippa sp.	Watercress	NF[d]			
Rosa woodsii	Woods wild rose	pikikurump[c]	see-avvie[8]	siwa'vit[c] cimbi[c] see-avvie[8] see-am-bip[8]	NF[c]
Rosa sp.	Wild rose	tsi-am-pīv (lv)[6] pikikurump[c]	su'impipi[f]	tsé-ab[1b 4]	
Rubus sp.	Raspberry	nagauvwunatumpipi[f]		see-am-bip[8]	
Rumex crispus	Curly dock, Wild rhubarb	nambitu[e] enga-pah-wee-ub[8]	pah-wee-ah[8] pah-wee-ub[8]	be-ja-no-ko[8] dim-woo-ee[8] enga-pa-wee-ah[8] new-wha no-ko[8]	

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Rumex sp.	Rhubarb	nambitu[c] tuha-kono-be[8]	ku'u[b] tuha-kono-gip[8]	bah-rah-zip[8] tuha-konobe[8] wya nut-zoo[8]	
Salazaria mexicana	Bladder sage	NF[f]			
Salix exigua	Coyote willow	kanav[b, c] kah-nav (mp)[8] coo-see suh-ee-be[8]	soo-vee[8] suh-ee-be[8] suh-ee-wee[8]	kwishisuuvi[c] coo-see see-bupe[8] soo-vee[8] suh-ee-be[8]	su'huva[c]
Salix gooddingii	Goodding willow	pakanav[b]	pawaxanav[c]	suuvi[c]	
Salix sp.	Willow	kahn-nahv (lv)[4] sah'b (c)[4] kah-nahv´ [4] sah-kahv´ [4] kan-av´ (k)[4] ka-nav (lv)[6]	kanavi[f] kah-nav[f] kahnav[f] pakanav[b] pawaxanav[c]	se-oó-be (ps)[4] sĕ-yu'b[4] sĕ-yu-be[4] soó-be[4]	su-hu-vee[8]
Salsola iberica	Russian thistle, Tumbleweed	manavip[b]	manav[c]		
Salvia columbariae	Chia sage, California sage	sangwav[f] saywav[f]	pasiits[c] patsits[f]	pacita[c]	pacita[c]
Salvia dorrii	Purple sage, Indian tobacco	nungwukoap[c] kwatamanum[c]	NF[c] kanarukoap[b]		
Salvia sp.	Sage	siguwiipi[f] pasiits[c] sangwav[f] see-goo-we-up[f] seegoowe-up[f] see-goo-we-up (mp)[8] nungwukoap[b]	nungwukoap[c] kwatamanum[c] saywav[f] sigimwiap[f] kung-nuh sah-wabbe[8] too-bee she-gin-oop[8]	kahn-gwanna[8] suh-goo-wee-up[8] toya-abba-hobe[8] toya-tim-ba-zip[8]	

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Sambucus sp.	Elderberry	koo-booie-du-ney[8] koon-oo-gip[8] ko-nó-wip´ (c)[4]	who-booie[8] hoo-boo[8] koo-noo[ch4] kunukwi[f] kunuxwi[f]	duh-he-yemba[8] du-yembe[8] hoh-tiem[8]	
Sarcobatus vermiculatus	Greasewood	yah-tahmp´ (lv)[4] tah-uh-be[8] toh-no-be[8]	yah-tamp´[4] tone-oh-bee[8] NF[f]	to-nó-be (ps)[4]	
Scirpus acutus	Hard-stem bulrush	to'oivi[f]			
Scirpus validus	Soft stem bulrush, Tule	to'oivi[f]			
Scirpus sp.	Bullrush, Big round tule	he´- taw (lv)[4] pow-ahv´ (k)[4]	to'oivi[f] manav[d]	sī'n-vib[t4] pah sīp[4] bah-sī´'p[4]	
Sclerocactus sp.	Fishhook cactus, Pineapple cactus	manav[d]	NF[b]		
Selinocarpus diffusus	Moonpod	NF[f]			
Senecio sp.	Groundsel	NF[f]			
Sisymbrium altissimum	Tumble mustard	wa'ai[c]			
Smilacina stellata	Solomon-seal	esha-tone-ub[8] pee-havvie[8]	quoh-quavvie[8] quoy-quavvie[8]	wah-toh-voh[8] wom-boh-nomb[8]	
Smilacina sp.	False solomon-seal, Coyote berry	NF[f]			
Solanum sp.	Nightshade	ah-dye-ee na-tizuah[8]			

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Solidago sp.	Goldenrod	NF[2]			
Sonchus oleraceus	Common sow-thistle	mamoiv[b]	mamuiv[b]		
Sphaeralcea ambigua	Apricot globemallow, Desert globemallow	tupwiv[b, c]	NF[e]		
Sphaeralcea sp.	Globemallow	tupwiv[c] kupinav[f]	ku'pinav (mp)[f] NF[b]	quoin-oh-combee[8] quoya-no-comb[8] see-quoy no-ko[8] wee-dah-gom[8] wee-doh-comb[8]	
Sporobolus airoides	Bunchgrass, Alkali sacton	NF[f]			
Sporobolus sp.	Dropseed	postushukunt[f] pas-tu-shu-kunt[f]	kwakwai[f]		
Stanleya pinnata	Prince's-plume, Indian spinach	tumar[b, f] namvit[f] tumar[c, e] tumaru[f] who-goo-buh[8]	nambitu[f] tumaru[f] nambitu[f] tumaru[f] whoo-goop[8]	tuhuara[e] tu'mara[c] woy-boh-numb[8]	yuhuara[e] NF[c]
Stephanomeria exigua	Wire lettuce	NF[b]			
Stephanomeria sp. *spinosa*	Spiny wire lettuce, Gum bush	NF[e]		NF[c]	
Stephanomeria tenuifolia	Slender wirelettuce	tuwishanakup[b]	NF[8]	NF[8]	

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Stipa comata	Needle-and-thread grass	NF[a]			
Stipa hymenoides (see *Oryzopsis hymenoides*)	Indian ricegrass	wa'ai[c]		wai[c]	pacita[c]
Stipa speciosa	Desert needlegrass	NF[e]			NF[9]
Stipa sp.	Indian ricegrass	wa'aiv[c]			
Streptanthella longirostris	Wild mustard, Long-beak fiddle-mustard	NF[e, f]			
Streptanthus cordatus	Heartleaf twistflower, Wild mustard	NF[e, f]			
Suaeda torreyana	Seepweed	NF[e]	ah-rumb (mp)[8]	attem[8]	
Suaeda sp.	Seepweed	ahrr[f] aah-ap-weep[f]	sah-ap-weep[f] NF (lv)(p)[f]		
Swertia albomarginata	White-margined swertia	NF[8]			
Swertia sp.	Swertia	kwiu[f]		coo-see div-oh-savva[8]	
Symphoricarpos longiflorus	Long-flower snowberry	NF[e, f]	sahn-ah-vee[8]		
Tamarix sp.	Tamarisk	pantumaavu[b]			
Tessaria sericea	Arrow weed	sah-wape (mp)[8]	NF[b, e, f]		

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Tetradymia canescens	Gray horsebrush			nah-ga-ha-boh-be[8] pah-vah-bah-hoe-be[8] tah-beese-ee-goop[8]	
Tetradymia sp.	Horsebrush	coo-see see-bupe[8] see-goop-e[8]	too-hah-see-goop-ee[8]	coo-see see-bup[8] coo-see see-bup-e[8]	
Thalictrum fendleri	Meadow rue			boss-oo-guay[8]	
Thamnosma montana	Turpentine bush	NF[f, e]	kaiva sixwana[b]	mo-gun-du[8] moh-goon-du-oop[8]	
Thelypodium integrifolium	Wild cabbage	nambitu[e]	NF[f]		
Townsendia scapigera	Eaton's townsendia	NF[f]			
Townsendia sp.	Townsendia	NF[f]			
Typha domingensis	Cattail, Southern cattail	NF[e,f]		toyh[e]	NF[e]
Typha latifolia	Cattail, Broad-leaf cattail	taw-e´-vah (lv)[4] to-oiv (k)[4] tø'iv[b]	pantɯsahwav[b] NF[e]	toyh[e] taw´-e[4] toi[4]	NF[e]
Typha sp.	Cattail	taw-e´-vah (lv)[4] to-oiv (k)[4] ta-oiv[7]	tonovi[f] tonoz[f]		
Urtica sp.	Nettle	quee-bah-noop[8]	quee-quawn-oop[8]	by-wee-ah[8]	
Valeriana sp.	Valerian, Tobacco root	NF[f]			

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Veronica anagallis-aquatica	Speedwell	NF[e]			NF[e]
Viguiera multiflora	Showy goldeneye	NF[f]			
Vitis arizonica	Canyon grape, Wild grape	i'av[e] kuripsup[e]	NF[b]	muvasi[e]	
Vitis spp.	Grape	we'ump[f]			
Wyethia sp.	Mules' ear	taxuichaxantiip[f] tixu'si taxanti[f] taxu'itcaxantip[f]	tikoitcixantipi[f] tixu'si taxantip[f]		
Yucca baccata	Banana yucca, Blue yucca	uusiv[b, c] wiisiv[b] tachumpi[f] tachumpi[f]	uusi[f] tcimpi[f] o-u-se[f] u'wivi[e]	NF[c]	
Yucca brevifolia	Joshua tree	tachumpi[f] NF[e]		umpu[e]	
Yucca kanabensis	Kanab yucca	NF[a]			
Yucca schidigera	Mojave yucca, Spanish bayonet	tachump[e] u'vimp[e] tachumpi[f]	uusivi[f] uusiv[f]	NF[e]	
Yucca sp.	Yucca	cho-ram´-pik (k)[6] sam-ah´-vip (k)[4] tsam-a-vip[7] tcimpi[f] u'wivi[e] wiisiv[b] tachumpi[f]	uusi[f] o-u-se[f] uusivi[f] tachumpi[f] uusiv[f] uus[f]		

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Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Tetradymia canescens	Gray horsebrush			nah-ga-ha-boh-be[8] pah-vah-bah-hoe-be[8] tah-beese-ee-goop[8]	
Tetradymia sp.	Horsebrush	coo-see see-bupe[8] see-goop-e[8]	too-hah-see-goop-ee[8]	coo-see see-bup[8] coo-see see-bup-e[8]	
Thalictrum fendleri	Meadow rue			boss-oo-guay[8]	
Thamnosma montana	Turpentine bush	NF[f, e]	kaiva sixwana[b]	mo-gun-du[8] moh-goon-du-oop[8]	
Thelypodium integrifolium	Wild cabbage	nambitu[e]	NF[f]		
Townsendia scapigera	Eaton's townsendia	NF[f]			
Townsendia sp.	Townsendia	NF[f]			
Typha domingensis	Cattail, Southern cattail	NF[e,f]		toyh[e]	NF[e]
Typha latifolia	Cattail, Broad-leaf cattail	taw-e´-vah (lv)[4] to-oiv (k)[4] tø'iv[b]	pantɯsahwav[b] NF[e]	toyh[e] taw´-e[4] toi[4]	NF[e]
Typha sp.	Cattail	taw-e´-vah (lv)[4] to-oiv (k)[4] ta-oiv[7]	tonovi[f] tonoz[f]		
Urtica sp.	Nettle	quee-bah-noop[8]	quee-quawn-oop[8]	by-wee-ah[8]	
Valeriana sp.	Valerian, Tobacco root	NF[f]			

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Veronica anagallis-aquatica	Speedwell	NF[e]			NF[e]
Viguiera multiflora	Showy goldeneye	NF[f]			
Vitis arizonica	Canyon grape, Wild grape	i'av[e] kuripsup[e]	NF[b]	muvasi[e]	
Vitis spp.	Grape	we'ump[f]			
Wyethia sp.	Mules' ear	taxuichaxantiip[f] tixu'si taxanti[f] taxu'itcaxantip[f]	tikoitcixantipi[f] tixu'si taxantip[f]		
Yucca baccata	Banana yucca, Blue yucca	uusiv[b, c] wiisiv[b] tachumpi[f] tachumpi[f]	uusi[f] tcimpi[f] o-u-se[f] u'wivi[e]	NF[c]	
Yucca brevifolia	Joshua tree	tachumpi[f] NF[e]		umpu[e]	
Yucca kanabensis	Kanab yucca	NF[a]			
Yucca schidigera	Mojave yucca, Spanish bayonet	tachump[e] u'vimp[e] tachumpi[f]	uusivi[f] uusiv[f]	NF[e]	
Yucca sp.	Yucca	cho-ram´-pik (k)[6] sam-ah´-vip (k)[4] tsam-a-vip[7] tcimpi[f] u'wivi[e] wiisiv[b] tachumpi[f]	uusi[f] o-u-se[f] uusivi[f] tachumpi[f] uusiv[f] uus[f]		

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Zigadenus paniculatus	Foothill death camas	koggie-a-den-up[8] see-goh-oh[8]	tah-beese-e-goh[8]	tah-bah-she-go[8] tah-vah-see-go[8]	
Zigadenus sp.	Meadow death camas	koggie-a-den-up[8]	see-go oh-buh[8]		
Gramineae (grass family)	Grass	pa-wah´ (lv)[4] hoo-wēv´ (c)[4] u-gwīv´ (k) (lv)[6]	o-gweeb´ (k)[4] u-gu´-siv (k)[6] oo-kwiv´[4]	Sah´-nip[4] Só-nip[4] Só-nĭp[4] Pah´-mah-hap[4]	

[1] Work done by Powell between 1867-1880: (Fowler and Matley, 1979)
[2] Work done by Euler between 1956-1966: (Euler, 1966)
[3] Work done by Palmer before 1946: (Palmer, 1978)
[4] Work done by Merriam between 1902- 1935: (Merriam, 1979)
[5] Work done by Sapir in 1910: (Sapir, 1910)
[6] Work done by Powell in 1873: (Fowler and Fowler, 1971)
[7] Work done by Presnall in 1936: (Presnall, 1936)
[8] Work done by Train between 1935-1941: (Train, 1957)
[9] Handbook of North American Indians-Great Basin (Vol. 11, "Owens Valley Paiute") D'Azevedo, 1986

[a] Stoffle et al., 1996
[b] Stoffle et al., 1994
[c] Stoffle et al., 1994b
[d] Stoffle et al., 1989b
[e] Stoffle et al., 1990
[f] Stoffle and Dobyns, 1982
Stoffle and Dobyns, 1983
Stoffle et al., 1983
[g] Names by CGTO members; April 1996 NTS EIS meeting.

NF = Not found; mentioned in text but no Indian name given.
(c) = Chemehuevi
(k) = Kaibab
(lv) = Las Vegas
(mp) = Moapa Paiute
(p) = Pahrump Paiute
(ps) = Panamint Shoshone

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Table 2 One Hundred and Seventy Native American Traditional Use Animals on NNSS and NTTR

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Table 2 One Hundred and Seventy Native American Traditional Use Animals on NNSS and NTTR

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Mammals					
Family Antilocapridae					
Antilocapra americana	Pronghorn Antelope	Won'-sits (k)[6] Wants [5], (lv)[6] Wahn-ze[4] Wongs[4]	Wahntz (k)[4] Waknch[4] Waantsi[f]	Wan-zee[g]	
Family Bovidae					
Ovis canadensis	Desert Bighorn Sheep	Na´-guts (k)[6] Na´-k[w] (lv)[6] Naaxa[5] Nahk (k)[4]	Nah[ch4] Nahk[4] Nah-gah[4] Naax[b]		
Ovis sp.	Bighorn Sheep	Nah´-gah (lv)[4]	Nah[rcht] (c)[4] Nahk´ (k)[4]	Wah´-soo-be (ps)[4] Wah´-sŭp[rl4] Wah´-soo-pe[4] Wahs-pe[4]	
Family Canidae					
Canis latrans	Coyote	Yo-go-wo´-tsi (k)[6] Yoxovwits[5] Yoxovutsi[5] Sunangwavi[5] Turasunav[5] Turasinav[5] Tã´-rā-shin´-nav (lv)[4]	Sin-nav[4] Shin-nah-ab[4] Turasuna'av[b] Turahsunav[c] Sin-nav´ (c)[4] Yo-go´-bits (k)[4]	E-shah-wi´-pah (ps)[4] Ē-jap´-pah[4] E´-jah[4] E´-chah[4] It´-za´[6]	
Canis sp.	Coyote	tu-er-shin-avi[7]		Duhvoe-ee-jah[g]	Ee-sha[g]
Vulpes maerotis	Kit fox			Kuida moss-suguee[g]	

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Vulpes sp.	Fox	Yú-ĭp (lv)[4]	Yó-putch (lv)[4] Yu-pats (c)[4]	Ye-putch-ah (ps)[4] Yu-pitch´-e[4] Wah´-ne[4]	
--	Fox	Sah-vi´-puts (k)[4] Hú-pats (k)[6] Un-si´-ats (k)[6] Hunt-si´ (lv)[6] Tavangwaimpitsi[5] Hon-zăˊ (lv)[4]	Sin-nants[4] Tah-vahn-set[4] Hon-za[4] Onsi'its[b] Onsi'ikarum[b] Hon-ze (c)[4]	Wo´-tse-ah (ps)[4] Wah´-ne[4] Wah-je´-ah[4] Wo´-tse-ah[4] Wa-ni[6] Wo-tsi-a[6] (small)	
Family Cervidae					
Odocoileus hemionus	Mule Deer	Tu-we-ah[4] Yu-oo-e[4] Too-hoo´-e (lv)[4]	Too-hoo-e[4] Tuxia[b] Tŭ-hē´[4] Tŭ-ĕ´ (k)[4]	Dŭ-yah (ps)[4] Dŭ´-he[4] Tŭ-hĕ´-yah[4] Toó-ho´-yah[4]	
Odocoileus sp.	Deer	Ti´-ats (k)[6] Tu-i (lv)[6] Tuxia[5] Tuuyi[f]	Tuhi[c] Tuhuya[c] Tĕ-he´ (lv)[4] NF[b]	Duhayet[c] Ti-hi[6]	Tahenah[c] Tuh'ena[c] Tu-he-nah[g]
Family Cricetidae					
Neotoma sp.	Wood Rat	Kats (k)[6, 4] Kaatsi[5] Kaht´ (k)[4]	Kahts[4] Kaats[b] Kahts´ (lv), (c)[4]	Kow´-wah (ps)[4] Kah´[4]	
--	Wood Rat			Gah"[4]	
--	Rat	Kāts (lv)[6]			
Peromyscus sp.	Mouse	Poo-e´-chet (k)[4] Poo-e-tsets[4] Poo-in´-chets (lv)[4]	Poo-e-chet[4] Poo-in-chets[4] Poo-in´-jets (c)[4]	Poo´-ī (ps)[4] Bo´-ni[4] Po´-ni[4] Poo -nah[4]	

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
--	Mouse	Pu'ichats[5, b] Pŏm poo´-e-chet (k)[4]	Moi (s)[4]	Po-an´-chah (ps)[4]	Poong-way-szhee[g]
Family Equidae					
Equus sp.	Horse	Kah-wi´-yu (ps)[4] Wah-af-ar (c)[4]	Kah-vah´[4]	Poo'nk[4] Bun´-go[4]	
Family Erethizontidae					
Erethizon dorsatum	Porcupine	Yungumputsi[5] Ye-num-puts (k)[4] Ye-hum-puts[4]	Ye-num-puts[4] Yu[ch 4] NF[b]		
Erethizon sp.	Porcupine	Yú[ch] (lv)[4]	Yŭńg (c)[4] Ye-num´-puts (k)[4]	Yŭ´-hŭ (ps)[4] Yen"[4] Yŭ´-hŭ[4] Yo´-hah[4] Tsa´-gwit[6]	
Family Felidae					
Felis concolor	Mountain Lion	Tu-ma´-mu-ints (lv)[6] Tukumumutsi[5] Piaruku[5] 'Kummo-muts (k)[4] Too-koó-mo-munch (lv)[4]	Too-koo-puts[4] To-ko-mo-muts[4] Too-koo-mo-munch[4] Piaruk[b] Tŏ-koo´-muts (c)[4]	Too-koo´-muts (ps)[4] Toi-yă-too´-koo[4] To-ko-bitch[4] Mi´-yum-be[4] Kong´-gwi-tu-nu[6]	Too-ku-vitchs[g]
Lynx rufus	Bobcat, Wildcat	Tukuputs[b]	Tukuvits[c]	NF[c]	
Lynx sp.	Bobcat, Wildcat	To-ko´-puts (k)[6] Tōk (lv)[6] Tukutsi[5] Tukuputs[5] NF[b]	Took[4] Took[4] Mo-sahts[4] Tukuvits[c] Too-koo´-puts (k)[4]	Too´-koo´-vitch (ps)[4] Doo´-ko-vitch[4] Too´-ko-vitch[4] Too´-ko-bitch[4] To´-ko-pik[6]	Too-ku-vitchs[g]

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Lynx sp.	Bobcat, Wildcat			NF[c]	
Family Geomyidae					
Thomomys sp.	Pocket Gopher	Muyumpitsi[5] Mŭ´-e (c)[4]	Mwe-em-puts[4] Mŭ-e (lv)[4] Me-im´-put (k)[4]	Yu-ab´-bitch (ps)[4] Yĕ´-hah-vitch[4] Yĕ´-hah´-vitch[4] Ye-hah´-vitch-e[4]	
--	Gopher	NF[f]			
Family Heteromyidae					
Dipodomys sp.	Kangaroo Rat	Pi-yu-ah[4] Pi´-ah (c)[4] Tă-wā´-tet (k)[4] Pi´ (lv)[4]	Tah-we-tat[4] Pi-im´-buts[4] tom-we-a-tats[7]	Pi´-yu (ps)[4] Bi´-e[4] Pi´-yu[4]	
Perognathus sp.	Pocket Mouse	Pi-im-buts (k)[4]			
Family Leporidae					
Lepus californicus	Black-tailed Jackrabbit	Ka-mu (k)[6] Kam (k), (lv)[6] Kaamu[5]	Kahm (k)[4] Kaam[b] Kamuntsi[f]		
Lepus sp.	Rabbit	Tă-voots´ (lv)[4] Tah-voots´ (c)[4] Tah-wuts´ (k)[4]	Kahm´ (lv), (c), (k)[4]	Kah´-moo (ps)[4] Tă´-boo´-tse (ps)[4] Tah´-bo[4] Tah´-bot-se[4] Gah´-mo[4] Kah´-mo[4] Kah´-mah[4] Be´-ah gah´-mo[4] Be´-ah qah´-mo[4] Ta-vut´-si[6] Tsi-gut´-si[6]	

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Lepus sp.	Rabbit			Ka-mut´-si[6] To-ha´-kum[6]	
--	Jackrabbit	Kamb[c]		Kamusi[c] Tavusi[c]	Kuma[c] Ka-mua[g]
--	Rabbit	Tsok-um (k)[6] Kamb[c]	NF[b]		
Sylvilagus audubonii	Desert Cottontail	Ta-vwōts´ (k)[6] Ta-vōts (lv)[6] Tavutsi[5] Tah-wuts (k)[4] Tah-boots[4]	Tah-vuts[4] Ta-voots[4] Tavuts[b] Tavuuts[f]		
Sylvilagus sp.	Cottontail	Taviti[c]	Tavuuts[c]	Dah-voo[g]	Taputsi[c] Ta-votsi[g]
Family Mustelidae					
Spilogale putorius	Western Spotted Skunk	Kah'bo-ne (k)[4] Kah Bo-na[4]	Kah-bo-na[4]		
Spilogale sp.	Skunk	Kah´-bo-nā (lv)[4] Kah´bo-nĕ (k)[4]	Kah´-bo-ne (c)[4]	Yu-hah[4]	
--	Skunk	Pu´-ni (k)[6] Poni'a[5] Po-nĕ´ (k)[4] Po-ne-ets (lv)[4]	Po-na[4] Po-ne-ets[4] Poni'[b] Pŏ-ne´ (c)[4]	Po-nē´-ětś (ps)[4] Bō'n-he-atz[4] Baw´-ne-yăts[4] Po-hoi´-ats[4] Po´-nint[6] bo-ho-yetz[g]	
Taxidea taxus	Badger	Hūn (lv)[6] ~~U~~nampu~~t~~si[5] Un-nam-but (k)[4]	Hoon[4] To-chi-e[4] ~~U~~nampu~~t~~s[b]		

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Taxidea sp.	Badger	Hoon´ (lv), (c)[4]	Un-nam´-but (k)[4]	Ho´-nah[4] Hoo´-nah[4] Hoo-nah[4] Ho´-nan[6] Hoo´-nah (ps)[4]	
--	Weasel	Sŭ-sŭg (lv)[4]	Pah-rook´ (c)[4] Pah-ve´-chit (k)[4]	Bah´-bitch-ē't[4] Bah´-tsoo-goo[4] Pah´-moo-kah´[4] Soo´-soo-gah (ps)[4]	
Family Procyonidae					
Bassariscus astutus	Ringtail	Kah-goots[4] te-av-ats[7]			
Bassariscus sp.	Ringtail	Hŏ-run´-tah-vahts (c)[4]		Kah´-wo-dze´-ah (ps)[4]	
Family Sciuridae					
Ammospermophilus leucurus	White-tailed Antelope Squirrel	Tava'atsi[5] Tav-vat (k)[4]	Ta-bats[4] Ta-vats[4]		
Eutamias sp.	Chipmunk	Ta-vwōts (k)[6] O'gun´-to-ats (k)[6] O´-i-chots (lv)[6] Oxontava'atsi[5] Tava'atsi[5] Ho-ă´-tsits (lv)[4]	Tavarungkwits[5] Oi-chits (k)[4] O-gon tav-vah-ats[4] Ho-a-tsits[4] Tavarungkwits[b] Ko-e´-tsets (c)[4] a-oits-its[7]	Woi-che (ps)[4] Woi´[4] Wah´-oi[4] Woh´-oi[4] Wo-i´-tsi[6]	
Citellus sp.	Ground Squirrel	O'itsitsi[5] Aw-oi-chits (k)[4]	Ki-vah skoots[4] Skwe-ets[4]	Ing'wa[c] Zip-pe (field dwelling)[g] Guhm-be (white belly, lives in desert)[g]	

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
--	Squirrel	Skāts (k)[6] O-'gun´-to-ats (k)[6] Si-kuts´ (lv)[6] Sé-koots (lv)[4] Su-koots´ (c)[4] Skoot´ (k)[4] Skwe´-ĕts (lv)[4] Sŭ-pe´ (c)[4] Aw-oi´-chits (k)[4] Ye-we´-set (k)[4] u-wish-its[7]	Skuts[5, b] Sikuts[5, b] Skuuts[c] Un-tsup´ (k)[4] Tah-vats´ (lv)[4] Tah-vahts (c)[4] Tav-vat´ (k)[4] Ho-uń-tă-vats (c)[4] Ah-wun´ tah-vat (k)[4] NF[f]	Hoo´-kŏn-tah-bi´ (ps)[4] Tă-vah´-che (ps)[4] Kōng´-ah (ps)[4] O-wun´-dah-vi (ps)[4] Eng´-wah (ps)[4] Tseep´[4] Che´-gah[4] Kŭmp[4] Wung-gwah´-rah-bi[4] Koom´-pi[4] Che´-gă[4] Woh´-i[4] Dah´-wah-ni[4] Tah´-bi-i[4] Tsi´-pish[6] Tav´-a[6] Ko´-gwi[6]	
Family Vespertilionidae					
--	Bat	Pacha'ats[5] Pat-sats[4] Paht-sats (c)[4] Pă´-tsats (k)[4]	Pah-chats[4] Pats-ats (lv)[4] Pacha'ats[b]	Ho´-no-vitch[4] Ho-no-bitch (ps)[4] Ho´-e-nah vitch´-e[4]	
Reptiles					
Family Iguanidae	Iguanids				
Crotaphytus collaris	Collared Lizard	Kan´-ne moi-kar-rat´ (k)[4] pomp-ots-ats[7]	Tom-po´-tsat´ (lv)[4] Tum-bo-tats (ps)[4] Towm-po´-tsuts (c)[4]	Tum´-bo-tats´ (ps)[4] Po´-go-che[4] Tem´-im-boi[4]	

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Crotaphytus collaris	Collard Lizard			Doo-kor´-a-ke[4]	
Gambelia wislizenia	Leopard Lizard	Chah-a-mi-ahv (k)[4] Too-ar-rah[4] Sah-we´-vah (c)[4]	Neu-mah-zing-ahts[4] Si-vah (lv)[4]	Sow´-we-vah´[4] Sah´-we-vah[4]	
Sauromalus obesus	Chuckwalla	Saxwarʉ[5] Chah-kwar-rah (k)[4] Tsah-wahr´ (lv)[4] Sow-wahr´ (c)[4]	Sahk-war-rah[4] Tsah wahr[4] sa-wha-rha[7] Chah-kwar´-rah (k)[4]	Sow-war´-rah (ps)[4] Sah-gwar´-rah[4]	
Sceloporus magister	Desert Spiny Lizard	Tsahng-ahv (k)[4] Chahng-ahnts[4] tsang-a[7]	Ching-ki-ahng-ah[4] Tsang-ants[4]		
Sceloporus sp.	Lizard	Changa´[5] Tsahng-ahv (k)[4] Chahng-ahnts[4]	Ching-ki-ahng-ah[4] Tsang-ants[4] Changa' changats[f]		
--	Lizard	Su-gu´-pits (k)[6] Mu-gwi´ (lv)[6] Pompotsatsi[5] Tsang-ants (lv)[4] Tsang-ah´ (c)[4]	Moxwia[5] Sʉxʉputsi[5] Mow´-wav´-ve (c)[4] Tsahng-ahv´[4]	Tim´-puts[6] Pa´-vo-go-nai[6] Poh-gwua-gee[8] Po-goi´-che (ps)[4] Ah-wah´-poi (ps)[4] Ki´-e-too-ar (ps)[4] Tŭ´-moi[4] Dĕ´-hoi[4] Dem´-mon-zah[4]	
Family Colubridae	Colubrids				
Lampropeltus	Common Kingsnake	Sing-ump (k)[4] Sung[4]	Shing-aht[4] Nun-too-nav[4]		

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Pituophis melanoleucus	Gopher Snake, Pine	Oxomputsi[5] Ko-hum-buts (k)[4] Kaw´ (c)[4]	Kaw-kum-puts[4] Oxoputs[b] Ko-hum´-buts[4]	Ko´-go (ps)[4] Pas´-să-wah´-kah[4]	
--	Snake	Ta-na´-kuts (lv)[6] Pah´-we-ĕts (lv)[4] Nun´-too-nav´ (lv)[4] Nin-din´-av (lv)[4] Pah-we´-ets (c)[4] Sing´-ump (k)[4]	Kwi´-uts (lv)[6] Sĕu-ung´-ah (c)[4] Ah-wah-rum pă-at (c)[4] Pah´-ro ahv´ (k)[4]	Pah-soo´-go (ps)[4] Ki´-ar-răr´-rah (ps)[4] Nă-boo´-ah-gwah-tsoo´ (ps)[4] Paś-se-neu[4] Gawk´[4] Pah´-rah go-ah[4] Ki´-yă gar´-rah[4] Wun´-gah-rah[4]	Tah-go-ah[g]
Family Viperidae	Pit Vipers				
Crotalus sp.	Rattlesnake	To-go´-avw (k)[6] O-lo´-ga (lv)[6] Toxoavi[5] Tanakitsi[5] To´-go-av´-ve (lv)[4]	To-go-ahb (k)[4] To-ko-ahv[4] To-go-av-ve[4] Kwe-ets (c)[4] To-go-ahb´ (k)[4]	To-to´-a[6] Do-gowah[g] To-go´-ah (ps)[4] To´-gwah[4] To-qo´-ah[4] To´-go-ah[4]	
Birds					
--	Bird	Wi´-chits (k), (lv)[6] Witsi´tsi[5]	Witsi'tsi[b]	Ko´-cho[6] who-choo[g]	Chee-pah[g]
Family Accipitridae	Hawks, Kites, Eagles				
Accipiter cooperii	Cooper's Hawk	Wit se-mor-rat (k)[4] Kwe-sahp[4]	Pah-rahm-puts[4] Kwe-sahp[4]		

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Accipiter sp.	Hawk, goshawk	Kwen-noonts-a-mord (k)[4]	Ku-shav-i[7]		
Aquila chrysaetos	Golden Eagle	Kwahn-ants (k)[4] Mung[4]	Kwanants[b]		
Buteo jamaicensis	Red-tailed Hawk	Kwī-nat´-sits (k)[6] Kwanantsits[5, c] Kwah-nah-tsits (k)[4] Se-kan-na kwahn-ant[4] Qua-nats-its[7]	Ta-ah kwah-nahts[4] Kwen-nan-zits[4] Kusav[b] Quinnah[c]	NF[c]	
Circus sp.	Hawk, Harrier	Oong-aur-ats[7]			
Haliaeetus leucocephalus	Bald Eagle	Si-kwah (k)[4] Piakwanants[b]	Piasakwanants[b]		
–	Eagle	Kwi´-nants (k)[6] Mung-i´-puts (lv)[6]	Kwanants[5] Kwanantsi[f]	Kwi´-na[6] Kivi-na[6] Bia' quinah[g]	Quing-ah[g]
–	Hawk			G'in-nee[g] Ing´-a-kwi-na[6] Sah-na qui-na[g] Ki´-ni[6]	
Family Alaudidae	Larks				
Eremophila alpestris	Horned Lark	Turanwintsi´tsi[5] Nuva witsi´ts[5] Ter-rah-we-che (k)[4]	Te-we-wit-se[4] Te-rah we-cha-its[4] Ne-vow-we-tsits[4]		
Family Alcedinidae	Kingfishers				
Ceryle sp.	Kingfisher	Wun-na-tus (k)[4]	Wun-nah-taht[4]		

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Family Anatidae	Swans, Geese, Ducks				
Anas clypeata	Shoveler	Pa choog (k)[4]			
Anas platyrhynchos	Mallard Duck	Oo-chuxa[5] Pe-at choog (k)[4] Choo[ch4]	Choog[4] Paruv[b] Uuchuxa[b]		
Anas sp.	Duck	Chuxa[5]	Chux[b]	Pu´-yan[6] Buhn'yeeh[g]	NF[c] Puh-yuh-ah[g]
Branta canadensis	Canada Goose	Chakoaru[6] Ah-vin-kay-raht (k)[4]	To-o-pah[4] Koo-res-sen[4]		
--	Goose			Nu´-gud[6]	
Oxyura jamaicensis	Ruddy Duck	Pi-ah-kwits (k)[4]			
Family Ardeidae	Herons, Egrets, Bitterns				
Ardea herodias	Great Blue Heron	Pah-too-koo ko-vah kahnt[4]	Pah-koor-kuv[4] Nah-kwah[4]	Wus´-sa[6]	
--	Bittern	Tah-wah woo-ne-ker-rit (k)[4]	Choo-goob (n)[4]		
Family Caprimulgidae	Nightjars				
Chordeiles acutipennis	Lesser Nighthawk	Tuwawitsi'ts[b]			
Chordeiles sp.	Nighthawk	Mono´opangwits[5] Pe-utch (k)[4]	Mo-mo-pits[4] Mum-mo-pah[4]	Du-va-go[g]	

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Family Cathartidae	American vultures				
Cathartes aura	Turkey Vulture	Whu-gump´-uts (k)[6] Whi-ku´-puts (lv)[6] Wikumputsi[5] We-kum-buts (k)[4]	We-koo-puts[4] Week[4] NF[b]		
--	Vulture			Wi´-ho[6] Wee-whom-binch[g]	Wee-hoo[g]
Family Charadriidae	Plovers				
Charadrius vociferus	Killdeer	Pantuxuits[5] Pan-te-geetch (k)[4] Pahn-tig-wits[4]	Pah-re koo-its[4] Pa-roo-goo-e'ts[4]	Bah-zah-wee[g]	
Family Columbidae	Pigeons and Doves				
Zenaida macroura	Mourning Dove	Iyov[b]	Ayov[b]		
--	Dove	Ai´-yuv (k)[6] Iyovi[5] Oi-uv (k)[4] Ha-o'v[4]	Che-yu'ch[4] He-ov[4] Hiav[c] Hiuv[c]	High-wee[g]	Hay-wee[g]
--	Pigeon	I-yov[4]			
Family Corvidae	Jay, Magpies, Crows				
Aphelocoma coerulescens	Scrub Jay	NF[b]			
Corvus brachyrhynchos	American Crow	Paht-kot[4]	Ah-tah-bits[4]		
--	Crow			A´-ta[6] Hi[g]	Cuta-puzee[g]

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Corvus corax	Common Raven	A-ta´-puts (k)[6] A-ta´-puts (lv)[6] Ataputs[5] Atakots[5] Tah-kwots (k)[4] Ha-ta-puits[7]	Ah-tah-pah-ki'p[4] Tah-kwahts[4] Ah-tah-pwits[4] Ataputs[b] Atakots[b]		
Cyanocitta sp.	Jay	O-go´-chi-ok (k)[6] Oxo-chayaku[5] Ah-run Chi-ahk (k)[4]	Sik-koo-ra-gwuts[4] Ho-gon Tsi-ahk[4]		
Gymnorhinus cyanocephala	Pinyon Jay	Aanga[5] Ahng Uv-ve (k)[4] Ki-vah witch et[4] Ahng-av[4] Ahng[4]	Tuvawitsi´ts[b] Tuvavwitsiits[c] Tuuv watsits[c] Yamp[c]	Guy-nutz[g]	
--	Jay	Ong´-a (k)[6]		Wi-at´-si[6]	
Pica sp.	Magpie	Mama´kwa´yavi[5] Mah-kwi-ahv (k)[4] Mah-mah-kwe-as[4]	Mah-mahk kwi-ahv[4] Mah-mah-kew-ahs[4]	Kwi´-da-wo-i[6] Qwithe-woy-yoh[g]	Cui-ta' go'ya[g]
Family Cuculidae	Cuckoos, Roadrunners, Anis				
Geococcyx sp.	Roadrunner	Nants (k)[5] Wuts (k)[4]	Ko cha bo'ki[4] Oo'ts[4]		Unnup-pi[g]
Family Emberizidae	Emberizid Finches and Allies				
Subfamily Cardinalinae	Cardinal-Grosbeaks				
Passerinea cyanea	Indigo Bunting	NF[b]			

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Subfamily Emberizinae	American Sparrows and Towhees				
Amphispiza bilineata	Black-throated Sparrow	NF[b]			
Junco sp.	Junco	Ne-war-rum po-kuts (k)[4] Nu-wer-rowk[4]	Noo-war-rum po-koots[4]		
Pipilo chlorurus	Green-tailed Towhee	Tam pe-ats (k)[4]			
Pipilo sp.	Towhee	E-se-voo-it (k)[4] Ke-we-rit-se[4]	Tim-mah-tin[4]		
Spizella passerina	Chipping Sparrow	Kam pe-ats (k)[4]	Yu-oo-ro-whats[4]		
Zonotrichia leucophrys	White-crowned Sparrow	Yu-rah-vaht (k)[4] Se-we-cha-et[4]	We-tsids[4]		
--	Sparrow	Wʉ'iatsi[5] Kam pe-ats (k)[4]	Yu-oo-ro-whats[4]		
Subfamily Icterinae	American Blackbirds and Orioles				
Agelaius phoeniceus	Red-winged Blackbird	Paxachakapi[5] Pah rahts-kahp[4]	Pah-ran-to-twit[4]		
Euphagus cyanocephalus	Brewer's Blackbird	Pah-ranch Che-kahp (k)[4] Too we-tse[4]	Cha-kahp[4] Pah-ran-zu-wit[4]		
--	Blackbird			Bah-gan-zuk-qwue[g]	

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Icterus sp.	Oriole	Oangwintsi´ts (yellow bird)[5] Kah-ni-amp (k)[4]	O-ow-wit-se[4] Wahts-ke-it[4] O-ah-we-tsits[4]		
Sturnella sp.	Meadowlark	Iitotsi[5] A-tawt (k)[4] Tu-we-uk[4]	Kah-nah-we tse-its[4] Te-ve-uk[4]	Pa´-tsi-ton[6]	
Subfamily Parulinae	Wood-Warblers				
Dendroica petechia	Yellow Warbler	Ka-na-wits-its[7]			
Subfamily Thraupinae	Tanagers				
Piranga ludoviciana	Western Tanager, Mountain Tanager	Oo-win-nt (k)[4]			
Family Falconidae	Falcons and Carcaras				
Falco sparverius	Sparrow Hawk, American Kestrel	Kurin´ang kats[5] Ku-we-nah-kut (k)[4]	Te-ze-nah-kahts[4] Kwan-an-tsits[4]	Ku-ti´-ta[6]	
Family Fringillidae	Old World Finches and Allies				
Carpodacus purpureus	Purple Finch	We-etch (k)[4] Waw[4]	We-ets[4] We-we-ets[4]		
Carpodacus sp.	Finch	We-etch (k)[4] Waw[4]	We-ets[4] We-we-ets[4]		
--	Grosbeak	Wah-pum-wer-rah-ka (k)[4] Gus-se-nav (k)[4]	Ker-re-tsawt[4] Kan-now we-tse-its[4]		
Family Hirundinidae	Swallows				

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Hirundo pyrrhonota	Cliff Swallow	Pah-sah-rok-pets[4]	Wah-pas-so-pe[4]		
Hirundo rustica	Barn Swallow	Tim-pow-we-ger-rit (k)[4] Tim-pah-ro-we-it[4]	Pas-ser-ro-pe'ts[4]		
Tachycineta thalassina	Violet-green Swallow	Pas-ser-ro-it (k)[4]	Pan-no-av[4]		
Family Laniidae	Shrikes				
Lanius ludovicianus	Loggerhead Shrike	Tah-tso-noint (k)[4] Tah-cho-noint[4]	Tun-dun-nois[4]		
Lanius sp.	Shrike	Tah-tso-noint (k)[4] Tah-cho-noint[4]	Tun-dun-nois[4] NF[f]		
Family Laridae	Gulls, Terns, Allies				
Larus sp.	Gull	Tosa payamputsi (white gull)[5] Che-yu[ch 4]	Pi-yam'b[4] NF[b]		
Family Mimidae	Mockingbirds and Thrashers				
Mimus polyglottos	Northern Mockingbird	Yamp[b]			
Mimus sp.	Mockingbird	Yampa[5] Yamp (k)[4]	Yahmp[4] Yam'p[4]		
Toxostoma sp.	Thrasher	Sah-wah-goo-et (k)[4]	Mo-e-pah-num-bits[4]		
Family Muscicapidae	Old World Flycatchers and Allies				

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Sialia sp.	Bluebird	Shok´-wai´ants (k)[6] Nung-un´-chots (lv)[6] Saxwang wintsi´ts[5]	San-nap-po-chet (k)[4] Sa-kwahn at-so-its[4] Sah-wah-wits[4]		
Turdus migratorius	American Robin	Angka-kwaa´nangwants[5] Se-kon kno-av (k)[4] Sin-kum[4]	Sko-we-che-it[4] Se-kin-kon-av[4] Say-kung-quav[7]		
Turdus sp.	Robin			Sue-gwee-cok-coo[g]	
Family Paridae	Chickadees and Titmice				
Parus gambeli	Mountain Chickadee	Tse-gut (k)[4]	Mo-che-et[4]		
Family Pelecanidae	Pelicans				
Pelecanus erythrorhynchos	American White Pelican	Pa-go-moo-e-nav (k)[4]			
Family Phalacrocoracidae	Cormorants				
Phalacrocorax sp.	Cormorant	Pa-at-kut (k)[4]	Pah-wung zits[4]		
Family Phasianidae	Pheasants, Grouse, Quail				
Callipepla gambelii	Gambel's Quail	Akar[b]			
--	Quail	Ka´-ka (k)[6]	Ka-ka (lv)[6]		Tounga-ah-hah[g]
Family Picidae	Woodpeckers and Wrynecks				
Colaptes auratus	Northern Flicker	Un-ka-kwo-nau-ants (k)[6]	Kah-kwah-nah-ahts[4]		

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		Anyka-kwanangwav[5] Un-kah (k)[4]	Kwah-nah-vant[4] Ungkakwa-nangwav[b] Kwar-nah-kits[4]		
Colaptes sp.	Flicker	Angka-qua-no-wùnco[7]			
Melanerpes lewis	Lewis' Woodpecker	Po-wah-che-nint (k)[4] Ahn-kah-pi-ah we-tse[4]	So-wan-nat[4]		
Picoides villosus	Hairy Woodpecker	Peep-e-wor-et (k)[4]	Pe-pe-po-wunts[4]		
--	Woodpecker	Piipung' wantsi[5] Pe-po-wuntz (s)[4]	Pe-po wantz (k)[4] Peep-wunts[7]	Du-ga-hâi[6]	
Family Podicipedidae	Grebes				
Podilymbus sp.	Grebe	Koo-hoot-kit (k)[4]			
Family Rallidae	Rails, Gallinules, Coots				
Fulica americana	American Coot	Sah-sit (k)[4] Sahts[4]	Ke-yu[ch 4] Sats[4]		
Family Recurvirostridae	Avocets and Stilts				
Himantopus mexicanus	Black-necked Stilt	Too-we-e-yoot (k)[4]			
Recurvirostra americana	American Avocet	Tuviyuyu´tsi[5] Koo-weet (k)[4]	Mi-an Koo-wit[4]		
Family Sittidae					
Sitta sp.	Nuthatch	Kan-ka-rik-ket (k)[4] To-pah-we-kent[4]	Yu-ve-nants[4]		
Family Strigidae	Typical Owls				

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Athene cunicularia	Burrowing Owl	Muku'uts[f]		Ku´-hu[6]	
Bubo virginianus	Great Horned Owl	Mo´-puts (k)[6] Mo-o´-puts (lv)[6] Mooputs[5] Mo-puts (k)[4]	Moo-oo-put[4] Mo-o-puts[4] Moo-e-pwits[4] Muuputs[b]		
--	Owl	Muuputsi[f] Muku´uts[f] Wah-now-kwits (k)[4] Wanakwitsi[5]	Am-mo-puts[4] Mo-se-ah-kaw-bits[4] Ahn-kah-re Mo-put (k)[4]	Mu-hu[6] Muum-bitch[g]	Moohoo[g]
Family Trochilidae	Hummingbirds				
--	Hummingbird	Mu´-tu-chats (k)[6] Mootuchats[5] Mo-te-tcheh (k)[4] Mo-too-tsahts[4]	Ah-to-e-tsets[4] Moo-tin-zits[4] Mutuchuts[b]	Bi'si'i[c] Pi-a-gun´to-wit-si[6] Sung´-o-wit-si[6]	Pish-coot[g]
Family Troglodytidae	Wrens				
Catherpes mexicanus	Canyon Wren	Tumpikia hoxotsi[5] Tim-pe-ah-soot (k)[4] Tim-pe-its[4]	Timp-pe-ke yah-hots[4] Toom-pe-tah ah-bit[4] Tom-pike-aw-sauts[7]		
Salpinctes obsoletus	Rock Wren	Too-ching-ing[4] Tumpikixots[b]	NF[c]		
Troglodytes sp.	House Wren	Wu-nat tim-be ro-put (k)[4]	T'kes-se chim-mits[4]		
Family Tyrannidae	Tyrant Flycatchers				

Scientific Name	Common Name	Southern Paiute Ethnic Group Names		Western Shoshone Ethnic Group Names	Owens Valley Ethnic Group Names
Tyrannus verticalis	Western Kingbird	Chuxu´uvi[5] Che-goo-ritch (k)[4]	Wahts-koo-its[4] Too-pe-wats[4]		
Sayornis saya	Say's Phoebe	Chu-huv[7]			
Amphibians					
--	Frog	Wah´-gah´-tsets (lv)[4] Wah-raht´ (k)[4]	Hah´-pah wah´-ah-tuts (c)[4]	Pah-woo´-go´ (ps)[4] Wah´-ko-ah[4] Bi´-yah-qwat-sah[4] Pi´-ah guz-zah[4]	Yha-gua-zah[g]
Arachnids					
--	Scorpion	Wah´-wah-tsets (lv)[4] Wahm´-bah-kwits (c)[4]	Tah-wur´-rum-kwe-pitch (k)[4]	Woo´-vah-tah (ps)[4] Gwe´-buntz[4] Kwe´-bentz[4]	
--	Spider	Mo-kwam´-be (lv)[4] Hoo-kwahmp´ (c)[4]	Mo-kwahmp´ (k)[4]	Ku´-kwats[6] So-wats´ (ps)[4] Ah´-mah-so´-ans[4] So´-wants[4] So-ar´-rah[4]	NF[g]
--	Tarantula	Nŭ´-e-saw´-bits (lv)[4] We-gaht´-sawt k)[4]	Noo´-wĕ-saw´-pig (c)[4]	Nah´-soo-waht´ (ps)[4] Nah´-we-tsoi'm-bitch[4] Nă´-soo-ar´-rah[4]	
Insects					
Mutillidae sp.	Velvet ant				Togo[g]
--	Ant	T'siev (wood)[c] Tuhsiev (wood)[c]	Ahng-ahv´ (black) (k)[4] Ahng-e-ve (black) (lv)[4]	Hu-wīt´ (large red)[6] To´-ats (small black)[6]	Ah-see-ah[g]

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		Tu'siev[c] Tas´-se-av (lv)[4] Ang-av´ (c)[4] Tas-se´-av (k)[4] Wahnts (red) (c)[4] Pas-se´-av (red) (k)[4]	On´-tat (black) (c)[4] Tas´-se´-ev (red) (lv)[4]	A´-ni (mound building)[6] Ani'e (wood)[c] On'nee (wood)[c] Ta´-siv-av[6] Un-kav´-tu-si (red)[6] Tas´-se-wuts-tse (ps)[4] Ah´-ne[4] Ho´-we-dah[4] Hó-e-dah[4] Tun-gah´-vitch (black) (ps)[4] Ho´-we-dah (black)[4] Too-kah-pe´-pah (red)[4]	
--	Beetle	Kan-nav´-ve-tets (lv)[4] We-po´-set (c)[4]	Wēv-haht (k)[4]	Shun-goo´-ah (ps)[4] Pe´-bos´-se[4]	Huga-pish-ah[g]
--	Bumblebee	See-moo´-rahm (lv)[4] Se´-moo-rahmp (k)[4]	Sho-em´ mo-ro-ram (c)[4]	O´-be-wo[4] Be´-hah-moo[4]	
--	Butterfly	As´-se-wuts (lv)[4] , Ah´-se-ruts´ (c)[4]	Yas´-se-wut (k)[4]	Ah´-se-wer-run´ (ps) Ă-ă´-per-rum I´-yup-pur-ruq´-ă Ap´-per-roo´-ge Wi´-ah-bos´-se	
--	Centipede	Sing-ump (k)[4]			
--	Cricket	Mă-kaht´-sah-roo´-bit (lv)[4] Chĕ-roots´ (k)[4]	Sow-wah´-ar-rum (c)[4]	Thin´-ă-pitch (ps)[4]	

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--	Dragonfly	We-wing´-ga-rits (lv)[4] We-win´-koo-rets (c)[4]	Ah´-witch (k)[4]	Pă-ran´-doo-no (ps)[4] He´-tso-saw[4] Bah´-qah-mo´-anz[4] Pah´-ran-do´-ro[4]	
--	Flea	Po´-ahv (k)[4]			
--	Fly	Mo´-pits (lv)[4] Mo´-bits (c)[4]	Mo´-pitch-ă (k)[4]	Mo-e´-ve-hah (ps)[4] Ah´-ne-moi[4] Ah´-nah-woi´[4] Mo´-pits[6] Mu´-īv[6] A´-nīv (sand)[6]	Mu'e-vee-ha[g]
--	Grasshopper	At´-tah-kah-peets (lv)[4] Ah´-tah-kah-bits´ (c)[4]	Ar´-ron-kah´-pit (k)[4]	Ah-tung´-ge (ps)[4] Ah´-ting[4] Ah´-tunq-que[4] At´-tan´-ge´[4]	
--	Lice	Se-ap´-pit (k)[4]		Bo´-see-ĕts (ps)[4]	Pooh-ze-ah[g]
--	Louse			Pu-si´-a[6]	
--	Mosquito	Mo-oo´-av´-ve (lv)[4] Mo´-av (c)[4]	Mo-ahv´ (k)[4]	Mo´-vo[6] Mo-avw[6] Wah-war´-rah (ps)[4] Maw´-paw[4] Ahng-ē´-ve[4]	NF[g]
--	Moth	Moo-goo´-run-zits (lv)[4] Mo-goo´-ro-tsats (c)[4]	Mo-woo´-ran-tut (k)[4]	Pe-ag´-gah moo-rung-we (ps)[4] Pe-ag´-gah[4] Pe´-ag´-gah[4]	
--	Stink Bug			Ku´-i-tsat[6]	

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--	Tick				Pooh-ze-ah[g]
--	Worm	Pĕ-av´ (k)[4]		Pish-shă-war´-rah (ps)[4] Wo´-ah-be[4] Woo-ah´-be[4]	
--	Yellowjacket	We-koots (lv)[4]	Pah-watch´-av (k)[4]	Pi´-yah (ps)[4] O´-hah ben[4] Pi´-nah[4] Be´-hah-moo[4]	

[1] Work done by Powell between 1867-1880: (Fowler and Matley 1979)
[2] Work done by Euler between 1956-1966: (Euler 1966)
[3] Work done by Palmer before 1946: (Palmer 1978)
[4] Work done by Merriam between 1902-1935: (Merriam 1979)
[5] Work done by Sapir in 1910: (Sapir 1910)
[6] Work done by Powell in 1873: (Fowler and Fowler 1971)
[7] Work done by Presnall in 1936: (Presnall 1936)
[8] Work done by Train between 1935-1941: (Train 1957)
[9] Handbook of North American Indians-Great Basin (vol. 11, "Owens Valley Paiute") 1989

[a] Stoffle, Austin, Halmo, and Banks (1996)
[b] Stoffle, Halmo, Evans, and Austin (1994)
[c] Stoffle et al. (1994)
[d] Stoffle et al. (1989)
[e] Stoffle, Halmo, Evans, and Olmsted (1990)
[f] Stoffle and Dobyns (1982)
Stoffle and Dobyns (1983a)
Stoffle, Dobyns, and Evans (1983)
[g] Names by CGTO members; April 1996 NTS-EIS meeting.

NF = Not found; mentioned in text but no Indian name given.
(c) = Chemehuevi
(k) = Kaibab
(lv) = Las Vegas
(mp) = Moapa Paiute
(p) = Pahrump Paiute
(ps) = Panamint Shoshone

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